

**ORDER OF APPROVAL**  
**NOTICE OF CONSTRUCTION 23NOC1613**  
ISSUED to Crown Cork and Seal on  
DEC 27 2023

This Order of Approval ("Order") is issued in accordance with Olympic Region Clean Air Agency ("ORCAA") Rule 6.1 and the Washington State Implementation Plan under 40 CFR part 52.2470(c), Table 6.

Conditional approval to install stationary sources of air pollutant as described in Conditions 1 and 2 of this Order ("Approved Equipment") at 1202 Fones Road SE, in Olympia ("Approved Location"), for operation solely as described in the associated Notice of Construction ("NOC") application Nos. 98NOC021, 00NOC034, 00NOC059, 02NOC273, 08NOC622, 16MOD1178, 17NOC1261, 19NOC1336, 20NOC1451, 20NOC1454, 21NOC1483, and 24NOC1613, is hereby GRANTED to Crown Cork and Seal ("Applicant"), subject to the Conditions of Approval listed below.

This Order and the Conditions of Approval herein remain in effect for the life of the Approved Equipment as used at the Approved Location and shall be binding on Applicant, current owners and operators of the equipment, and Applicant's heirs, successors and assigns unless amended or superseded by a subsequent Order issued by ORCAA or unless the equipment is permanently shut down. The Applicant must notify any subsequent owner, operator, heirs, successor or assigns of this Order and the Conditions of Approval herein.

Conditions of Approval established in this Order shall be enforceable in addition to any applicable state, local and federal regulations, or standards in existence now or in the future. Compliance with the conditions of this Order do not relieve the Applicant or any owner or operator from compliance with ORCAA Regulations, chapter 70A.15 of the Revised Code of Washington, or any other emissions control requirements, nor from any penalties for failure to comply with the same. Applicant may appeal this Order to the Pollution Control Hearings Board ("PCHB") by filing a written appeal with the PCHB and serving a copy upon ORCAA within thirty (30) days of receipt of this Order.

This Order supersedes Order #20NOC1451 and is GRANTED, for the Approved Location, subject to the following Conditions of Approval:

- 1. Approved Equipment:** The equipment and activities described in Notice of Construction application Nos. 98NOC021, 00NOC034, 00NOC059, 02NOC273, 16MOD1178, 17NOC1261, 19NOC1336, 20NOC1451, 20NOC1454, 21NOC1483, and 23NOC1613, application addendums, and the associated Final Determinations are approved for construction and operation subject to conditions in this Order of Approval.
- 2. Preapproval Required.** Prior approval by ORCAA may be required for the following as specified in ORCAA Rule 6.1:

- a. Construction, installation, or establishment of any stationary source;
- b. Modification to any existing stationary source;
- c. Replacement or substantial alteration of emission control technology installed on an existing stationary source; or,
- d. Deviations from the approved plans, drawings, data, and specifications of the stationary sources listed in the following table:

**Table 1. Approved Stationary Source**

Stationary Source	Equipment Specifications
Line 1 and 2 Can Washer	<ul style="list-style-type: none"> <li>▪ Cincinnati Industrial Machinery (CIM) Model #BS1122422-88 C40-2</li> </ul>
Line 1 and 2 Can Washer Dryer	<ul style="list-style-type: none"> <li>▪ Eclipse 440 AH dryer</li> <li>▪ 2 Natural gas-fired burners, 8.8 MMBtu/hr maximum heat input</li> </ul>
Lines 1 and 2 Rim Coating	<ul style="list-style-type: none"> <li>▪ U.F. Fusion U.V. System Mode DRR-120</li> <li>▪ Ultraviolet curing</li> </ul>
Line 1 Printer and Decorator	<ul style="list-style-type: none"> <li>▪ Line 1 - Concord Decorator-Alcoa Serial # D3008</li> </ul>
Line 2 Printer and Decorator	<ul style="list-style-type: none"> <li>▪ Concord Decorator-Alcoa Serial# 307301</li> </ul>
Line 1 Printer Oven	<ul style="list-style-type: none"> <li>▪ OSI Model# 1600-CPM Single Zone</li> <li>▪ 2 Natural gas-fired burners, 5 MMBtu/hr max. heat input</li> <li>▪ Exhaust Flowrate: ~5000 CFM</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 2 Printer Oven	<ul style="list-style-type: none"> <li>▪ Greenbank "Pintec One – Omega"</li> <li>▪ High efficiency natural gas-fired burner - 2.59 MMBtu/hr max. heat input</li> <li>▪ Exhaust Flowrate: ~5,000 CFM</li> <li>▪ Operating temperature: 395 – 415 F</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 1 Lacquer Spray Machines (LSM)	<ul style="list-style-type: none"> <li>▪ Fisher Model 102MSH MARK3</li> <li>▪ 7 units per line</li> <li>▪ High transfer efficiency spray technique (&gt;94% efficiency)</li> <li>▪ Enclosed LSM housings with capture system</li> </ul>
Line 2 Lacquer Spray Machines (LSM)	<ul style="list-style-type: none"> <li>▪ Each housing equipped with particulate filter system with at least 99% filtration efficiency</li> <li>▪ LSM conveyor to the IBO will be equipped with a capture system consisting of a hood and enclosed on all sides</li> <li>▪ All capture systems routed to RTO</li> </ul>

Line 1 Inside Bake Oven	<ul style="list-style-type: none"> <li>▪ Greenbank NIBO Serial# 15241</li> <li>▪ High efficiency natural gas-fired burners - 3.93 MMBtu/hr max. heat input</li> <li>▪ Operating Temp – 395-400F</li> <li>▪ Exhaust Flowrate: ~8,900 CFM</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 2 Inside Bake Oven	<ul style="list-style-type: none"> <li>▪ Greenbank NIBO Serial# 15241</li> <li>▪ High efficiency natural gas-fired burners - 3.93 MMBtu/hr max. heat input</li> <li>▪ Operating Temp – 395-400F</li> <li>▪ Exhaust Flowrate: ~8,900 CFM</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 3 Can Washer	<ul style="list-style-type: none"> <li>▪ Greenbank Torrent One</li> <li>▪ Mist elimination system in Stage 2</li> </ul>
Line 3 Rim Coating	<ul style="list-style-type: none"> <li>▪ UVio 36" Rim-Up Integrated Mass Rim Coating System</li> <li>▪ Ultraviolet curing</li> </ul>
Line 3 Decorator Unit #31	<ul style="list-style-type: none"> <li>▪ Stolle Concord 24MRT-8 Color Decorator</li> <li>▪ 2,000 cans-per-minute</li> <li>▪ Room vent exhaust flowrate: ~4950 CFM</li> <li>▪ Close capture system on ink and overvarnish application areas routed to RTO</li> </ul>
Line 3 Decorator Unit #32	<ul style="list-style-type: none"> <li>▪ CMbE Reformat</li> <li>▪ 2,000 cans-per-minute</li> <li>▪ Room vent exhaust flowrate: ~4950 CFM</li> <li>▪ Close capture system on ink and overvarnish application areas routed to RTO</li> </ul>
Line 3 Printer Oven #31	<ul style="list-style-type: none"> <li>▪ Greenbank "Pintec One – Omega"</li> <li>▪ High efficiency natural gas-fired burner - 2.59 MMBtu/hr max. heat input</li> <li>▪ Exhaust Flowrate: ~5,000 CFM</li> <li>▪ Operating temperature: 395 – 415 F</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 3 Printer Oven #32	<ul style="list-style-type: none"> <li>▪ Greenbank "Pintec One – Omega"</li> <li>▪ High efficiency natural gas-fired burner - 2.59 MMBtu/hr max. heat input</li> <li>▪ Exhaust Flowrate: ~5,000 CFM</li> <li>▪ Operating temperature: 395 – 415 F</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 3 Lacquer Spray Machines (LSM)	<ul style="list-style-type: none"> <li>▪ CMbE 3200 Dual Turret LSM</li> <li>▪ 9 units</li> <li>▪ High transfer efficiency spray technique (&gt;94% efficiency)</li> <li>▪ Enclosed LSM housings with capture system</li> <li>▪ Each housing equipped with particulate filter system with at least 99% filtration efficiency</li> </ul>

	<ul style="list-style-type: none"> <li>▪ LSM conveyor to the IBO will be equipped with a capture system consisting of a hood and enclosed on all sides</li> <li>▪ All capture systems routed to RTO</li> </ul>
Line 3 Inside Bake Oven	<ul style="list-style-type: none"> <li>▪ Greenbank NIBO Serial# 15241</li> <li>▪ High efficiency natural gas-fired burners - 3.93 MMBtu/hr max. heat input</li> <li>▪ Operating Temp – 395-400F</li> <li>▪ Exhaust Flowrate Zone 1: ~2,995 CFM</li> <li>▪ Exhaust Flowrate Zone 2: ~6000 CFM</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 3 Decorator Solvent Usage	<ul style="list-style-type: none"> <li>▪ Isopropanol (decorator cleaning and parts washer)</li> <li>▪ Room vent exhaust flowrate (two): ~4950 CFM each</li> </ul>
Regenerative Thermal Oxidizer (RTO)	<ul style="list-style-type: none"> <li>▪ Anguil Model 550</li> <li>▪ Three-bed regenerative thermal oxidizer</li> <li>▪ Natural-gas fired – up to 15 MMBtu/hr</li> <li>▪ Guaranteed 98 control efficiency for VOC</li> <li>▪ Dust collector pre-filter for Line 1 &amp; 2 LSMs</li> </ul>

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(1); ORCAA Rule 6.1.2(l)]*

**3. Facility-Wide VOC Emission Limits.** Facility-wide emissions of volatile organic compounds must not exceed 180.5 tons per 12-month rolling period.

*[Regulatory Basis: ORCAA Rule 6.1.2(l)]*

**4. Annual Formaldehyde Emission Limits.**

- a. Emissions of formaldehyde from Can Coating Lines 1 and 2 must not exceed 2,299 pounds per 12-month rolling period; and

*[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3)]*

- b. Facility-wide emissions of formaldehyde must not exceed 4,378 pounds per 12-month rolling period.

*[Regulatory Basis: ORCAA Rule 6.1.2(l)]*

**5. Annual Emission Limits Monitoring.** Compliance with the emission limits in Conditions 3 and 4 must be monitored at least monthly by computing the actual amount of emissions over the previous month and consecutive 12-month period. Emissions must be calculated using the following methods or alternative method if approved by ORCAA:

- a. **Material Use and Composition.** Monthly use of inks, lacquers, varnishes, cleaning solvents, and other materials containing VOCs and formaldehyde must be monitored as follows:
- i. Usage of each material must be monitored at least monthly in terms of totals pounds used, total gallons used, or both.
  - ii. Material usage records must be sufficient to determine the amount of each material applied during bypass of the RTO.
  - iii. The VOC and HAP composition of each unique material must be determined based on safety data sheets (SDS) and/or Certificates of Analysis specific to each material.

- b. **Can Coating Emissions.** Emissions from coating application (including rim coat, ink, overvarnish, and inside lacquer) must be calculated as follows:
  - i. VOC emissions must be calculated based on actual usage and composition for each material and using material balance methods and capture and control efficiency of the RTO, if applicable.
  - ii. Formaldehyde emissions which are formed in the curing ovens must be calculated based on the actual amount of cans processed through each can coating line or the amount of coating or coating solids applied and using emission factors based on the most recent performance test or other factors as approved by ORCAA. Formaldehyde emissions from curing must be included in the total VOC emissions calculated for the can coating lines.
  - iii. Emission calculations based on the actual amount of cans produced or coating material applied must include spoilage. Spoilage means the cans processed in the can coating line that are discarded for defects or other reasons and are not included in the facility can production count.
  - iv. VOC emission calculations based on capture and control efficiency of the RTO must use the capture and control efficiency of the most recent performance test, unless required monitoring in Condition 34 and Condition 37 indicate that the capture and control efficiency determined during the most recent performance test was not continuously maintained.
- c. **Solvent Usage.** VOC emissions from solvent cleaning must be calculated based on material balance and actual usage and composition of each material.
- d. **Combustion Emissions.** VOC and formaldehyde emissions from combustion of natural gas or other fuels must be calculated based on the amount of fuel combusted during the period and emission factors from the most current version of the EPA document, Compilation of Air Pollutant Emission Factors, AP-42.
- e. **Storage Tanks.** VOC emissions from storage tanks containing VOC compounds must be calculated based on the actual throughput during the period and emission calculation methods from the most current version of the EPA document, Compilation of Air Pollutant Emission Factors, AP-42.
- f. **Credit for Waste.** The permittee may credit shipments of waste in the mass balance calculations in (b) and (c) only when a characterization test has been performed on each container of waste, or on a container representing a group of containers filled from one batch of waste.

*[Regulatory Basis: ORCAA Rule 8.11]*

- 6. **Annual Emission Limit Recordkeeping:** The following records must be maintained for at least five years from the date the record originated, or as specified, and made available for inspection upon request:
  - a. Records of monthly and 12-month rolling totals for VOC and formaldehyde emissions as required by Condition 5;
  - b. Records of material and fuel usage, composition data, and any other data used to calculate emissions; and
  - c. Safety data sheets (SDS) for all VOC-containing materials used in the process.

[Regulatory Basis: ORCAA Rule 8.11]

- 7. Can Washing Solution Requirements.** Can coating solutions that meet the following criteria are approved for use by the permittee:
- a. The can washing solutions must not contain any TAPs (as defined by Chapter 173-460 WAC) except for sulfuric acid and hydrogen fluoride;
  - b. The can washing solutions must not contain more than 60 percent sulfuric acid by weight, as applied; and
  - c. The can washing solutions must not contain more than 5 percent hydrogen fluoride by weight, as applied.

[Regulatory Basis: (a) ORCAA Rule 6.1.2(l); (b) and (c) ORCAA Rule 6.1.4(a)(2)]

- 8. Reformulated or New Can Washing Solution Monitoring.** The permittee must review each new or reformulated can washing solution prior to use to assure it meets the criteria in Condition 7. The permittee may show compliance with Condition 7 by documenting that the can washing solution as purchased meets the criteria.

[Regulatory Basis: ORCAA Rule 8.11]

- 9. Reformulated or New Can Washing Solutions Recordkeeping.** Records of all determinations for reformulated or new can washing solutions under Condition 8 must be maintained for at least five years from the date the record originated and made available or inspection upon request.

[Regulatory Basis: ORCAA Rule 8.8]

- 10. Can Washing Operation and Maintenance Plan.** Prior to startup of the Line 3 Can Washer, the owner or operator shall develop an Operations and Maintenance (O&M) plan to include procedures specific to operation and maintenance of the Line 1 and 2 Can Washer, Line 1 and 2 Can Washer Dryer, and the Line 3 Can Washer.

[Regulatory Basis:

Both can washers - ORCAA Rule 8.8;

Line 1 and 2 Washer – WAC 173-460-040(9)]

- 11. Approved Coatings / Material Limits.** Coatings that meet the following criteria are approved for use by the permittee:

- a. Rim coat varnish must be applied using roll on application and cured by ultraviolet lamps. The varnish must not contain any HAPs or TAPs; and VOC content must be less than 0.01 pounds per gallon.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]

- b. Inks must be applied via using roll on application and contain no TAPs or HAPs except for formaldehyde.

[Regulatory Basis: ORCAA Rule 6.1.2(l)]

- c. Overvarnish and inside lacquer must meet the applicable VOC limits in Condition 16 and:

Coating Type	Overvarnish	Inside Lacquer
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i. The coating must not contain any TAPs <sup>1</sup> except for...	2-butoxyethanol; formaldehyde	2-butoxyethanol; formaldehyde
ii. The coating must not contain any HAPs <sup>2</sup> except for...	formaldehyde	formaldehyde; glycol ethers
iii. The ethylene glycol monobutyl ether (EGBE) (CAS 111-76-2) content of the coating must be no more than...	7.4% by weight	7.4% by weight
iv. The coating contains...	no glycol ethers	no more than 0.5% by weight glycol ethers
v. Total amount of coating used shall not exceed...	187,000 gallons per consecutive 12-month period	574,344 gallons per consecutive 12-month period
vi. The coating...	Is applied by roll on application	May be spray applied

<sup>1</sup> as defined by Chapter 173-460 WAC

<sup>2</sup> as defined by the Federal Clean Air Act

*[Regulatory Basis:*

*i, ii, v, vi - ORCAA Rule 6.1.2(l);*

*iii. ORCAA Rule 6.1.2(l); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080;*

*iv. - Overvarnish - ORCAA Rule 6.1.2(l), ORCAA Rule 6.1.4(a)(2);*

*iv. - Inside Lacquer – ORCAA Rule 6.1.2(l)]*

**12. Material Use Limit Monitoring:** Compliance with the material use limits in Condition 11(c)(v) must be monitored at least monthly by calculating the actual amount of inside lacquer and overvarnish used during the previous month and 12-consecutive month period.

*[Regulatory Basis: ORCAA Rule 8.11]*

**13. Material Use Limit Recordkeeping.** Records of monthly and 12-month rolling totals of material usage as required by Condition 12 must be maintained for at least five years from the date the record originated and made available or inspection upon request.

*[Regulatory Basis: ORCAA Rule 8.8]*

**14. Reformulated or New Coating Materials Monitoring.** The permittee must review each new or reformulated coating material prior to use to assure it meets the criteria in Condition 11.

*[Regulatory Basis: ORCAA Rule 8.11]*

**15. Reformulated or New Coating Materials Recordkeeping.** Records of all determinations for reformulated or new materials under Condition 14 must be maintained for at least five years from the date the record originated and made available or inspection upon request.

*[Regulatory Basis: ORCAA Rule 8.8]*

- 16. VOC Coating Limits.** The permittee must not discharge or cause the discharge of VOC emissions to the atmosphere that exceed the following volume-weighted calendar-month average emissions:
- 0.46 kilogram of VOC per liter of coating solids (3.84 pounds of VOC per gallon of coating solids) from each over-varnish coating operation; and,
  - 0.89 kilograms of VOC per liter of coating solids (7.43 pounds of VOC per gallon of coating solids) from each two-piece can inside spray coating operation.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(1); ORCAA Rule 6.1.4(a)(2); 40 CFR Part 60.492]*

- 17. VOC Coating Limit Compliance Methods.** The permittee must conduct a performance test each calendar month using the procedures described in §60.493(b) to monitor compliance with the emission limits in Condition 16.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(1); ORCAA Rule 6.1.4(a)(2); 40 CFR Part 60.493(b)]*

- 18. VOC Coating Limit Quarterly Reports.** The permittee must identify, record, and submit quarterly reports to ORCAA of each instance in which the volume weight average of the total mass of VOC per volume of coating solids, is greater than the limit specified in Condition 16. The reports must be submitted no later than 30 days after the end of each calendar quarter. If no such instances occur during a particular quarter, a report stating this must be submitted to ORCAA semiannually.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(1); ORCAA Rule 6.1.4(a)(2); ORCAA Rule 8.11; 40 CFR Part 60.495(b)]*

- 19. VOC Coating Limit Recordkeeping.** Records of all data and calculations used to determine VOC emissions for purposes of the monthly compliance demonstrations required by Condition 17 must be maintained at the plant site for a period of at least five years.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(1); ORCAA Rule 6.1.4(a)(2); ORCAA Rule 8.11; 40 CFR Part 60.495(d)]*

- 20. Line 1 and 2 Ethylene Glycol Monobutyl Ether (EGBE) (CAS 111-76-2) Limits.** The following limits apply to Can Coating Lines 1 and 2:

- Emissions of EGBE during normal operation must not exceed 225.2 pounds per day; and
- Emissions of EGBE during bypass must not exceed 424.9 pounds per day.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3)]*

- 21. Line 1 and 2 EGBE Limits Monitoring.** The permittee must develop an ethylene glycol monobutyl ether (EGBE) monitoring plan that describes the methods the permittee will use to assure continuous compliance with the limit in Condition 20. The plan must be revised, if needed, and must be implemented at all times Can Manufacturing Line 3 is operating.

*[Regulatory Basis: ORCAA Rule 8.11; ORCAA Rule 6.1.4(a)(5); 173-460-080(3)]*

- 22. Line 1 and 2 EGBE Limits Recordkeeping.** Records of monitoring conducted per the monitoring plan in Condition 21 must be maintained for at least five years from the date the record originated and be made available for inspection by ORCAA upon request.



[Regulatory Basis: ORCAA Rule 8.8; ORCAA Rule 6.1.4(a)(5); 173-460-080(3)]

**23. Curing Ovens.** The following limits and requirements apply to the Line 2 Pin Oven, Line 1 Inside Bake Oven, Line 2 Inside Bake Oven, Line 3 Printer Oven #31 and #32, and Line 3 Inside Bake Oven at the facility:

- a. **Approved Fuel:** The curing ovens may combust only natural gas unless prior approval is granted by ORCAA.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]

- b. **Operation and Maintenance:** Operation and maintenance procedures recommended by the manufacturer for maintaining proper combustion must be followed. A copy of the recommended operation and maintenance procedures shall be kept on-site.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2); ORCAA Rule 8.8]

- c. **Tune-ups:** Combustion systems must be tuned-up to meet the NO<sub>x</sub> and CO emissions levels stated below or the manufacturer's recommended or guaranteed operating emissions levels, whichever levels result in the least emissions of NO<sub>x</sub> and CO. The ovens must be tuned in the first month of operation and according to the minimum frequency stated below.

Fuel	Tune-up Frequency	NO <sub>x</sub> (ppm @ 3% O <sub>2</sub> )	CO (ppm @ 3% O <sub>2</sub> )
Natural Gas	Every 61 months	80	100

[Regulatory Basis: ORCAA Rule 6.1.4(a)(3); ORCAA Rule 6.1.4(a)(2); ORCAA Rule 8.8]

- d. **Tune-up Procedures:**

- i. Tune-up must include measuring concentrations of NO<sub>x</sub>, CO and O<sub>2</sub> under normal operating load, making any needed adjustments to combustion systems, and re-measuring emissions levels to confirm the prescribed emissions levels in Condition 14(c) are met.
- ii. A record of all measurements, adjustments and maintenance actions must be retained.
- iii. Emissions must be measured using an electrochemical cell combustion analyzer or another analyzer pre-approved by ORCAA;
- iv. The analyzer(s) response to span (calibration) gas of a known concentration (reference) must be determined before and after testing. No more than 12 hours may elapse between span gas response checks. Test results are invalid if the analyzer zero or span drift exceeds 10% of the span value.
- v. The CO and NO<sub>x</sub> span gas concentrations must be no less than 50% and no more than 200% of the target emission concentrations per Condition 23(c). A lower concentration span gas may be used if it is more representative of measured concentrations. Ambient air may be used to zero the CO and NO<sub>x</sub> cells/analyzer(s) and span the oxygen cell/analyzer.
- vi. Sampling and measurement must consist of at least 5 minutes of data collection. Data must not be collected until after the analyzer readings have stabilized.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2); ORCAA Rule 8.8]

**24. Lacquer Spray Machine Filters.** The Line 1, Line 2, and Line 3 Lacquer Spray Machines overspray control system must be designed and operated according to the following requirements:

- a. Each lacquer spray machine must be equipped with a particulate filter with a rated filtration efficiency of at least 99%.
- b. Inside spray lacquer must be applied within the approved lacquer spray machines and only when the exhaust and filtration system is fully operating.
- c. Exhaust filters must be properly seated and must cover all openings of the exhaust air intakes.
- d. The permittee must develop, implement and update when necessary an Operations and Maintenance (O&M) plan for the lacquer spray machines. At a minimum, the plan must include procedures and a schedule for inspecting and replacing the filters.
- e. Filters must be replaced whenever damaged or loaded with particulate build-up to an extent that jeopardizes the effectiveness of the ventilation system to capture emissions.

*[Regulatory Basis:*

*Line 1 and 2 - ORCAA Rule 6.1.10(b);*

*Line 3 – ORCAA Rule 6.1.4(a)(2)]]*

**25. Line 3 Solvent Usage Limit.** The permittee must not use more than 2.6 gallons of isopropanol per hour on Line 3 Can Manufacturing Line.

*[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 6.1.4(a)(5); WAC 173-460-070]*

**26. Line 3 Solvent Cleaning BACT.** The Line 3 decorator capture system must be operating during cleaning of the decorators (the close capture hoods may be opened as needed for cleaning).

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

**27. Line 3 Solvent Monitoring.** Prior to startup of Line 3 Decorator, the permittee must develop an isopropanol monitoring plan to detail the methods the permittee will use to assure continuous compliance with the limit in Condition 25 and operating requirements in Condition 26. The plan must be made available for inspection by ORCAA upon request. The plan must be revised, if needed, and must be implemented at all times isopropanol is used on Can Manufacturing Line 3.

*[Regulatory Basis: ORCAA Rule 8.11; ORCAA Rule 6.1.4(a)(2); ORCAA Rule 6.1.4(a)(5); WAC 173-460-070]*

**28. Line 3 Solvent Recordkeeping.** Records of all monitoring conducted per the monitoring plan in Condition 26 must be maintained for at least five years from the date the record originated and be made available for inspection by ORCAA upon request.

*[Regulatory Basis: ORCAA Rule 8.8; ORCAA Rule 6.1.4(a)(5); 173-460-070]*

**29. Pollution Prevention.** All coatings, solvents, and other VOC-containing materials or cloths must be stored in closed, airtight containers. All volatile material spills must be cleaned up promptly.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

**30. Curing Oven Capture Requirement:** All emissions from the Lines 1, 2, and 3 Printer Ovens (PIN Ovens) and Lines 1, 2, and 3 Inside Bake Ovens (IBOs) must be routed to the regenerative thermal oxidizer at all times except during bypass as allowed by Condition 36.

*[Regulatory Basis:*

*All ovens – ORCAA Rule 8.6(b);*

*Lines 1 and 2 Ovens – ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3);*

*Line 2 and 3 PIN Ovens, Lines 1, 2, and 3 IBOs – ORCAA Rule 6.1.4(a)(2);*

*Line 1 PIN Oven – ORCAA Rule 6.1.10(b)(1)]*

**31. Coating Application Capture Requirement:** The lacquer spray machines (all lines), the conveyors between the lacquer spray machines and the inside bake oven (all lines), and the Line 3 decorators must each be equipped with a system to capture volatile emissions. The capture systems must be operating at all times the coating lines are operating. Captured emissions must be routed to the regenerative thermal oxidizer at all times except during bypass as allowed by Condition 36.

*[Regulatory Basis:*

*Lines 1 and 2 – ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3);*

*Line 3 - ORCAA Rule 6.1.4(a)(2)]*

**32. Line 1 and 2 Capture Efficiency.** The capture and collection systems for the Line 1 and Line 2 Can Coating Lines must operate with a minimum overall organic compound capture efficiency of 75% when the can coating lines are operating. For purposes of this condition, the can coating lines include all processes beginning with and including the printer/decorators and ending with and including the inside bake ovens.

*[Regulatory Basis: ORCAA Rule 6.1.10(b)(1); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3)]*

**33. Line 3 Capture Efficiency.** The capture and collection systems for the Line 3 Can Coating Line must operate with a minimum overall organic compound capture efficiency of 84% when the can coating line is operating. For purposes of this condition, the can coating lines include all processes beginning with and including the printer/decorators and ending with and including the inside bake oven.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

**34. Capture System Monitoring.** The permittee must monitor each capture system that exhausts to the RTO according to the facility's capture system monitoring plan. Prior to startup of Can Manufacturing Line 3, the permittee must revise the existing capture system monitoring plan to include the capture systems in Line 3. The plan must be made available for inspection by ORCAA upon request. At a minimum, the permittee must review and update the capturing system monitoring plan after each capture system performance test or annually, whichever is more frequent. At a minimum the monitoring plan must:

- a. Identify the operating parameter(s) to be monitored to ensure that each capture system is operated under negative pressure and the capture efficiency determined during the last performance test is continuously maintained;
- b. Explain why the parameter(s) is appropriate for demonstrating ongoing compliance; and
- c. Identify the procedures that will be used to monitor the operating parameter(s) (including method and frequency).

*[Regulatory Basis:*

Line 1 and 2 - ORCAA Rule 6.1.10(b); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3);  
 Line 3 – ORCAA Rule 6.1.4(a)(2)]

**35. Regenerative Thermal Oxidizer (RTO).** The following limits and requirements apply to the regenerative thermal oxidizer:

a. **Design.** The RTO must be a three-chamber design with a design exhaust rate of at least 55,000 ACFM, which may be demonstrated through written documentation on the regenerative thermal oxidizer provided by the manufacturer.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]

b. **Approved Fuel.** The RTO may combust only natural gas unless prior approval is granted by ORCAA.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]

c. **Destruction Efficiency.** The RTO must have a minimum destruction efficiency of 98% for organic compounds as measured by EPA Method 25A.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3)]

d. **Formaldehyde Emission Limit.**

i. Emissions of formaldehyde from the RTO stack must not exceed 0.53 pounds per hour at all times.

ii. Emissions of formaldehyde from the RTO stack must not exceed 0.26 pounds per hour when controlling emissions from Can Coating Lines 1 and 2 only.

[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 8.6(b)]

e. **Opacity Limit.** There must be no visible emissions from the Regenerative Thermal Oxidizer as determined in accordance with EPA 40 CFR Part 60 Appendix A, Method 9. This limit does not apply during periods of cold start-up. For compliance with this condition, cold start-up is defined as the period beginning when the RTO is started and ending when the RTO reaches normal operating temperature. This opacity limit is in addition to the state-wide general opacity standard of 20% required under WAC 173-400-040(1) and ORCAA Rule 8.2.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]

f. **Tune-ups.** Combustion systems must be tuned-up to meet the NO<sub>x</sub> and CO emissions levels stated below or the manufacturer's recommended or guaranteed operating emissions levels, whichever levels result in the least emissions of NO<sub>x</sub> and CO. The RTO must be tuned in the first month of operation and according to the minimum frequency stated below. Tune-ups shall be conducted according to the procedures in Condition 23(d).

Fuel	Tune-up Frequency	NO <sub>x</sub> (ppm @ 3% O <sub>2</sub> )	CO (ppm @ 3% O <sub>2</sub> )
Natural Gas	Every 61 months	60	50

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]

**36. RTO Bypass:** The following limits and requirements apply:

a. The regenerative thermal oxidizer may be bypassed for maintenance purposes only.

[Regulatory Basis: ORCAA Rule 6.1.2(l)]

b. The regenerative thermal oxidizer must not be bypassed for more than 200 hours on a 12-month rolling period.

[Regulatory Basis: ORCAA Rule 6.1.2(l)]

c. When bypassing the RTO, only one of the following may be operational:

- i. Coating Line 1; or
- ii. Coating Line 2; or
- iii. Coating Line 3 at a rate not to exceed 2000 cans-per-minute with no more than one decorator and one PIN oven operating.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(3); ORCAA Rule 8.6(b); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3)]*

d. Total emissions of formaldehyde from Line 1 or 2 bypass stacks must not exceed 1.3 pounds per hour.

*[Regulatory Basis: ORCAA Rule 8.6(b)]*

e. Total emissions of formaldehyde from Line 3 bypass stacks must not exceed 1.07 pounds per hour.

*[Regulatory Basis: ORCAA Rule 8.6(b)]*

f. Coating Line 3 must not operate in bypass mode until a performance test has been conducted to verify compliance with Condition 36(e). If necessary, Coating Line 3 may operate in bypass mode for the purposes of the performance test.

*[Regulatory Basis: ORCAA Rule 8.6(b)]*

g. Visible emissions from the bypass stacks must not exceed ten percent opacity, six-minute average, as determined in accordance with EPA 40 CFR Part 60 Appendix A, Method 9. This limit does not apply during periods of cold start-up. For compliance with this condition, cold start-up is defined as the period beginning when the oven is started and ending when the oven reaches normal operating temperature. This opacity limit is in addition to the state-wide general opacity standard of 20% required under WAC 173-400-040(1) and ORCAA Rule 8.2.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

h. The permittee must monitor bypasses of the RTO. Bypass monitoring must be conducted on each bypass line using one of the following procedures:

- i. Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow control position indicator that provides a record indicating whether the exhaust stream from the emission unit was directed to the control device or was diverted from the control device. The time and flow control position must be recorded at least once per hour as well as every time the flow direction is changed. A flow control position indicator must be installed at the entrance to any bypass line that could divert the exhaust stream away from the control device to the atmosphere.
- ii. Install, maintain, and operate a bypass line valve or damper indicator to continuous monitor valve or damper position. The monitoring system must be inspected at least once every month to verify that the monitor will indicate valve or damper position.
- iii. Secure the bypass line valve in the nondiverting position with a car-seal or a lock-and-key type configuration and visually inspect the seal or closure mechanism at least once a month. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve or damper is maintained in the closed position, and the exhaust stream is not diverted through the bypass line.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

- 37. RTO Temperature Monitoring.** The permittee must monitor the combustion chamber temperature of the RTO as follows:
- a. Each RTO combustion chamber must be equipped with a sensor that continuously measures and records the temperature of each combustion chamber (or in the duct immediately downstream of the combustion chamber before any substantial heat exchange occurs). The combustion chamber temperature sensor must be accurate to within  $\pm 1\%$  of the temperature being monitored in degrees Fahrenheit or  $\pm 1.8$  degrees Fahrenheit, whichever is greater.
  - b. Temperature sensors must be installed, maintained, and operated according to manufacturer specifications.
  - c. The permittee must develop, implement, and update when necessary a quality control plan to verify that the temperature sensor is still functioning properly. At a minimum, the plan must include the verification method and frequency. Methods may include, but are not limited to, comparisons of sensor output to redundant temperature sensors, to calibrated temperature measurement devices, or to temperature simulation devices. The temperature sensor must be replaced with a new sensor either if the sensor looks damaged and/or broken or the sensor no longer meets the accuracy requirement specified in Condition 37(a).
  - d. The permittee must conduct temperature monitoring at all times the RTO is operating, except during bypass, monitoring malfunctions, associated repairs, and required quality assurance or control activities,
  - e. The temperature must be recorded at least once for each successive 15-minute period and the average determined of all recorded readings for each successive 3-hour period.
  - f. Prior to the initial performance test, the combustion chamber temperature setpoint must be established at a minimum of 1550 degrees Fahrenheit. The combustion chamber temperature (three-hour average) must not fall below 1500 degrees Fahrenheit.
  - g. After the initial performance test, the average combustion chamber temperature measured at the most recent performance test must be established as the minimum combustion chamber temperature setpoint. The combustion chamber temperature (three-hour average) must not fall more than 50 degrees Fahrenheit below the average combustion chamber temperature measured at the most recent performance test.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2); ORCAA Rule 6.1.4(a)(5); WAC 173-460-060]*

**38. Operations and Maintenance Plan:** The Permittee must develop, implement, and update when necessary an operation and maintenance (O&M) plan to assure the capture and control systems are in continuous compliance with all applicable air regulations and standards. The O&M plan must be retained on site and made available to ORCAA for review when requested. Operating instructions must be established and posted such that they are available for all RTO operators.

*[Regulatory Basis: ORCAA Rule 8.8]*

**39. Capture and Control Systems Recordkeeping:** The following records must be maintained for at least five years from the date the record originated, or as specified, and made available for inspection upon request:

- a. Documentation of RTO design specification per Condition 35(a).
- b. Records of RTO tune-ups required by Condition 35(f).
- c. Records of all RTO bypass monitoring including start time and end time, reason for the bypass, emission units venting to the atmosphere during bypass, and amount of each coating material applied during the bypass.
- d. Capture system monitoring plan and all associated capture system monitoring.
- e. Records of LSM filter efficiency per Condition 24(a).
- f. LSM O&M plan required by Condition 24(d). The permittee must keep an inspection and maintenance log for the LSM filter system including the date of each inspection, the name of the inspector, and any repairs and/or maintenance work performed.
- g. RTO combustion chamber temperature monitoring records including all temperature readings and 3-hour averages.
- h. RTO temperature sensor quality control plan and all associated monitoring and maintenance activities.
- i. RTO and capture system O&M plan required by Condition 38. The permittee must keep an inspection and maintenance log for the RTO and its capture systems including the date of each inspection, the name of the inspector, and any repairs and/or maintenance work performed.
- j. Records of maintenance conducted on the equipment listed in Condition 1.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

**40. Ongoing Performance Testing Required.**

- a. A performance test of RTO destruction efficiency must be performed at least once every 61 months or whenever required by ORCAA.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2); ORCAA Rule 1.5(i)]*

- b. A performance test for compliance with formaldehyde emission limits in Condition 35(d) and Condition 36(d) must be conducted when required by ORCAA.

*[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 8.6(b); ORCAA Rule 1.5(i)]*

- c. A subsequent performance test for capture efficiency testing is required within 61 months of the initial test or earlier if requested by ORCAA. After that, additional testing may be required if significant changes have been made to the capture system or when required by ORCAA.

*[Regulatory Basis: ORCAA Rule 6.1.10(b); ORCAA Rule 1.5(i)]*

**41. Line 3 Bypass Performance Test.** As required by Condition 36(f), the permittee must conduct a performance test prior to operating Coating Line 3 when the RTO is in bypass mode. The performance test shall be conducted to verify the short-term (maximum hourly) formaldehyde emission rate during bypass of Line 3 is less than or equal to the limit in Condition 36(e) and establish an emission factor for formaldehyde during bypass. Following the initial performance test, the permittee must conduct a performance test for compliance with Condition 36(e) when required by ORCAA.

*[Regulatory Basis: ORCAA Rule 8.6(b); ORCAA Rule 6.1.2(l); ORCAA Rule 1.5(i)]*

**42. Performance Testing Requirements.** All performance testing must be conducted as follows unless an alternative has been approved by ORCAA:

- a. Testing must be conducted when all can coating lines are operating at maximum production rate and applying the ink, overvarnish, and inside spray combination that will result in the maximum emissions.
- b. Capture system performance testing must be conducted by determining the weight and VOC content of each material applied according to EPA Method 204A and inlet mass of VOC to the RTO by Method 25A or alternative methods if approved by ORCAA. As an alternative to conducting separate performance tests to demonstrate compliance with Conditions 32 and 33, the permittee may conduct a compliance test to demonstrate that the overall organic compound capture efficiency of the capture and collection systems of Lines 1, 2, and 3 is at least 80%.
- c. Performance testing for RTO destruction efficiency must be conducted according to EPA Method 25A or alternative method if approved by ORCAA.
- d. Performance testing for formaldehyde must be conducting according to EPA Method 320 or alternative method approved by ORCAA.
- e. Performance testing to determine the volumetric flowrate must be conducted according to EPA Methods 1-3 or alternative method if approved by ORCAA.
- f. A performance test must consist of three runs. Each run must be a minimum of one hour (or longer if the test method requires).
- g. During the performance test, the permittee must monitor and record the RTO combustion chamber temperature(s) at least once every 15 minutes during each of the three test runs. The temperature must be monitored in the combustion chamber or immediately downstream before any substantial heat exchange occurs.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

**43. Performance Testing Notifications, Plans and Reports.** Whenever performance testing is required:

- a. The permittee must submit a notification of the intent to conduct a performance test and a site-specific test plan to ORCAA at least 60 calendar days before the scheduled date of a performance test.
- b. At a minimum, the test plan must include the following:
  - i. Test program summary;
  - ii. Test schedule;
  - iii. Data quality objectives;
  - iv. Internal and external quality assurance program;
  - v. Identify the operating parameters to be monitored to ensure that the capture efficiency of the capture system and the control efficiency of the RTO determined during the performance test are maintained at all times; and
  - vi. Identify the operating parameters and ink, overvarnish, and inside spray that will be used to meet the objective in Condition 44(a).
- c. The permittee must submit a performance test report to ORCAA no later than 60 days after completion of the test. The performance test must be certified as true and accurate by



responsible officials from the testing contractor and the permittee. At a minimum, the performance test report must contain the following information:

- ix. A description of the source and sampling location;
- x. The date and time of each test;
- xi. A summary of test results reported in units and averaging period appropriate to the applicable standard;
- xii. A description of the test methods and quality assurance procedures used;
- xiii. The types and amounts of coating materials;
- xiv. Operating parameters of the emission units and control equipment during each test;
- xv. Raw field data and sample calculations; and
- xvi. Deviations from approved test plans or the O&M Plan.

*[Regulatory Basis: ORCAA Rule 8.1.1; ORCAA Rule 1.5(d)&(i)]*

**44. Exhaust Stack and Vent Requirements.** Exhaust stacks and vents must meet the following requirements:

- a. There must be no flow obstructions at the point of discharge from the exhaust stacks or vents (i.e. cap) for the Line 2 Pin Oven, Line 1 and 2 Inside Bake Oven, Regenerative Thermal Oxidizer, or any Line 3 stack/vent. However, a weatherproof stack exhaust configuration that does not obstruct the air flow as it exits the stack is acceptable.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

- b. Each stack or vent listed below must have a height above ground that is equal to or greater than the following:

Stack or Vent	Height equal to or greater than...
Line 1 Pin Oven Bypass Stack	14.3 meters
Line 2 Pin Oven Bypass Stack	14.3 meters
Line 1 Inside Bake Oven Bypass Stacks	14.0 meters
Line 2 Inside Bake Oven Bypass Stacks	14.0 meters
Regenerative Thermal Oxidizer Stack	18.3 meters
Line 3 Can Washer Stack	17.4 meters
Line 3 Rooftop Vents	13.7 meters
Line 3 Pin Oven Bypass Stacks	14.3 meters
Line 3 Inside Bake Oven Bypass Stacks	14.0 meters

*[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 6.1.4(a)(3); ORCAA Rule 6.1.4(a)(5); WAC 173-460-070]*

- c. No later than 90 days from the startup of Can Manufacturing Line 3, the permittee shall measure the velocity or volumetric flowrate of the following exhaust stacks or vents listed below to verify rate is as listed in Condition 1 or higher. ORCAA must be notified of the test date, planned test method, and operational parameters that will be monitored (i.e. fan speed, damper settings) at least seven days prior to the testing. After the initial test, subsequent verification of volumetric flowrates from stacks or vents may be required if significant changes have been made to the exhaust system or when required by ORCAA.
  - i. Line 3 Can Washer stack
  - ii. Line 3 Decorator room vents





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*Jeff C. Johnston*

*Serving Clallam,  
Grays Harbor, Jefferson,  
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Thurston counties.*

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# **NEW SOURCE**

## **FINAL DETERMINATION**

### **to APPROVE:**

Use a reformulated inside spray coating with 7.4% by weight ethylene glycol monobutyl ether (2-butoxyethanol) (CAS 111-76-2)

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Crown Cork & Seal Co Inc

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NOC# 23NOC1613

November 30, 2023

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## Table of Contents

1. Summary .....	1
2. Regulatory Background .....	1
3. Facility Background.....	2
4. Facility Description.....	5
5. Project Description.....	10
6. Emission Increases.....	10
7. Administrative Requirements for NOC Applications.....	10
8. SEPA Review .....	11
9. Criteria for Approval.....	11
10. Applicable Performance Standards (Summary).....	12
11. Best Available Control Technology (BACT) .....	13
12. Ambient Impact Analysis (Criteria Pollutants).....	13
13. Ambient Impact Analysis (Toxic Air Pollutants).....	14
tBACT.....	14
Ambient Impact Review.....	15
14. Requirements for Major Stationary Sources and Major Modifications to Major Stationary Sources .....	16
15. Title V Air Operating Permit (AOP) Implications .....	16
16. Superseding Previous Order of Approval.....	17
17. Conditions of Approval.....	18
18. Final Determination to Approve .....	35



## NOTICE OF CONSTRUCTION FINAL DETERMINATION TO APPROVE

Olympic Region Clean Air Agency

<b>Issued to:</b>	<b>Crown Cork &amp; Seal Co Inc</b>	<b>County:</b>	<b>Thurston</b>
<b>Location:</b>	<b>1202 Fones Road SE Olympia, WA</b>	<b>Source:</b>	<b>8</b>
<b>Application #:</b>	<b>23NOC1613</b>	<b>RC:</b>	<b>OP1</b>
<b>Prepared on:</b>	<b>November 30, 2023</b>	<b>File:</b>	<b>152</b>

### 1. Summary

Crown Cork & Seal Co Inc (Crown) seeks approval from Olympic Region Clean Air Agency (ORCAA) to use a reformulated inside spray coating with 7.4% by weight ethylene glycol monobutyl ether (EGBE) (2-butoxyethanol, CAS 111-76-2) at 1202 Fones Road SE, Olympia, Washington. Crown is currently approved to use inside spray coatings with an EGBE content of no more than 6.8% by weight, therefore, use of the reformulated coating requires review through a Notice of Construction. ORCAA staff reviewed Crown's proposal and concluded it may be conditionally approved. Recommended conditions of approval are detailed in Section 17 of this Final Determination report.

### 2. Regulatory Background

Pursuant to the Washington Clean Air Act under chapter 70A.15 of the Revised Code of Washington, ORCAA's Rule 6.1 and the Washington State Implementation Plan under 40 CFR part 52.2470(c), Table 6<sup>1</sup> require New Source Review (NSR) for new stationary sources of air pollution (referred to as new sources) in ORCAA's jurisdiction. NSR is also required prior to installing, replacing, or substantially altering any air pollution control technology. NSR generally refers to the process of evaluating air quality impacts and the likelihood of compliance with applicable air regulations and standards. NSR and approval of an air permit by ORCAA is required prior to commencing construction or modification of any new source or prior to installing, replacing, or substantially altering air pollution control technology. The goal of NSR is to assure compliance with applicable air regulations and standards, including equipment performance standards and ambient air quality standards.

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<sup>1</sup> A State Implementation Plan (SIP) is a collection of regulations and documents used by a state, territory, or local air district to implement, maintain, and enforce the National Ambient Air Quality Standards, or NAAQS, and to fulfill other requirements of the federal Clean Air Act. The Clean Air Act requires the EPA to review and approve all SIPs. ORCAA's SIP was last approved by EPA in 1995.

NSR is initiated by a project proponent submitting an air permit application referred to as Notice of Construction (NOC) application<sup>2</sup>, which provides ORCAA information on the proposed project of sufficient detail to characterize air impacts. NOC applications are posted on ORCAA's website and may undergo a public notice and comment period if requested by the public or if emissions increases trigger an automatic public notice. Approval of a NOC in an attainment or unclassifiable area<sup>3</sup> is contingent on verifying a proposed project meets the following criteria from ORCAA's Rule 6.1 and the Washington State Implementation Plan under 40 CFR part 52.2470(c), Table 6:

1. **Performance Standards** - The new stationary source will likely comply with applicable air-performance standards such as federal new source performance standards (NSPS), national emission standards for hazardous air pollutants (NESHAPs), or any performance standards adopted under chapter 70A.15 RCW;
2. **BACT** - The new stationary source will employ "Best Available Control Technology" (BACT) to control all air pollutants emitted;
3. **RACT** - Replaced or substantially altered air pollution control technology meets the standard of "Reasonably Available Control Technology" (RACT) as defined in ORCAA Rule 1.4;
4. **Ambient Air Quality** - Emissions from the new stationary source will not cause or contribute to a violation of any ambient air quality standard;
5. **Federal Air Permitting Requirements** - The new stationary source secures all applicable federal air permits that may apply; and,
6. **Air Toxics** - If there are increases in toxic air pollutant (TAP) emissions, the requirements of Washington's Controls for New Sources of Toxic Air Pollutants under Chapter 173-460 WAC are met.

In this case, Crown began using a reformulated inside spray coating with 7.4% by weight ethylene glycol monobutyl ether (EGBE) at their facility located in Olympia, Washington in January 2021. Crown is currently approved to use inside spray coatings with an EGBE content of no more than 6.8% by weight, therefore, use of the reformulated coating required review through a Notice of Construction prior to use. Crown was issued two Notices of Violation for using an inside spray lacquer with an EGBE content above the allowed limit.

### 3. Facility Background

Crown commenced operations in Olympia in 1959 as a two-piece can manufacturing plant and registered as an air contaminant source in 1972. Crown has received numerous Notice of

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<sup>2</sup> There are two categories of NOC applications: Notice of Construction (NOC) and Notice of Construction Revision (NOR). NOCs are required for new or modified sources, new control technology, replacing an existing stationary source or control technology, and substantially altering control technology. NORs are required when an owner or operator requests a revision to an existing air permit issued by ORCAA.

<sup>3</sup> Unclassified area or "attainment area" means an area that has not otherwise been designated by EPA as nonattainment with ambient air quality standards for a particular regulated pollutant. Attainment area means any geographic area in which levels of a given criteria air pollutant (e.g., ozone, carbon monoxide, PM10, PM2.5, and nitrogen dioxide) meet the health-based National Ambient Air Quality Standards (NAAQS) for that pollutant. An area may be an attainment area for one pollutant and a nonattainment area for others.

Construction (NOC) approvals from ORCAA for various equipment installations and operational changes. Table 1 provides a summary of all NOC applications submitted and their status.

**Table 1. Permitting History with ORCAA**

Permit # (date)	Description	Status
<b>Regulatory Order – 1972</b>	A Regulatory Order was issued in 1972 for installation of a fume incinerator. The fume incinerator was removed from service in the 1980s.	EQUIPMENT REMOVED
<b>PSD-87-1</b>	In 1987 Crown received approval for a major modification subject to federal air regulations for Prevention of Significant Deterioration (PSD). The modification entailed expanding the existing can coating operations and adding two can end manufacturing lines. PSD-87-1 was rescinded by Ecology after ORCAA issued a 249 ton/yr VOC limit in 00MOD063.	RESCINDED
<b>91NOC455</b>	On December 23, 1991, under NOC# 91NOC455, Crown received approval to install a 3 <sup>rd</sup> can end line. Crown discontinued use of the end line in 1998.	EQUIPMENT REMOVED
<b>95NOC641</b>	On June 20, 1995, under NOC# 95NOC641, Crown received approval to install a new can washer. This order was superseded when Crown requested to change these limits under 16MOD1178.	EQUIPMENT REMOVED
<b>95NOC662</b>	On October 5, 1995, under NOC# 95NOC662, Crown received approval to install a new gas fired boiler. Since issuance of this NOC, ORCAA has determined that natural gas boilers less than 5 MMBtu/hr are insignificant and do not require NSR. Crown requested rescission of this NOC on March 24, 2016 and ORCAA issued the rescission on April 1, 2016.	RESCINDED
<b>97NOC040</b>	In 1997 under NOC# 97NOC040, Crown received approval to install a new printing and over-varnish unit and PIN oven. This NOC was no longer valid after the issuance of 98NOC021 to replace all existing can lines with two new lines. The new printing and overvarnish unit installed in 1997 qualified as a new effected facility under 40 CFR Part 60 and triggered requirements in Subpart WW of 40 CFR Part 60.	EQUIPMENT REMOVED
<b>98-ERC-018</b>	In May of 1998, Crown received approval of emission reduction credits (ERC) for discontinuing use of end line #3. The ERC is no longer valid.	SUPERSEDED
<b>98NOC021</b>	In June of 1998, under NOC# 98NOC021, Crown received approval to replace the existing can coating lines at their facility in Olympia, Washington with two	SUPERSEDED

	new lines. This action subjected all the can coating lines to requirements under 40 CFR Part 60, Subpart WW. This order was superseded by NOC# 21NOC1483.	
<b>99NOC029</b>	On April 27, 1999 Crown submitted an application for emission reduction credits for the closure of End Lines 1 and 2. On July 22, 1999 the request was withdrawn.	WITHDRAWN
<b>99NOC033</b>	On May 19, 1999, Crown submitted a request to retain a third can line as a swing line. The swing line was disabled in 2000 and was removed.	EQUIPMENT REMOVED
<b>00MOD063</b>	In August of 2000, under NOC# 00MOD063 Crown requested, and received approval of a 249 ton per year limit for facility wide emission of VOC. This limit established Crown as a minor stationary source with respect to PSD. As a result of this permitting action and at Crown's request, the Washington Department of Ecology rescinded PSD-87-1.	RESCINDED
<b>00NOC027</b>	In July of 2000, under NOC# 00NOC027 Crown gained approval to use a 78% - 100% sulfuric acid in the can washer. The request for the use of concentrated sulfuric acid solution was in addition to their existing sulfuric acid and hydrogen fluoride usage. Crown requested that the concentrated sulfuric acid be limited to 5000 gallons per 12-month period.	EQUIPMENT REMOVED
<b>00NOC034</b>	In June 2000, under NOC# 00NOC034 Crown gained approval to replace three inside lacquer spray machines (6 units / line) with two new inside lacquer spray machines (7 units / line). This order was superseded by NOC# 21NOC1483.	SUPERSEDED
<b>00NOC059</b>	In August 2000, under NOC# 00NOC059 Crown gained approval to replace two cupping presses with two new cupping presses. At the time, the cupping presses were the bottleneck of the facility. The can production bottleneck then became the can washer, with a capacity of 3960 cans/min. This order was superseded by NOC# 21NOC1483.	SUPERSEDED
<b>02NOC273</b>	In May of 2003, under NOC# 02NOC273 Crown gained approval to install five rooftop stacks meant to exhaust air from equipment that previously exhausted to the building interior. This order was superseded by NOC# 21NOC1483.	SUPERSEDED
<b>05NOC420</b>	Through NOC# 05NOC420, Crown established a federally enforceable limit on emission of Hazardous Air Pollutants (HAPs). This limit establishes emissions of all HAPs to less than 10 tons per year of any single HAP and less than 25 tons per year of all combined HAPs.	RESCINDED



<b>08NOC622</b>	On October 8, 2008, NOC# 08NOC622 was approved and granted approval to Crown to replace one of the two can washers with a new unit. The bodymakers now limit the production capacity of the plant to 3960 cans/min (18 units at 220 cans/min). This order was superseded when Crown requested to change these limits under 16MOD1178.	SUPERSEDED
<b>16MOD1178</b>	Crown received approval to modify their can washing solution limits.	SUPERSEDED
<b>17NOC1261</b>	Crown received approval to use a new inside spray lacquer and three specialty matte overvarnishes. This order was superseded by 19NOC1336.	SUPERSEDED
<b>19NOC1336</b>	Crown received approval for two new inside spray lacquers. This order was superseded by 20NOC1454.	SUPERSEDED
<b>20NOC1454</b>	Crown received approval to modify the % by weight of 2-butoxyethanol (EGBE) in overvarnish. This order was superseded by NOC# 21NOC1483.	SUPERSEDED
<b>21NOC1483</b>	Crown received approval to replace three existing curing ovens, make modifications to the exhaust on Lines 1 and 2 LSM and Line 1 Printer Oven, an install a regenerative thermal oxidizer.	SUPERSEDED
<b>21NOC1451</b>	Crown received approval to install a third can manufacturing line.	Will be superseded by this Order of Approval

#### 4. Facility Description

Crown Cork & Seal Company (USA), Inc. is an aluminum beverage can manufacturing facility located at 1202 Fones Road in Olympia, Washington.

This description of the can coating process is primarily taken from Crown's NOC application for NOC# 20NOC1451, as indicated by the passages in italics.

##### 4.1 Can Forming

*The can forming steps begin when aluminum sheet metal is uncoiled and a copper lubricant (a synthetic lubricant) is spread on the sheet with a roll applicator. The lubricated sheet is fed into a copper press, which stamps out shallow aluminum cups sized for the desired can style being produced. The scrap aluminum left over from the punch press patterns is collected, bailed, and sent for recycling at a secondary aluminum smelter.*

*Cups from the initial can forming step are continuously fed through an extrusion process (bodymakers) that draws the can to a smaller diameter and irons the walls to the appropriate length for the can style being manufactured. This D&I process is facilitated by application of a drawing lubricant aqueous solution, which aids in the reshaping process (lubricating and cooling the aluminum can and bodymaker dies).*

*At the exit of the bodymaker, excess aluminum is trimmed from the top of the can body to level the uneven edge and obtain the desired height of the cans. This trimming operation is completed with a knife-like cutting tool that slices off approximately 1/4-inch of excess aluminum.*

#### **4.2 Can Washing**

*Once formed, the can bodies are processed in a can washer to remove any drawing lubricant solution and to treat the metal surface for improved adhesion of inks and coatings. The aluminum surface of the can body is slightly etched, and then a proprietary surfactant surface treatment (containing no VOC) is applied that improves adhesion of the coatings. The can washer is a multi-stage process where dilute acid wash and surface treatment aqueous solutions are sprayed on the cans via a series of nozzles within enclosed sections of the washer. Water rinse stages, including a final rinse with deionized water, follow the acidic washes and surfactant surface treatment stages. In the last stage, the cans pass through a natural gas-fired dryer. The cans exiting the dryer section ("bright cans") are then conveyed to the rim coater for application of a UV varnish to the bottom rim of the can prior to the decoration process step. The can washer stages that spray acidic or surface treatment aqueous solutions are vented to the atmosphere. The can dryer and one of the water rinse stages are ventilated, but this exhaust only contains products of combustion from the dryer burners, water vapor, and possibly minute amounts of acid fume / mist.*

#### **4.3 Exterior Decorating and Coating Process**

Bright cans from the can washer are conveyed to a bottom rim coater where the bottom of the can body is coated with an ultra-violet (UV) rim varnish which reduces friction and improves the can mobility through the rest of the process. The rim varnish is cured with UV lamps before proceeding to the next step.

*The exterior label and decoration are applied in the first section of the decorators. Inks are transferred from an ink well to a series of rollers and then applied to a rubber printing blanket roll. This printing blanket roll and the cans rotate on a mandrel at the same speed in opposite directions to print the individual color onto the can, which forms the exterior label. Isopropyl alcohol (IPA) is used as solvent to clean decorator units.*

*Over varnish is roll coated directly over the inks to provide a protective coating over the printed can label. This is a wet-on-wet coating application operation, with no curing step occurring between the printing and over varnish application stations on the decorator. Decorated cans are then transferred to a pin chain conveyer and fed to a curing oven. Once the ink and varnish has cured in the printing pin ovens, the cans are ready for the interior coating.*

#### **4.4 Interior Decorating and Coating Process**

*Decorated cans from the pin oven are conveyed into a bank of LSMs that apply the inside spray coating to the interior of the can. The function of this inside spray coating is to*

eliminate any contact between the beverage and the aluminum can surface. The inside spray coating is applied with spray nozzles positioned within the spinning can.

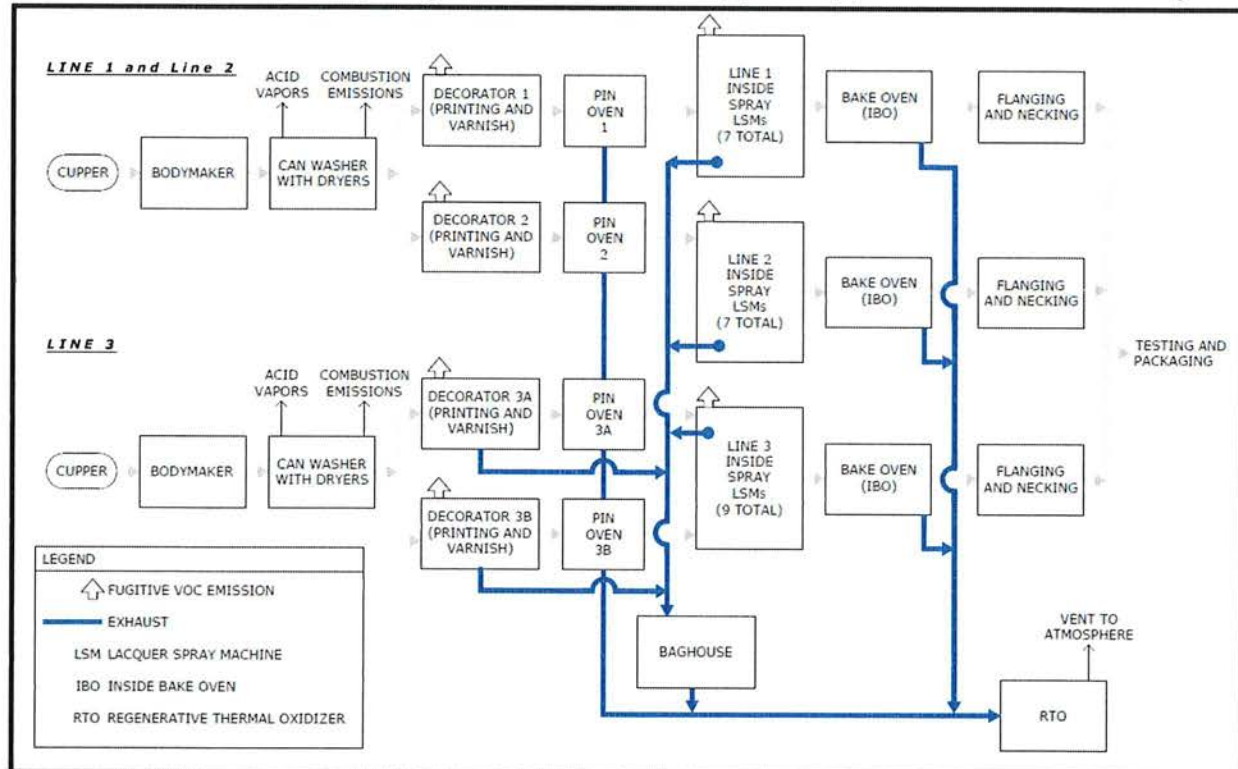
Lacquer is applied in three different weights (from lowest to highest): beer weight, beverage weight, and import weight.

Coated cans are conveyed from the LSMs to an in-feed table at the IBO. In the IBO, the cans proceed through the tunnel style oven on an open mesh conveyor to cure the interior coating. The inside spray VOCs driven off in the IBOs are collected and vented to the RTO for control.

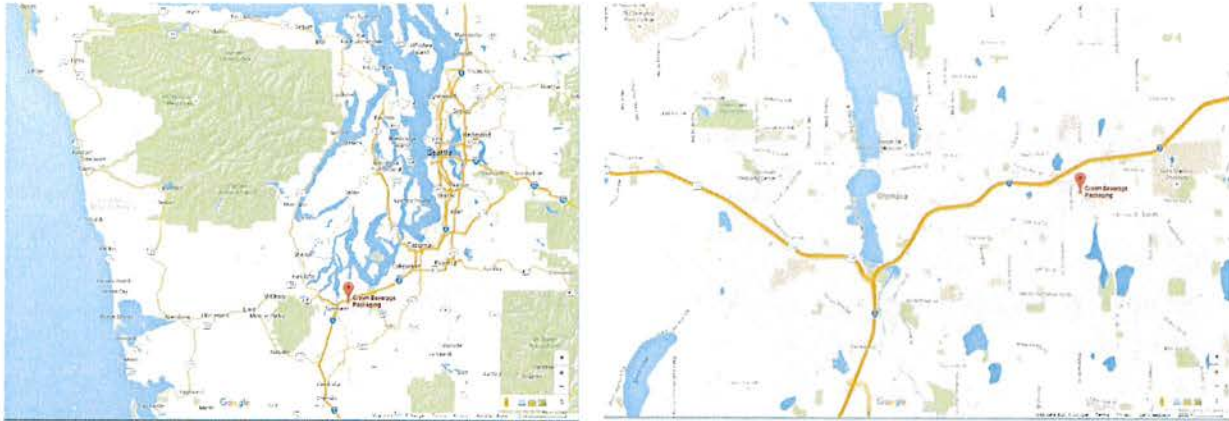
#### 4.5 Neck/Flanging Operations

As the final manufacturing step, the top section of the can is necked down to a smaller diameter and flanged to prepare the can to receive the end (lid). Necker machines decrease the diameter of the open end of the can by forcing it through two successive dies (one type on each machine). The spin flanger machines form the can shoulder into a smooth, slightly concave transition between the neck and can body, and then turns the neck back to create a mating surface for the can end during packaging of the beverage. Quality control, packaging, and shipping operations follow the manufacturing process.

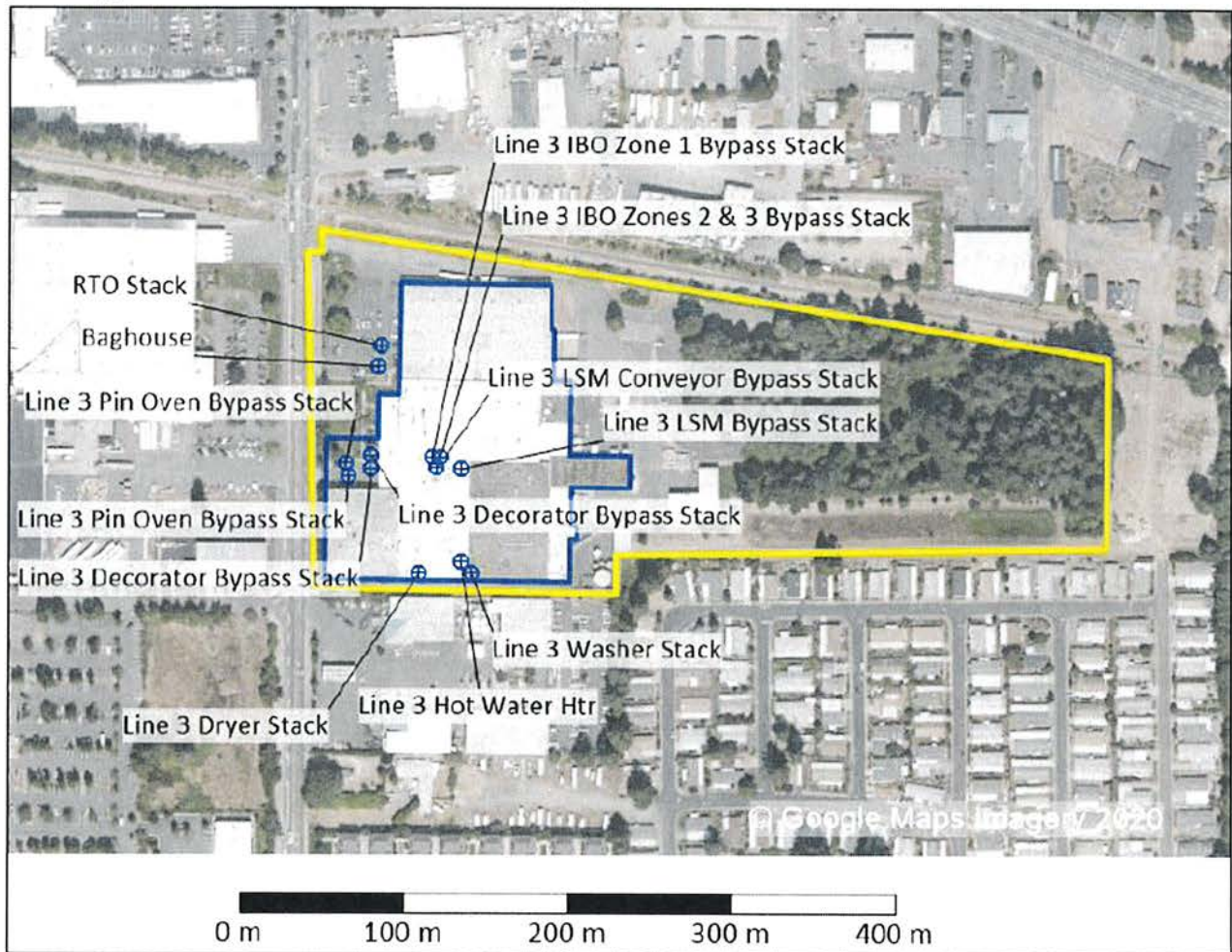
Figure 1. Process Flow Diagram (Normal RTO Scenario) (From application for 20NOC1451)



**Figures 1 and 2. Approximate location of the Crown Cork & Seal Facility in Olympia, WA**  
 (Maps from maps.google.com)



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



**Table 2. Emission Unit<sup>1</sup> Specifications**

EU#	Emission Units	Approved Specifications	Air Pollution Controls	Alternative Operating Scenario	Stack/Exhaust
<b>CAN COATING LINES 1 AND 2</b>					
EU1	Line B Can Washer (Line 1 and 2)	Cincinnati Industrial Machinery (CIM) Model #BS1122422-88 C40-2 5000 cans per minute <sup>2</sup>	Can washing solution limitations	N/A	Washer 1A
EU2	Line B Can Washer Natural Gas-Fired Dryer (Line 1 and 2)	Eclipse 440 AH dryer 2 Natural gas-fired burners 8.8 MMBtu/hr maximum heat input	None	N/A	Washer/Oven 1A Washer/Oven 1B Stack Height: 13.7 m
EU4	Rim Coater with UV Cure (Line 1 and 2)	U.V. Fusion U.V. System Model DRR-120	<ul style="list-style-type: none"> <li>▪ Use of 40 CFR Part 60 Subpart WW-compliant coatings and low-VOC coatings.</li> <li>▪ Use of UV curing.</li> </ul>	N/A	None
EU5	Solvent Cleaning	<ul style="list-style-type: none"> <li>▪ Parts Washers (isopropanol)</li> <li>▪ Hand cleaning of decorator units (isopropanol)</li> <li>▪ Machine/Millwright shops (naphtha)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pollution prevention</li> </ul>	N/A	Roof vent
<b>CAN COATING LINE 1</b>					
EU6	Line 1 Decorator Unit	Concord Decorator-Alcoa Serial # D3008 1900 cans-per-minute <sup>2</sup>	<ul style="list-style-type: none"> <li>▪ Use of low-VOC inks.</li> <li>▪ Use of low-VOC, 40 CFR Part 60 Subpart WW-compliant over-varnish.</li> <li>▪ Roll on application.</li> </ul>	N/A	Roof vent
EU7	Line 1 Printer Oven (PIN)	<ul style="list-style-type: none"> <li>▪ OSI Model# 1600-CPM SINGLE ZONE</li> <li>▪ 2 Natural gas-fired burners</li> <li>▪ 5 MMBtu/hr maximum heat input</li> </ul>	<ul style="list-style-type: none"> <li>▪ All exhaust routed to RTO</li> </ul>	RTO bypass allowed for RTO maintenance purposes up to 200 hours per year; cannot operate with any other PIN in RTO bypass mode	Normal operation: RTO Stack During bypass: PIN 1A PIN 1B Height: 14.3 m Diameter: 0.38 m Flowrate: ~5,000 CFM Temp: ~448 K

EU8	<p>Line 1 Lacquer Spray Machines (LSM)</p> <ul style="list-style-type: none"> <li>▪ Fisher Model 102MSH MARK3</li> <li>▪ 7 units @ 350 cans per minute<sup>2</sup></li> <li>▪ High transfer efficiency spray technique (&gt;94%)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of 40 CFR Part 60 Subpart WW-compliant coatings.</li> <li>▪ Filters with 99% filtration efficiency on exhaust</li> <li>▪ Capture systems on LSM boxes and conveyor to IBO. Both routed to RTO, except during bypass.</li> </ul>	N/A	<p>Normal operation: RTO Stack</p> <p>During bypass: LSM 1A</p>
EU9	<p>Line 1 Internal Bake Oven (IBO)</p> <ul style="list-style-type: none"> <li>▪ Greenbank NIBO Serial# 15241</li> <li>▪ High efficiency natural gas-fired burners - 3.93 MMBtu/hr maximum heat input</li> <li>▪ 3,000 cans-per-minute<sup>2</sup></li> <li>▪ Operating Temp – 395-400F</li> <li>▪ 3 heating zones – 60 seconds each</li> <li>▪ Cooling zone – 30 seconds</li> </ul>	<p>All exhaust routed to RTO</p>	<p>RTO bypass allowed for RTO maintenance purposes up to 200 hours per year; cannot operate with any other IBO in RTO bypass mode</p>	<p>Normal operation: RTO Stack</p> <p>During bypass: Zone 1 Bypass Stack Height: 14.0 m Diameter: 0.3 m Flowrate: ~3,000 CFM Temp: ~383 K</p> <p>Zone 2 Bypass Stack Height: 14.0 m Diameter: 0.45 m Flowrate: ~5,900 CFM Temp: ~453 K</p>
<b>CAN COATING LINE 2</b>				
EU10	<p>Line 2 Decorator Unit</p> <p>Concord Decorator-Alcoa Serial# 307301 1900 cans-per-minute<sup>2</sup></p>	<ul style="list-style-type: none"> <li>▪ Use of low-VOC inks.</li> <li>▪ Use of low-VOC, 40 CFR Part 60 Subpart WW-compliant over-varnish.</li> <li>▪ Roll on application ink and overvarnish.</li> </ul>	N/A	<p>Roof vent</p>

EU11	Line 2 Printer Oven (PIN)	<ul style="list-style-type: none"> <li>▪ Greenbank "Pintec One – Omega"</li> <li>▪ High efficiency natural gas-fired burner - 2.59 MMBtu/hr maximum heat input</li> <li>▪ 2,400 cans-per-minute<sup>2</sup></li> <li>▪ Operating Temp – 395 – 415 F</li> <li>▪ Time in oven - 9.16 seconds</li> </ul>	All exhaust routed to RTO	<p>RTO bypass allowed for RTO maintenance purposes up to 200 hours per year; cannot operate with any other PIN in RTO bypass mode</p> <p>Normal operation: RTO Stack</p> <p>During Bypass: Bypass Stack Height: 14.3 m Diameter: 0.38 m Flowrate: ~5,000 CFM Temp: ~448 K</p>
EU12	Line 2 Lacquer Spray Machines (LSM)	<ul style="list-style-type: none"> <li>▪ Fisher Model 102MSH MARK3</li> <li>▪ 7 units @ 350 cans per minute<sup>2</sup></li> <li>▪ High transfer efficiency spray technique (&gt;94%)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of 40 CFR Part 60 Subpart WW-compliant coatings.</li> <li>▪ Filters with 99% filtration efficiency on exhaust</li> <li>▪ Capture systems on LSM boxes and conveyor to IBO. Both routed to RTO, except during bypass.</li> </ul>	<p>N/A</p> <p>Normal operation: RTO Stack</p> <p>During bypass: LSM 2A</p>
EU13	Line 2 Internal Bake Oven (IBO)	<ul style="list-style-type: none"> <li>▪ Greenbank Serial# 15241</li> <li>▪ High efficiency natural gas-fired burners - 3.93 MMBtu/hr maximum heat input</li> <li>▪ 3,000 cans-per-minute<sup>2</sup></li> <li>▪ Operating Temp – 395-400F</li> <li>▪ 3 heating zones – 60 seconds each</li> <li>▪ Cooling zone – 30 seconds</li> </ul>	All exhaust routed to RTO	<p>RTO bypass allowed for RTO maintenance purposes up to 200 hours per year; cannot operate with any other IBO in RTO bypass mode</p> <p>Normal operation: RTO Stack</p> <p>During Bypass: Zone 1 Bypass Stack Height: 14.0 m Diameter: 0.3 m Flowrate: ~3,000 CFM Temp: ~383 K</p> <p>Zone 2 Bypass Stack Height: 14.0 m Diameter: 0.45 m Flowrate: ~5,900 CFM Temp: ~453 K</p>
<b>REGENERATIVE THERMAL OXIDIZER</b>				

EU14	Regenerative Thermal Oxidizer	<ul style="list-style-type: none"> <li>▪ Anguil Model 550</li> <li>▪ Three-bed regenerative thermal oxidizer</li> <li>▪ Natural-gas fired – up to 15 MMBtu/hr</li> <li>▪ Guaranteed 98 control efficiency for VOC<sup>3</sup></li> <li>▪ Combustion chamber temperature: 1550 – 1700 F</li> </ul>	N/A	Height: 18.3 m Diameter: 1.83 m Flow: 55,000 SCFM Temp: 350 F
Baghouse/Dust Collector (part of RTO system)		<ul style="list-style-type: none"> <li>▪ Donaldson Torit CFE 5-80</li> <li>▪ 25,000 SCFM</li> <li>▪ Pulse jet cartridge filter system for EU8 &amp; EU12</li> </ul>	Not operational during bypass	Exhausts to RTO
<b>CAN COATING LINE 3</b>				
EU15	Line 3 Can Washer	<ul style="list-style-type: none"> <li>▪ Greenbank Torrent One</li> <li>▪ 3000 cans per minute</li> </ul>	N/A	Stack: Height: 17.4 m Diameter: 0.46 m Exit Velocity: 12.36 m/s
EU16	Line 3 Rim Coater with UV Cure	<ul style="list-style-type: none"> <li>▪ UVio 36" Rim-Up Integrated Mass Rim Coating (IMRC) System</li> </ul>	N/A	None
EU17	Line 3 Decorator Unit #31	<ul style="list-style-type: none"> <li>▪ Stolle Concord 24MRT-8 Color Decorator</li> <li>▪ 2,000 cans-per-minute</li> <li>▪ 8-gallon overvarnish tank</li> </ul>	RTO bypass allowed for RTO maintenance purposes up to 200 hours per year; cannot operate with any other decorator in RTO bypass mode	<p>Normal operation: RTO Stack</p> <p>During Bypass: Line 3 Decorator Bypass Stack</p> <p>Normal/bypass: Fugitives through two decorator room vents: Height: 13.7 m Diameter: 0.91 m Exit velocity: 3.59 m/s</p>



EU18	Line 3 Decorator Unit #32	<ul style="list-style-type: none"> <li>▪ CMbE Reformat</li> <li>▪ 2,000 cans-per-minute</li> <li>▪ 8-gallon overvarnish tank</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of low-VOC inks.</li> <li>▪ Use of low-VOC, 40 CFR Part 60 Subpart WW-compliant over-varnish.</li> <li>▪ Roll on application ink and overvarnish.</li> <li>▪ Close capture system on ink and overvarnish application areas routed to RTO</li> </ul>	RTO bypass allowed for RTO maintenance purposes up to 200 hours per year; cannot operate with any other decorator in RTO bypass mode	Normal operation: RTO Stack  During Bypass: Line 3 Decorator Bypass Stack
EU19	Line 3 Decorator Solvent Cleaning	<ul style="list-style-type: none"> <li>▪ Parts Washers (isopropanol)</li> <li>▪ Hand cleaning of decorator units (isopropanol)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pollution prevention</li> <li>▪ Capture system operating during cleaning</li> </ul>	N/A	Two decorator room vents: Height: 13.7 m Diameter: 0.91 m Exit velocity: 3.59 m/s
EU20	Line 3 Printer Oven (PIN) #31	<ul style="list-style-type: none"> <li>▪ Greenbank Pintec One – Omega</li> <li>▪ High efficiency natural gas-fired burner - 2.59 MMBtu/hr maximum heat input</li> <li>▪ 2,400 cans-per-minute<sup>2</sup></li> <li>▪ Operating Temp – 395 – 415 F</li> <li>▪ Time in oven - 9.16 seconds</li> </ul>	All exhaust routed to RTO	RTO bypass allowed for RTO maintenance purposes up to 200 hours per year; cannot operate with any other PIN in RTO bypass mode	Normal operation: RTO Stack  During Bypass: PO311 Bypass Stack Height: 14.3 m Diameter: 0.38 m Flowrate: ~5,000 CFM Temp: ~448 K
EU21	Line 3 Printer Oven (PIN) #32	<ul style="list-style-type: none"> <li>▪ Greenbank Pintec One – Omega</li> <li>▪ High efficiency natural gas-fired burner - 2.59 MMBtu/hr maximum heat input</li> <li>▪ 2,400 cans-per-minute<sup>2</sup></li> <li>▪ Operating Temp – 395 – 415 F</li> <li>▪ Time in oven - 9.16 seconds</li> </ul>	All exhaust routed to RTO	RTO bypass allowed for RTO maintenance purposes up to 200 hours per year; cannot operate with any other PIN in RTO bypass mode	Normal operation: RTO Stack  During Bypass: PO312 Bypass Stack Height: 14.3 m Diameter: 0.38 m Flowrate: ~5,000 CFM Temp: ~448 K

EU22	Line 3 Lacquer Spray Machines (LSM)	<ul style="list-style-type: none"> <li>▪ CMbE – 3200 Dual Turret LSM</li> <li>▪ 9 units @ max 350 cans per minute</li> <li>▪ Nordson Airless spray technology</li> <li>▪ Includes Respray/Supersorter</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of 40 CFR Part 60 Subpart WW-compliant coatings.</li> <li>▪ Filters with 99% filtration efficiency on exhaust</li> <li>▪ Capture systems on LSM boxes and conveyor to IBO. Both routed to RTO, except during bypass.</li> </ul>	N/A	Normal operation: RTO Stack
EU23	Line 3 Internal Bake Oven (IBO)	<ul style="list-style-type: none"> <li>▪ Greenbank NIBO Serial# 15241</li> <li>▪ High efficiency natural gas-fired burners - 3.93 MMBtu/hr maximum heat input</li> <li>▪ 3,000 cans-per-minute<sup>2</sup></li> <li>▪ Operating Temp – 395-400F</li> <li>▪ 3 heating zones – 60 seconds each</li> <li>▪ Cooling zone – 30 seconds</li> </ul>	All exhaust routed to RTO	RTO bypass allowed for RTO maintenance purposes up to 200 hours per year; cannot operate with any other IBO in RTO bypass mode	Normal operation: RTO Stack  During Bypass: IBO321 Zone 1 Bypass Stack Height: 14.0 m Diameter: 0.3 m Flowrate: ~3,000 CFM Temp: ~383 K  IBO322 Zone 2 Bypass Stack Height: 14.0 m Diameter: 0.45 m Flowrate: ~5,900 CFM Temp: ~453 K
<b>INSIGNIFICANT EMISSION UNITS<sup>1</sup></b>					
	Diesel Emergency Fire Pump Engine	Clarke Model JUGH-UFG8 149 hp, 9.5 gal/hr	None		Fire Pump Stack
	Line 1 and 2 Bodymakers	-18 units at 220 cans/min -3960 cans/minute			
	Propane Gas Tank	500 gallons			
	Space Heating	Eighteen natural gas-fired space heaters 80,000 Btu/hr each			
	Storage and Dispense of Acid Solution	Stored in 200-gallon, enclosed, plastic totes			

Line 3 Can Washer Drying Oven	Greenbank "Tornado" 2.59 MMBtu/hr natural gas-fired dryer 3,000 cans-per-minute	DRY361 Height: 13.7 m Diameter: 0.45 m
Hot Water Heater Line 1/2	Unilux QCCS-SKI-200828A-D-NS Natural gas-fired hot water heater 3.25 MMBtu/hr	HWH151 Height: 13.7 m Diameter: 0.4 m
Hot Water Heater Standby <sup>4</sup>	Unilux QCCS-SKI-200828A-D-NS Natural gas-fired hot water heater 3.25 MMBtu/hr	HWH251 Height: 13.7 m Diameter: 0.4 m
Hot Water Heater Line 3	Unilux QCCS-SKI-200828A-D-NS Natural gas-fired hot water heater 3.25 MMBtu/hr	HWH351 Height: 13.7 m Diameter: 0.4 m
Copper Press System	Minster Stolle DACH-165	
Bodymakers & Trimmers	CMB 5610 – Fixed 24.5" Stroke	
Necker	CMB 3400	
Lacquer storage tank	10,000 gallons	
Over-varnish storage tank	10,000 gallons	
Wastewater Pretreatment System	Two treatments trains: -60 GPM each -No aeration processes. The process units includes oil coalescing separator, reaction tanks, clarifiers, neutralizing tanks, and filter press. -Additives/reagents will all be in liquid form. -Sludge disposal unit will be completely enclosed.	
Waste Oil Tank	8000 gallons	

<sup>4</sup>Emission unit designations above are specific to the New Source Review and do not affect emission unit designations in Crown's Air Operating Permit. For example, the diesel fire pump engine did not require New Source Review due to its size and are therefore designated as insignificant emission units for the purposes of this permit. However, emergency engines are significant emission units under the Title V Air Operating Permit program as they are subject to federal applicable requirements.

<sup>2</sup>Per email from Michael Herron, Crown on 4/6/21 – The production capacity of Lines 1 and 2 are limited by the printers at 1900 cans per minute for each line.

<sup>3</sup>Guarantee is for total gaseous organic concentration as measured by Method 25A.

<sup>4</sup>Standby hot water heater only used when one of the other hot water heaters is not operating. Changes to this operational schedule may require additional modeling to assure compliance with NAAQS (see Section 11).

**Table 3: Facility-Wide Potential to Emit (Tons/Year)**

Pollutant	Proposed Facility-wide Emissions by Process Type					Total	Facility-wide Emissions
	Combustion Units <sup>1</sup>	Can Washing	Can Coating Lines	Solvent Usage			
CO	17.7	-	-	-	-	17.7	Historical (2020) <sup>2</sup> 11.2
NO <sub>x</sub>	21.0	-	-	-	-	21.0	13.3
PM	1.9	-	0.5	-	-	2.3	17.8
SO <sub>2</sub>	0.15	-	-	-	-	0.1	0.1
VOC	1.3	-	108.0	71.1	-	180.5	249
HAP	0.5	0.6	5.1	-	-	6.2	19.2
Formaldehyde	0.02	-	2.2	-	-	2.2	9.9
Ethylene glycol monobutyl ether (2-butoxyethanol)	-	-	59.2	-	-	59.2	115
Isopropyl alcohol	-	-	-	71.1	-	71.1	42.6
Hydrofluoric acid	-	0.14	-	-	-	0.14	0.08
Sulfuric acid	-	0.42	-	-	-	0.42	0.23
Phenol	-	-	0	-	-	0	2.5

<sup>1</sup> Combustion unit emissions include NSR exempt units to accurately compare to pre-proposal PTE. Only emissions from two hot water heaters are included as one is a backup unit.

<sup>2</sup> Potential to emit prior to changes proposed in 20NOC1451 or 21NOC1483. NSR exempt units included in facility-wide totals. As one can washer and one hot water heater are backup units, the larger of each unit is included in the PTE calculations.

<sup>3</sup> Potential to emit incorporating changes proposed in 21NOC1483 for existing Can Coating Lines 1 and 2 (replacement of three of four existing curing ovens, modification of exhaust system on remaining curing oven and lacquer spray machine, and installation of a regenerative thermal oxidizer)

**Table 4: Results of First Tier Review - TAP Emission Rates & Net Emissions Increases (pounds/averaging time)**

Toxic Air Pollutant	CAS	SQER Averaging Time	Past Actuals	Operating Scenario	Potential To Emit <sup>1</sup>		Net Change <sup>4</sup>	SQER <sup>5</sup>	Modeling Required <sup>6</sup>
					Line 1 & 2 Project	Line 3			
Ethylene glycol monobutyl ether (EGBE) (2-butoxyethanol)	111-76-2	24-hr	798.5 <sup>2</sup>	Normal	225.2	130.8	-442.5	6.1	No
				Bypass <sup>3</sup>	424.9	493.4	-305.1		No

<sup>1</sup> Potential to emit for First Tier Review includes emissions from both projects, as required by ORCAA.

<sup>2</sup> Actual emissions form EGBE, the 24-hour actual emission rate was based on the calculated 24-hr emission rate from existing Lines 1 and 2.

<sup>3</sup> For EGBE increase during bypass, only one line will be in operation during bypass of the RTO: Line 1, Line 2, or Line 3 operating at 2,000 cans-per-minute (maximum

1.07 lb formaldehyde/hr). Therefore, Line 3 PTE was used to calculate the net change as it results in the highest emissions.

<sup>4</sup> Net change calculated by subtracting past actual emissions from proposed increase, as allowed under WAC 173-460-080(3).

<sup>5</sup> SQER is the Small Quantity Emission Rate found in WAC 173-460-150.

<sup>6</sup> If net TAP emission are less than their corresponding SQER, emissions of that particular TAP are considered sufficiently low to ensure compliance with the ASIL without further analysis. Otherwise, modeling is required to demonstrate that the modeled impact does not exceed its corresponding ASIL. See Section 12 for more information.

## 5. Project Description

Crown proposes to use a reformulated inside spray lacquer (V70Q38AA Version 6) in all three of their coating lines that contains 7.4% by weight ethylene glycol monobutyl ether (EGBE) (also known as 2-butoxyethanol). Crown began using the reformulated lacquer sometime in 2021 prior to the October 13, 2021 source test.

Crown received approval in 2021 for significant changes to their facility through NOC# 21NOC1483 and NOC# 20NOC1451. These changes included replacing three of the four existing curing ovens on Lines 1 and 2 and installing a 3<sup>rd</sup> can manufacturing line. The formulation of inside spray lacquer V70Q38AA that Crown included in both their NOC applications was Version 2 (dated March 7, 2019) with an EGBE content of 6.8% by weight. Crown did not amend the applications for either NOC# 21NOC1483 or NOC# 21NOC1451 prior to ORCAA issuing approval for either proposal. Both Orders of Approval limited EGBE content of the inside spray lacquer to 6.8% by weight. EGBE is the only pollutant that increased in the new formulation. VOC content of the reformulated lacquer is lower than in the original (3.2 lb/gal vs 3.4 lb/gal).

Inside spray lacquer is applied in the lacquer spray machines (LSMs) as described in Section 4.4. The cans then travel by covered conveyor to the inside bake oven (IBOs) for curing. Emissions of EGBE occurs from the LSMs and IBOs as well as during transport between the two units.

As part of both NOC# 21NOC1483 and NOC# 20NOC1451, Crown proposed and installed a regenerative thermal oxidizer (RTO) to control emissions of VOC and TAP from the new/modified units (three of the four existing curing ovens on Lines 1 and 2 and a 3<sup>rd</sup> can manufacturing line). In addition, Crown proposed to vent existing emission units to the RTO to voluntarily reduce emissions of VOC and TAP from these units (included existing Line 1 PIN oven, Line 1 and 2 lacquer spray machines (LSMs), and the conveyors between the LSMs and the Inside Bake Ovens).

## 6. Emission Increases

The proposed reformulation will only result in an emission increase from EGBE. Emissions from all other pollutants will remain the same or decrease.

**Table 5. Emission Increases (Project Emissions)**

Pollutant	Classification (Criteria <sup>a</sup> /HAP <sup>b</sup> /TAP <sup>c</sup> )	Emission Rate (lb/hr)	Emission Rate (lb/day)	Emission Rate (lb/yr)
Ethylene glycol monobutyl ether (EGBE)	TAP	0.9	21.3	6848.3

<sup>a</sup> EPA has established national ambient air quality standards (NAAQS) for six of the most common air pollutants—carbon monoxide, lead, ground-level ozone, particulate matter, nitrogen dioxide, and sulfur dioxide—known as “criteria” air pollutants (or simply “criteria pollutants”).

<sup>b</sup> HAP means Hazardous Air Pollutant. Hazardous Air Pollutants are those known to cause cancer and other serious health impacts and are regulated under the federal Clean Air Act.

<sup>c</sup> TAP means any toxic air pollutant regulated in Washington and listed in WAC 173-460-150.

## 7. Administrative Requirements for NOC Applications

NOC applications are subject to filing fees according to ORCAA Rule 3.3(b) and may incur additional NOC processing fees at an hourly rate according to ORCAA Rule 3.3(c). Applicable NOC filing fees for Crown's NOC application were paid prior to ORCAA commencing processing of the application. Additional NOC processing fees may apply and will be determined and assessed prior to issuing a Final Determination and the Approval Order (a.k.a.: Air Permit).

NOC applications are subject to a 15-day public notice and an opportunity to request a 30-day public comment period and opportunity for a public hearing. Public notice of Crown's NOC application was posted on ORCAA's website on September 11, 2023. The time period for filing comments on the application and requests for a public comment period expired on September 26, 2023. One comment was received on the NOC application from a member of public who expressed concern and provided information on the health effects of EGBE. The commenter did not request a 30-day public comment period and no other requests were received during the NOC application noticing period. Therefore, this proposal did not trigger any of the criteria for a mandatory 30-day public comment period per ORCAA Rule 6.1.3(b).

## 8. SEPA Review

The State Environmental Policy Act (SEPA) under Chapter 197-11 WAC is intended to provide information to agencies, applicants, and the public to encourage the development of environmentally sound proposals. The goal of SEPA is to assure that significant impacts are mitigated.

The City of Olympia issued a SEPA Determination of Nonsignificance on August 28, 2020.

## 9. Criteria for Approval

ORCAA's Rule 6.1 and the Washington State Implementation Plan under 40 CFR part 52.2470(c), Table 6, establish the following general criteria for approving new stationary sources and modifications to existing stationary sources of air pollution in ORCAA's region:

1. **Performance Standards** - Any new stationary source or modification will likely comply with applicable air-performance standards such as the federal new source performance standards (NSPS), national emission standards for hazardous air pollutants (NESHAPs), and any performance standards adopted under chapter 70A.15 RCW;
2. **BACT** - The new or modified stationary source is controlled to a level that meets the standard of "Best Available Control Technology" (BACT);
3. **Ambient Air Quality** – Any increase in air emissions will not cause or contribute to violation of any ambient air quality standard;
4. **Federal Air Permitting Requirements** – All applicable federal air permits, if required, are secured;
5. **Washington Air Toxics Regulations** - If there are increases in toxic air pollutant (TAP) emissions, the requirements of Washington's Controls for New Sources of Toxic Air Pollutants under Chapter 173-460 WAC are met; and,
6. **Public Outreach** – Public notice and comment requirements in ORCAA's regulations and the Washington State Implementation Plan under 40 CFR part 52.2470(c), Table 6 are met.

The following sections provide more detail on each criterion.

## 10. Applicable Performance Standards (Summary)

ORCAA's Rule 6.1.4(a)(1) and the Washington State Implementation Plan under 40 CFR part 52.2470(c), Table 6, require a finding that any new or modified stationary source will likely comply with applicable state, federal and local performance standards for air emissions including emission standards adopted under chapter 70A.15 RCW, emissions standard of ORCAA, and federal emission standards including New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), and National Emission Standards for Hazardous Air Pollutants for Source Categories (MACT standards). The performance standards in Table 6 were determined applicable to the proposal to use a reformulated inside spray coating in the existing lacquer spray machines. The performance standards in Table 7 were determined relevant to the proposal to use a reformulated inside spray coating in the existing lacquer spray machines, but inapplicable. A comprehensive list of applicable performance standards that apply to all stationary sources of air pollution located at the facility, as well as general air regulations and standards that apply, are included in the Appendix.

**Table 6: Applicable Performance Standards specific to the proposal to use a reformulated inside spray coating in the existing lacquer spray machines**

Title Citation	Brief Description (Consult rule/regulation for specific requirements)	discussion/determination
Particulate Standards for Process units ORCAA Rule 8.3(a) WAC 173-400-060	Prohibits emissions from any process unit in excess of 0.1 grain/dscf. EPA test methods from 40 CFR Appendix A shall be used should demonstration of compliance be required.	Applies to all general process operations onsite including the can washer, lacquer spray machines, and sludge disposal unit.
40 CFR Part 60, Subpart WW	New Source Performance Standards - Standards of Performance of the Beverage Can Surface Coating Industry. Applies to beverage can surface coating lines with the following affected facilities: new, modified, or reconstructed exterior base coat operation, overvarnish coating operation, and inside spray coating operation.	Applies to the overvarnish and inside spray coating operations including those that are part of the new can production line (see below).

**Table 7: Relevant Performance Standards Determined Inapplicable with respect to the proposal to use a reformulated inside spray coating in the existing lacquer spray machines**

Regulation Title Citation	Relevant Performance Standard Determined Inapplicable	Basis
40 CFR Part 63 Subpart EEEE	National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)	Not applicable. Crown has a federally enforceable voluntary limit on emissions of hazardous air pollutants that established Crown as a minor source of HAPs.
40 CFR Part 63 Subpart KKKK	National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Cans	Not applicable. Crown has a federally enforceable voluntary limit on emissions of hazardous air pollutants that established Crown as a minor source of HAPs.



40 CFR Part 63 Subpart M MMMM	National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products	Not applicable. Crown has a federally enforceable voluntary limit on emissions of hazardous air pollutants that established Crown as a minor source of HAPs.
40 CFR Part 63, Subpart H HHHHHH	National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources	Not applicable. Crown is not engaged in: a. Paint stripping with methylene chloride; b. Autobody refinishing operations; or c. Spray application of coatings containing chromium, lead, manganese, nickel, or cadmium.

### 11. Best Available Control Technology (BACT)

ORCAA Rule 6.1.4(a)(2) and the Washington State Implementation Plan under 40 CFR part 52.2470(c), Table 6, require the finding that a new source or modification to an existing source of air pollution in an attainment or unclassifiable area will employ best available control technology for all pollutants (BACT) not previously emitted or whose emissions would increase as a result of the new source or modification.

New sources of air pollution and modifications to existing sources of air pollution are required to use BACT to control all pollutants not previously emitted, or those for which emissions would increase as a result of the new source or modification. BACT is defined in WAC 173-400-030 as, *“an emission limitation based on the maximum degree of reduction for each air pollutant subject to regulation under chapter 70A.15 RCW emitted from or which results from any new or modified stationary source, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each pollutant.”*

This proposal will not result in an increase in emissions of criteria pollutants; therefore, a BACT analysis is not required (see Section 13 for T-BACT determination). BACT will remain as determined in previous Notices of Construction.

### 12. Ambient Impact Analysis (Criteria Pollutants)

ORCAA’s Rule 6.1.4(a)(3) and the Washington State Implementation Plan under 40 CFR part 52.2470(c), Table 6, require emissions from any new stationary source or modification not delay the attainment date of an area not in attainment, nor cause or contribute to a violation of any Ambient Air Quality Standard (AAQS). ORCAA’s current Dispersion Modeling Guidance (2009) recommends this approval criteria be demonstrated using dispersion modeling techniques when Potential to Emit (PTE) of any pollutant with an ambient standard is above

ORCAA’s adopted significant emission level for the pollutant. Any pollutant with a PTE below its significant emission level can be considered insignificant with respect to maintaining the AAQs.

This proposal will not result in an increase in emissions of criteria pollutants; therefore, the proposal is not expected to cause or contribute to a violation of any AAQS.

### 13. Ambient Impact Analysis (Toxic Air Pollutants)

Washington’s regulation titled Controls for New Sources of Toxic Air Pollutants (Air Toxics Rule) under Chapter 173-460 of the Washington Administrative Code applies to new stationary sources of Toxic Air Pollutants (TAP), including modifications to existing emissions units that increase TAP. The purpose of the Air Toxics Rule is to, “... maintain such levels of air quality as will protect human health and safety.” The TAPs covered under the Air Toxics Rule include carcinogens and non-carcinogens. TAP emissions increases for determining applicability are the increases attributable to the new or modified emissions unit - Decreases from existing emissions units are not allowed to be subtracted from project-attributable TAP increases when determining applicability. Also, the Air Toxics Rule provides that review of modifications are limited to the emission unit or units proposed to be modified and the TAPs whose emissions would increase as a result of the modification.

The Air Toxics Rule has two independent requirements for new sources and modifications that increase TAP emissions above de-minimis levels:

- 1) **tBACT:** The new or modified emission units must use Best Available Control Technology to control TAP emissions (WAC 173-460-040(3)(a)).
- 2) **Ambient Impact:** The NOC application must demonstrate that any increase in TAP from the new or modified emission units are sufficiently low to protect human health and safety from potential carcinogenic and/or other toxic effects (WAC 173-460-070).

#### tBACT

The tBACT requirement applies to any new or modified emission units that triggers the Air Toxics Rule (results in a TAP increase above de-minimis levels), regardless of facility-wide or “net” TAP emissions. The term tBACT means Best Available Control Technology, as that term is defined in WAC 173-400-030, but applied to control of TAP (see BACT definition in Section 11).

ORCAA staff’s conclusion is that the air pollution control technologies and measured proposed and installed by Crown in applications for NOC# 20NOC1451 and NOC# 21NOC1483 continue to meet the t-BACT requirements for this proposal. Conditions requiring ongoing use of the air pollution control technologies and measures proposed by Crown are included in the Recommended Conditions of Approval. See the applications and Final Determinations for NOC# 20NOC1451 and NOC# 21NOC1483 for more information on BACT for all pollutants related to these emission units.

**Table 8. T-BACT Summary related to this proposal**

Emission Unit	BACT Applicable?	BACT & T-BACT Description
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<b>LSM and LSM Conveyor (Lines 1, 2, 3)</b>	TAP	-Use of waterborne low-VOC coatings (inside spray lacquer) that are 40 CFR Part 60 Subpart WW-compliant. -Store coatings, solvents and other VOC-containing materials in covered containers and promptly cleaning up spills. -Minimum overall system VOC capture efficiency of 84% (includes all decorators and PIN ovens) -Captured exhaust controlled by regenerative thermal oxidizer with minimum 98% control efficiency for VOC -Inside Bake Ovens - 100% capture efficiency
<b>Inside Bake Ovens (Lines 1, 2, 3)</b>		

### Ambient Impact Review

The Air Toxics Rule provides a multi-tiered, screening approach under WAC 173-460-080 to assess health impacts and demonstrate compliance with the ambient impact requirement under WAC 173-460-070, which is that TAP increases must be sufficiently low to protect human health and safety from potential carcinogenic and/or other toxic effects.

The “First Tier Review” (Tier 1 Review) is a two-step process. First, the emissions increase of each TAP is compared to its unique Small Quantity Emission Rate (SQER). SQERs are listed for each TAP under WAC 173-460-150. An SQER is the level of emissions of a TAP below which dispersion modeling is not required to demonstrate compliance with the ambient impact requirement. TAP emissions increases used in this first step must be based on the maximum potential to emit considering control or reduction in emissions achievable using the air pollution control technology or methods proposed to meet the tBACT requirement. Any TAP with an increase below its SQER can be presumed to be in compliance with the ambient impact requirement. If this is the outcome, further analysis is not required for that TAP. However, TAPs with emissions increases above their SQER must undergo the second step of the Tier 1 Review.

The second step of the Tier 1 Review requires evaluating TAP impacts against Acceptable Source Impact Levels (ASIL) and is referred to as an ASIL Analysis. An ASIL is the adopted health-based concentration for a TAP below which can be presumed as meeting the ambient impact requirement of WAC 173-460-070. ASILs are provided for each TAP under WAC 173-460-150. An ASIL analysis typically involves using an ambient air dispersion model to estimate ambient concentrations resulting from TAP emissions increases and considering air dispersion and local meteorological characteristics of the source. If the modeled impact of the increase in emissions of a TAP does not exceed its corresponding ASIL, the ambient impact requirement of WAC 173-460-070 may be considered met and the First Tier Review is completed for that TAP.

Emissions rates used to support an ASIL Analysis must be based on the maximum potential to emit considering control or reduction in emissions achievable using the air pollution control technology or methods proposed to meet the tBACT requirement. In addition, the Air Toxics Rule allows TAP reductions from existing emission units not subject to review to be subtracted or “netted out” from TAP increases, provided the reductions are included in the approval order as enforceable voluntary emission limits and meet all the requirements of WAC 173-460-071.

These requirements include:

- (1) The voluntary emissions reductions must be enforceable through a regulatory order issued by the air permitting agency.

- (2) The approval order enforcing the voluntary emissions reductions must include monitoring, recordkeeping, and reporting requirements sufficient to ensure the reductions are maintained.
- (3) The agency's preliminary determination to approve the voluntary emissions reductions are subject to a 30-day public notice and comment period and opportunity for a public hearing.

For pollutants with ambient concentrations found to be greater than their ASIL, a "Second Tier Review" (Tier 2 Review) by the Washington Department of Ecology (Ecology) is required. An application for a Tier 2 Review by Ecology is referred to a Tier 2 petition. Tier 2 petitions must include a Health Impacts Assessment (HRA) and estimated ambient TAP impacts based on refined air dispersion modeling. Ecology will not act on a Tier 2 petition unless a written preliminary determination on the NOC application for the new or modified TAP source and a draft approval order have been completed by the local agency with jurisdiction. Ecology's review and approval of a Tier 2 petition is contingent on a finding that TAP impacts meet the ambient impact requirement of WAC 173-460-070 that increases in TAP emissions are sufficiently low to protect human health and safety from potential carcinogenic and/or other toxic effects. If Ecology recommends denial of a Tier 2 petition, the permitting authority may not approve the project. The applicant then has the option of submitting a petition for a "Third Tier Review" (Tier 3 Review) by Ecology and a request for a risk management decision.

As the reformulation of the inside spray lacquer occurred in 2021 and should have been included in Crown's applications for NOC# 20NOC1451 and NOC# 21NOC1483, Crown modified the TAP analysis conducted as part of these NOCs. As presented in Table 4, daily EGBE emissions will be not increase over pre-2021 actual emissions. This decrease is due to the addition of a capture and control system in 2021 that controls VOC emissions by 82% (84% overall capture efficiency; 98% control efficiency). In addition, during bypass operations, Crown is only permitted to operate one coating line. Based on Crown's revised First Tier Review, the requirement in WAC 173-460-070 to conduct an acceptable source impact analysis is satisfied.

#### **14. Requirements for Major Stationary Sources and Major Modifications to Major Stationary Sources**

Projects that are major stationary sources and major modifications to major stationary sources as defined in 40 CFR 52.21(b) may be subject to permitting requirements under WAC 173-400-700 through 173-400-860.

Crown is not a "Major Stationary Source" as defined in 40 CFR 52.21(b) and not subject to the permitting program required by WAC 173-400-700 through WAC 173-400-860. Therefore, these permitting requirements do not apply.

#### **15. Title V Air Operating Permit (AOP) Implications**

The State of Washington program pursuant to Title V of the federal Clean Air Act is governed under Chapter 173-401 WAC, the Washington Air Operating Permit Program. Chapter 173-401 WAC requires existing major stationary sources to operate in compliance with an approved Air Operating Permit (AOP). Major stationary sources are those stationary sources with a potential to emit which is greater than 100 tons per year of any criteria pollutant, greater than 10 tons

per year of any hazardous air pollutants (HAP), or greater than 25 tons per year of any combination of HAP.

Based on “Potential to Emit” (PTE) the facility is a “Major Source” under Title V of the federal Clean Air Act for volatile organic compound (VOC) emissions and, therefore, is subject to the requirement that the facility operate under an Air Operating Permit (AOP) issued by ORCAA.

Crown is subject to the ORCAA’s Title V Air Operating Permit program and has operated under an AOP since 1998. The current AOP for the facility was issued on September 1, 2016 and is currently operating under an application shield. Crown has submitted a renewal application and requirements from this Order of Approval will be added to the permit during the renewal process.

## 16. Superseding Previous Order of Approval

The Order of Approval, when issued, will supersede the Order of Approval for NOC# 20NOC1451. ORCAA is proposing to supersede the Order of Approval for NOC# 20NOC1451 as some of the conditions of approval for this project are identical to those in NOC# 20NOC1451.

**Table 9. Incorporation of Conditions from Order of Approval for NOC# 20NOC1451**

Condition	Brief description	Incorporation action
1	Approved stationary sources	Conditions 1 and 2
2	Voluntary Limits Rescinded	Not ongoing requirement
3	Facility-wide VOC Emissions Limits	a) Not ongoing requirement b) Condition 3
4	Annual Formaldehyde Emission Limits	Condition 4
5	Annual Emission Limits Monitoring	Condition 5 <i>Language related to monitoring prior to the first performance test were removed as testing has been conducted.</i>
6	Annual Emission Limit Recordkeeping	Condition 6
7	Can Washing Solution Requirements	Condition 7
8	Reformulated or New Can Washing Solution Monitoring	Condition 8
9	Reformulated or New Can Washing Solutions Recordkeeping	Condition 9
10	Can Washing O&M Plan	Condition 10
11	Approved Coatings / Material Limits	Condition 11 <i>Revision to inside spray lacquer 2-butoxyethanol (CAS 111-76-2) content to no more than 7.4% by weight.</i>
12	Material Use Limit Monitoring	Condition 12
13	Material Use Limit Recordkeeping	Condition 13
14	Reformulated or New Coating Materials Monitoring	Condition 14
15	Reformulated or New Coating Materials Recordkeeping	Condition 15
16	VOC Coating Limits	Condition 16

17	VOC Coating Limit Compliance Methods	Condition 17
18	VOC Coating Limit Quarterly Reports	Condition 18
19	VOC Coating Limit Recordkeeping	Condition 19
20	Line 1 and 2 EGBE Limits	Condition 20 <i>Limits updated to account for the reformulation.</i>
21	Line 1 and 2 EGBE Limits Monitoring	Condition 21
22	Line 1 and 2 EGBE Limits Recordkeeping	Condition 22
23	Curing Ovens	Condition 23
24	Lacquer Spray Machines	Condition 24
25	Line 3 Solvent Usage Limit	Condition 25
26	Line 3 Solvent Cleaning BACT	Condition 26
27	Line 3 Solvent Monitoring	Condition 27
28	Line 3 Solvent Recordkeeping	Condition 28
29	Pollution Prevention	Condition 29
30	Curing Oven Capture Requirement	Condition 30
31	Coating Application Capture Requirement	Condition 31
32	Line 1 and 2 Capture Efficiency	Condition 32
33	Line 3 Capture Efficiency	Condition 33
34	Capture System Monitoring	Condition 34
35	Regenerative Thermal Oxidizer	Condition 35
36	RTO Bypass	Condition 36
37	RTO Temperature Monitoring	Condition 37
38	Operations and Maintenance Plan	Condition 38
39	Capture and Control Systems Recordkeeping	Condition 39
40	Line 1 and 2 Initial Performance Testing Required	Not an ongoing requirement
41	Line 3 Initial Performance Testing Required	Not an ongoing requirement
42	Ongoing Performance Testing Required	Condition 40
43	Line 3 Bypass Performance Test	Condition 41
44	Performance Testing Requirements	Condition 42
45	Performance Testing Notifications, Plans and Reports.	Condition 43
46	Exhaust Stack and Vent Requirements	Condition 44
47	Exhaust Stack and Vent Monitoring Plan	Condition 45
48	Exhaust Stack and Vent Recordkeeping	Condition 46

## 17. Conditions of Approval

The following conditions of approval were determined necessary for assuring compliance with applicable air regulations and standards and protecting air quality. Recommended conditions of approval will become effective once the Approval Order is issued:

- 1. Approved Equipment:** The equipment and activities described in Notice of Construction application Nos. 98NOC021, 00NOC034, 00NOC059, 02NOC273, 16MOD1178, 17NOC1261, 19NOC1336, 20NOC1451, 20NOC1454, 21NOC1483, and 23NOC1613, application addendums, and the associated Final Determinations are approved for construction and operation subject to conditions in this Order of Approval.

**2. Preapproval Required.** Prior approval by ORCAA may be required for the following as specified in ORCAA Rule 6.1:

- a. Construction, installation, or establishment of any stationary source;
- b. Modification to any existing stationary source;
- c. Replacement or substantial alteration of emission control technology installed on an existing stationary source; or,
- d. Deviations from the approved plans, drawings, data, and specifications of the stationary sources listed in the following table:

**Table 1. Approved Stationary Source**

Stationary Source	Equipment Specifications
Line 1 and 2 Can Washer	<ul style="list-style-type: none"> <li>▪ Cincinnati Industrial Machinery (CIM) Model #BS1122422-88 C40-2</li> </ul>
Line 1 and 2 Can Washer Dryer	<ul style="list-style-type: none"> <li>▪ Eclipse 440 AH dryer</li> <li>▪ 2 Natural gas-fired burners, 8.8 MMBtu/hr maximum heat input</li> </ul>
Lines 1 and 2 Rim Coating	<ul style="list-style-type: none"> <li>▪ U.F. Fusion U.V. System Mode DRR-120</li> <li>▪ Ultraviolet curing</li> </ul>
Line 1 Printer and Decorator	<ul style="list-style-type: none"> <li>▪ Line 1 - Concord Decorator-Alcoa Serial # D3008</li> </ul>
Line 2 Printer and Decorator	<ul style="list-style-type: none"> <li>▪ Concord Decorator-Alcoa Serial# 307301</li> </ul>
Line 1 Printer Oven	<ul style="list-style-type: none"> <li>▪ OSI Model# 1600-CPM Single Zone</li> <li>▪ 2 Natural gas-fired burners, 5 MMBtu/hr max. heat input</li> <li>▪ Exhaust Flowrate: ~5000 CFM</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 2 Printer Oven	<ul style="list-style-type: none"> <li>▪ Greenbank "Pintec One – Omega"</li> <li>▪ High efficiency natural gas-fired burner - 2.59 MMBtu/hr max. heat input</li> <li>▪ Exhaust Flowrate: ~5,000 CFM</li> <li>▪ Operating temperature: 395 – 415 F</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 1 Lacquer Spray Machines (LSM)	<ul style="list-style-type: none"> <li>▪ Fisher Model 102MSH MARK3</li> <li>▪ 7 units per line</li> <li>▪ High transfer efficiency spray technique (&gt;94% efficiency)</li> <li>▪ Enclosed LSM housings with capture system</li> </ul>
Line 2 Lacquer Spray Machines (LSM)	<ul style="list-style-type: none"> <li>▪ Each housing equipped with particulate filter system with at least 99% filtration efficiency</li> <li>▪ LSM conveyor to the IBO will be equipped with a capture system consisting of a hood and enclosed on all sides</li> <li>▪ All capture systems routed to RTO</li> </ul>

Line 1 Inside Bake Oven	<ul style="list-style-type: none"> <li>▪ Greenbank NIBO Serial# 15241</li> <li>▪ High efficiency natural gas-fired burners - 3.93 MMBtu/hr max. heat input</li> <li>▪ Operating Temp – 395-400F</li> <li>▪ Exhaust Flowrate: ~8,900 CFM</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 2 Inside Bake Oven	<ul style="list-style-type: none"> <li>▪ Greenbank NIBO Serial# 15241</li> <li>▪ High efficiency natural gas-fired burners - 3.93 MMBtu/hr max. heat input</li> <li>▪ Operating Temp – 395-400F</li> <li>▪ Exhaust Flowrate: ~8,900 CFM</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 3 Can Washer	<ul style="list-style-type: none"> <li>▪ Greenbank Torrent One</li> <li>▪ Mist elimination system in Stage 2</li> </ul>
Line 3 Rim Coating	<ul style="list-style-type: none"> <li>▪ UVio 36" Rim-Up Integrated Mass Rim Coating System</li> <li>▪ Ultraviolet curing</li> </ul>
Line 3 Decorator Unit #31	<ul style="list-style-type: none"> <li>▪ Stolle Concord 24MRT-8 Color Decorator</li> <li>▪ 2,000 cans-per-minute</li> <li>▪ Room vent exhaust flowrate: ~4950 CFM</li> <li>▪ Close capture system on ink and overvarnish application areas routed to RTO</li> </ul>
Line 3 Decorator Unit #32	<ul style="list-style-type: none"> <li>▪ CMbE Reformat</li> <li>▪ 2,000 cans-per-minute</li> <li>▪ Room vent exhaust flowrate: ~4950 CFM</li> <li>▪ Close capture system on ink and overvarnish application areas routed to RTO</li> </ul>
Line 3 Printer Oven #31	<ul style="list-style-type: none"> <li>▪ Greenbank "Pintec One – Omega"</li> <li>▪ High efficiency natural gas-fired burner - 2.59 MMBtu/hr max. heat input</li> <li>▪ Exhaust Flowrate: ~5,000 CFM</li> <li>▪ Operating temperature: 395 – 415 F</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 3 Printer Oven #32	<ul style="list-style-type: none"> <li>▪ Greenbank "Pintec One – Omega"</li> <li>▪ High efficiency natural gas-fired burner - 2.59 MMBtu/hr max. heat input</li> <li>▪ Exhaust Flowrate: ~5,000 CFM</li> <li>▪ Operating temperature: 395 – 415 F</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 3 Lacquer Spray Machines (LSM)	<ul style="list-style-type: none"> <li>▪ CMbE 3200 Dual Turret LSM</li> <li>▪ 9 units</li> <li>▪ High transfer efficiency spray technique (&gt;94% efficiency)</li> <li>▪ Enclosed LSM housings with capture system</li> <li>▪ Each housing equipped with particulate filter system with at least 99% filtration efficiency</li> <li>▪ LSM conveyor to the IBO will be equipped with a capture system consisting of a hood and enclosed on all sides</li> </ul>



	<ul style="list-style-type: none"> <li>▪ All capture systems routed to RTO</li> </ul>
Line 3 Inside Bake Oven	<ul style="list-style-type: none"> <li>▪ Greenbank NIBO Serial# 15241</li> <li>▪ High efficiency natural gas-fired burners - 3.93 MMBtu/hr max. heat input</li> <li>▪ Operating Temp – 395-400F</li> <li>▪ Exhaust Flowrate Zone 1: ~2,995 CFM</li> <li>▪ Exhaust Flowrate Zone 2: ~6000 CFM</li> <li>▪ Exhaust routed to RTO</li> </ul>
Line 3 Decorator Solvent Usage	<ul style="list-style-type: none"> <li>▪ Isopropanol (decorator cleaning and parts washer)</li> <li>▪ Room vent exhaust flowrate (two): ~4950 CFM each</li> </ul>
Regenerative Thermal Oxidizer (RTO)	<ul style="list-style-type: none"> <li>▪ Anguil Model 550</li> <li>▪ Three-bed regenerative thermal oxidizer</li> <li>▪ Natural-gas fired – up to 15 MMBtu/hr</li> <li>▪ Guaranteed 98 control efficiency for VOC</li> <li>▪ Dust collector pre-filter for Line 1 &amp; 2 LSMs</li> </ul>

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(1); ORCAA Rule 6.1.2(l)]*

**3. Facility-Wide VOC Emission Limits.** Facility-wide emissions of volatile organic compounds must not exceed 180.5 tons per 12-month rolling period.

*[Regulatory Basis: ORCAA Rule 6.1.2(l)]*

**4. Annual Formaldehyde Emission Limits.**

a. Emissions of formaldehyde from Can Coating Lines 1 and 2 must not exceed 2,299 pounds per 12-month rolling period; and

*[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3)]*

b. Facility-wide emissions of formaldehyde must not exceed 4,378 pounds per 12-month rolling period.

*[Regulatory Basis: ORCAA Rule 6.1.2(l)]*

**5. Annual Emission Limits Monitoring.** Compliance with the emission limits in Conditions 3 and 4 must be monitored at least monthly by computing the actual amount of emissions over the previous month and consecutive 12-month period. Emissions must be calculated using the following methods or alternative method if approved by ORCAA:

a. **Material Use and Composition.** Monthly use of inks, lacquers, varnishes, cleaning solvents, and other materials containing VOCs and formaldehyde must be monitored as follows:

- i. Usage of each material must be monitored at least monthly in terms of totals pounds used, total gallons used, or both.
- ii. Material usage records must be sufficient to determine the amount of each material applied during bypass of the RTO.
- iii. The VOC and HAP composition of each unique material must be determined based on safety data sheets (SDS) and/or Certificates of Analysis specific to each material.

b. **Can Coating Emissions.** Emissions from coating application (including rim coat, ink, overvarnish, and inside lacquer) must be calculated as follows:

- i. VOC emissions must be calculated based on actual usage and composition for each material and using material balance methods and capture and control efficiency of the RTO, if applicable.
- ii. Formaldehyde emissions which are formed in the curing ovens must be calculated based on the actual amount of cans processed through each can coating line or the amount of coating or coating solids applied and using emission factors based on the most recent performance test or other factors as approved by ORCAA. Formaldehyde emissions from curing must be included in the total VOC emissions calculated for the can coating lines.
- iii. Emission calculations based on the actual amount of cans produced or coating material applied must include spoilage. Spoilage means the cans processed in the can coating line that are discarded for defects or other reasons and are not included in the facility can production count.
- iv. VOC emission calculations based on capture and control efficiency of the RTO must use the capture and control efficiency of the most recent performance test, unless required monitoring in Condition 34 and Condition 37 indicate that the capture and control efficiency determined during the most recent performance test was not continuously maintained.
- c. **Solvent Usage.** VOC emissions from solvent cleaning must be calculated based on material balance and actual usage and composition of each material.
- d. **Combustion Emissions.** VOC and formaldehyde emissions from combustion of natural gas or other fuels must be calculated based on the amount of fuel combusted during the period and emission factors from the most current version of the EPA document, Compilation of Air Pollutant Emission Factors, AP-42.
- e. **Storage Tanks.** VOC emissions from storage tanks containing VOC compounds must be calculated based on the actual throughput during the period and emission calculation methods from the most current version of the EPA document, Compilation of Air Pollutant Emission Factors, AP-42.
- f. **Credit for Waste.** The permittee may credit shipments of waste in the mass balance calculations in (b) and (c) only when a characterization test has been performed on each container of waste, or on a container representing a group of containers filled from one batch of waste.

*[Regulatory Basis: ORCAA Rule 8.11]*

- 6. Annual Emission Limit Recordkeeping:** The following records must be maintained for at least five years from the date the record originated, or as specified, and made available for inspection upon request:
- a. Records of monthly and 12-month rolling totals for VOC and formaldehyde emissions as required by Condition 5;
  - b. Records of material and fuel usage, composition data, and any other data used to calculate emissions; and
  - c. Safety data sheets (SDS) for all VOC-containing materials used in the process.

*[Regulatory Basis: ORCAA Rule 8.11]*

- 7. Can Washing Solution Requirements.** Can coating solutions that meet the following criteria are approved for use by the permittee:

- a. The can washing solutions must not contain any TAPs (as defined by Chapter 173-460 WAC) except for sulfuric acid and hydrogen fluoride;
- b. The can washing solutions must not contain more than 60 percent sulfuric acid by weight, as applied; and
- c. The can washing solutions must not contain more than 5 percent hydrogen fluoride by weight, as applied.

*[Regulatory Basis: (a) ORCAA Rule 6.1.2(l); (b) and (c) ORCAA Rule 6.1.4(a)(2)]*

**8. Reformulated or New Can Washing Solution Monitoring.** The permittee must review each new or reformulated can washing solution prior to use to assure it meets the criteria in Condition 7. The permittee may show compliance with Condition 7 by documenting that the can washing solution as purchased meets the criteria.

*[Regulatory Basis: ORCAA Rule 8.11]*

**9. Reformulated or New Can Washing Solutions Recordkeeping.** Records of all determinations for reformulated or new can washing solutions under Condition 8 must be maintained for at least five years from the date the record originated and made available or inspection upon request.

*[Regulatory Basis: ORCAA Rule 8.8]*

**10. Can Washing Operation and Maintenance Plan.** Prior to startup of the Line 3 Can Washer, the owner or operator shall develop an Operations and Maintenance (O&M) plan to include procedures specific to operation and maintenance of the Line 1 and 2 Can Washer, Line 1 and 2 Can Washer Dryer, and the Line 3 Can Washer.

*[Regulatory Basis:*

*Both can washers - ORCAA Rule 8.8;*

*Line 1 and 2 Washer – WAC 173-460-040(9)]*

**11. Approved Coatings / Material Limits.** Coatings that meet the following criteria are approved for use by the permittee:

- a. Rim coat varnish must be applied using roll on application and cured by ultraviolet lamps. The varnish must not contain any HAPs or TAPs; and VOC content must be less than 0.01 pounds per gallon.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

- b. Inks must be applied via using roll on application and contain no TAPs or HAPs except for formaldehyde.

*[Regulatory Basis: ORCAA Rule 6.1.2(l)]*

- c. Overvarnish and inside lacquer must meet the applicable VOC limits in Condition 16 and:

Coating Type	Overvarnish	Inside Lacquer
i. The coating must not contain any TAPs <sup>1</sup> except for...	2-butoxyethanol; formaldehyde	2-butoxyethanol; formaldehyde
ii. The coating must not contain any HAPs <sup>2</sup> except for...	formaldehyde	formaldehyde; glycol ethers
iii. The ethylene glycol monobutyl ether (EGBE) (CAS	7.4% by weight	7.4% by weight

111-76-2) content of the coating must be no more than...		
iv. The coating contains...	no glycol ethers	no more than 0.5% by weight glycol ethers
v. Total amount of coating used shall not exceed...	187,000 gallons per consecutive 12-month period	574,344 gallons per consecutive 12-month period
vi. The coating...	Is applied by roll on application	May be spray applied

<sup>1</sup> as defined by Chapter 173-460 WAC

<sup>2</sup> as defined by the Federal Clean Air Act

*[Regulatory Basis:*

*i, ii, v, vi - ORCAA Rule 6.1.2(l);*

*iii. ORCAA Rule 6.1.2(l); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080;*

*iv. - Overvarnish - ORCAA Rule 6.1.2(l), ORCAA Rule 6.1.4(a)(2);*

*iv. - Inside Lacquer – ORCAA Rule 6.1.2(l)]*

**12. Material Use Limit Monitoring:** Compliance with the material use limits in Condition 11(c)(v) must be monitored at least monthly by calculating the actual amount of inside lacquer and overvarnish used during the previous month and 12-consecutive month period.

*[Regulatory Basis: ORCAA Rule 8.11]*

**13. Material Use Limit Recordkeeping.** Records of monthly and 12-month rolling totals of material usage as required by Condition 12 must be maintained for at least five years from the date the record originated and made available or inspection upon request.

*[Regulatory Basis: ORCAA Rule 8.8]*

**14. Reformulated or New Coating Materials Monitoring.** The permittee must review each new or reformulated coating material prior to use to assure it meets the criteria in Condition 11.

*[Regulatory Basis: ORCAA Rule 8.11]*

**15. Reformulated or New Coating Materials Recordkeeping.** Records of all determinations for reformulated or new materials under Condition 14 must be maintained for at least five years from the date the record originated and made available or inspection upon request.

*[Regulatory Basis: ORCAA Rule 8.8]*

**16. VOC Coating Limits.** The permittee must not discharge or cause the discharge of VOC emissions to the atmosphere that exceed the following volume-weighted calendar-month average emissions:

- a. 0.46 kilogram of VOC per liter of coating solids (3.84 pounds of VOC per gallon of coating solids) from each over-varnish coating operation; and,
- b. 0.89 kilograms of VOC per liter of coating solids (7.43 pounds of VOC per gallon of coating solids) from each two-piece can inside spray coating operation.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(1); ORCAA Rule 6.1.4(a)(2); 40 CFR Part 60.492]*

**17. VOC Coating Limit Compliance Methods.** The permittee must conduct a performance test each calendar month using the procedures described in §60.493(b) to monitor compliance with the emission limits in Condition 16.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(1); ORCAA Rule 6.1.4(a)(2); 40 CFR Part 60.493(b)]*

**18. VOC Coating Limit Quarterly Reports.** The permittee must identify, record, and submit quarterly reports to ORCAA of each instance in which the volume weight average of the total mass of VOC per volume of coating solids, is greater than the limit specified in Condition 16. The reports must be submitted no later than 30 days after the end of each calendar quarter. If no such instances occur during a particular quarter, a report stating this must be submitted to ORCAA semiannually.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(1); ORCAA Rule 6.1.4(a)(2); ORCAA Rule 8.11; 40 CFR Part 60.495(b)]*

**19. VOC Coating Limit Recordkeeping.** Records of all data and calculations used to determine VOC emissions for purposes of the monthly compliance demonstrations required by Condition 17 must be maintained at the plant site for a period of at least five years.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(1); ORCAA Rule 6.1.4(a)(2); ORCAA Rule 8.11; 40 CFR Part 60.495(d)]*

**20. Line 1 and 2 Ethylene Glycol Monobutyl Ether (EGBE) (CAS 111-76-2) Limits.** The following limits apply to Can Coating Lines 1 and 2:

- a. Emissions of EGBE during normal operation must not exceed 225.2 pounds per day; and
- b. Emissions of EGBE during bypass must not exceed 424.9 pounds per day.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3)]*

**21. Line 1 and 2 EGBE Limits Monitoring.** The permittee must develop an ethylene glycol monobutyl ether (EGBE) monitoring plan that describes the methods the permittee will use to assure continuous compliance with the limit in Condition 20. The plan must be revised, if needed, and must be implemented at all times Can Manufacturing Line 3 is operating.

*[Regulatory Basis: ORCAA Rule 8.11; ORCAA Rule 6.1.4(a)(5); 173-460-080(3)]*

**22. Line 1 and 2 EGBE Limits Recordkeeping.** Records of monitoring conducted per the monitoring plan in Condition 21 must be maintained for at least five years from the date the record originated and be made available for inspection by ORCAA upon request.

*[Regulatory Basis: ORCAA Rule 8.8; ORCAA Rule 6.1.4(a)(5); 173-460-080(3)]*

**23. Curing Ovens.** The following limits and requirements apply to the Line 2 Pin Oven, Line 1 Inside Bake Oven, Line 2 Inside Bake Oven, Line 3 Printer Oven #31 and #32, and Line 3 Inside Bake Oven at the facility:

- a. **Approved Fuel:** The curing ovens may combust only natural gas unless prior approval is granted by ORCAA.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

- b. **Operation and Maintenance:** Operation and maintenance procedures recommended by the manufacturer for maintaining proper combustion must be followed. A copy of the recommended operation and maintenance procedures shall be kept on-site.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2); ORCAA Rule 8.8]

- c. **Tune-ups:** Combustion systems must be tuned-up to meet the NO<sub>x</sub> and CO emissions levels stated below or the manufacturer's recommended or guaranteed operating emissions levels, whichever levels result in the least emissions of NO<sub>x</sub> and CO. The ovens must be tuned in the first month of operation and according to the minimum frequency stated below.

Fuel	Tune-up Frequency	NO <sub>x</sub> (ppm @ 3% O <sub>2</sub> )	CO (ppm @ 3% O <sub>2</sub> )
Natural Gas	Every 61 months	80	100

[Regulatory Basis: ORCAA Rule 6.1.4(a)(3); ORCAA Rule 6.1.4(a)(2); ORCAA Rule 8.8]

d. **Tune-up Procedures:**

- i. Tune-up must include measuring concentrations of NO<sub>x</sub>, CO and O<sub>2</sub> under normal operating load, making any needed adjustments to combustion systems, and re-measuring emissions levels to confirm the prescribed emissions levels in Condition 14(c) are met.
- ii. A record of all measurements, adjustments and maintenance actions must be retained.
- iii. Emissions must be measured using an electrochemical cell combustion analyzer or another analyzer pre-approved by ORCAA;
- iv. The analyzer(s) response to span (calibration) gas of a known concentration (reference) must be determined before and after testing. No more than 12 hours may elapse between span gas response checks. Test results are invalid if the analyzer zero or span drift exceeds 10% of the span value.
- v. The CO and NO<sub>x</sub> span gas concentrations must be no less than 50% and no more than 200% of the target emission concentrations per Condition 23(c). A lower concentration span gas may be used if it is more representative of measured concentrations. Ambient air may be used to zero the CO and NO<sub>x</sub> cells/analyzer(s) and span the oxygen cell/analyzer.
- vi. Sampling and measurement must consist of at least 5 minutes of data collection. Data must not be collected until after the analyzer readings have stabilized.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2); ORCAA Rule 8.8]

**24. Lacquer Spray Machine Filters.** The Line 1, Line 2, and Line 3 Lacquer Spray Machines overspray control system must be designed and operated according to the following requirements:

- a. Each lacquer spray machine must be equipped with a particulate filter with a rated filtration efficiency of at least 99%.
- b. Inside spray lacquer must be applied within the approved lacquer spray machines and only when the exhaust and filtration system is fully operating.
- c. Exhaust filters must be properly seated and must cover all openings of the exhaust air intakes.
- d. The permittee must develop, implement and update when necessary an Operations and Maintenance (O&M) plan for the lacquer spray machines. At a minimum, the plan must include procedures and a schedule for inspecting and replacing the filters.
- e. Filters must be replaced whenever damaged or loaded with particulate build-up to an extent that jeopardizes the effectiveness of the ventilation system to capture emissions.

[Regulatory Basis:

*Line 1 and 2 - ORCAA Rule 6.1.10(b);*

*Line 3 – ORCAA Rule 6.1.4(a)(2)]]*

**25. Line 3 Solvent Usage Limit.** The permittee must not use more than 2.6 gallons of isopropanol per hour on Line 3 Can Manufacturing Line.

*[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 6.1.4(a)(5); WAC 173-460-070]*

**26. Line 3 Solvent Cleaning BACT.** The Line 3 decorator capture system must be operating during cleaning of the decorators (the close capture hoods may be opened as needed for cleaning).

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

**27. Line 3 Solvent Monitoring.** Prior to startup of Line 3 Decorator, the permittee must develop an isopropanol monitoring plan to detail the methods the permittee will use to assure continuous compliance with the limit in Condition 25 and operating requirements in Condition 26. The plan must be made available for inspection by ORCAA upon request. The plan must be revised, if needed, and must be implemented at all times isopropanol is used on Can Manufacturing Line 3.

*[Regulatory Basis: ORCAA Rule 8.11; ORCAA Rule 6.1.4(a)(2); ORCAA Rule 6.1.4(a)(5); WAC 173-460-070]*

**28. Line 3 Solvent Recordkeeping.** Records of all monitoring conducted per the monitoring plan in Condition 26 must be maintained for at least five years from the date the record originated and be made available for inspection by ORCAA upon request.

*[Regulatory Basis: ORCAA Rule 8.8; ORCAA Rule 6.1.4(a)(5); 173-460-070]*

**29. Pollution Prevention.** All coatings, solvents, and other VOC-containing materials or cloths must be stored in closed, airtight containers. All volatile material spills must be cleaned up promptly.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

**30. Curing Oven Capture Requirement:** All emissions from the Lines 1, 2, and 3 Printer Ovens (PIN Ovens) and Lines 1, 2, and 3 Inside Bake Ovens (IBOs) must be routed to the regenerative thermal oxidizer at all times except during bypass as allowed by Condition 36.

*[Regulatory Basis:*

*All ovens – ORCAA Rule 8.6(b);*

*Lines 1 and 2 Ovens – ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3);*

*Line 2 and 3 PIN Ovens, Lines 1, 2, and 3 IBOs – ORCAA Rule 6.1.4(a)(2);*

*Line 1 PIN Oven – ORCAA Rule 6.1.10(b)(1)]*

**31. Coating Application Capture Requirement:** The lacquer spray machines (all lines), the conveyors between the lacquer spray machines and the inside bake oven (all lines), and the Line 3 decorators must each be equipped with a system to capture volatile emissions. The capture systems must be operating at all times the coating lines are operating. Captured emissions must be routed to the regenerative thermal oxidizer at all times except during bypass as allowed by Condition 36.

*[Regulatory Basis:*

*Lines 1 and 2 – ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3);*

*Line 3 - ORCAA Rule 6.1.4(a)(2)]*

**32. Line 1 and 2 Capture Efficiency.** The capture and collection systems for the Line 1 and Line 2 Can Coating Lines must operate with a minimum overall organic compound capture efficiency of 75% when the can coating lines are operating. For purposes of this condition, the can coating lines include all processes beginning with and including the printer/decorators and ending with and including the inside bake ovens.

*[Regulatory Basis: ORCAA Rule 6.1.10(b)(1); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3)]*

**33. Line 3 Capture Efficiency.** The capture and collection systems for the Line 3 Can Coating Line must operate with a minimum overall organic compound capture efficiency of 84% when the can coating line is operating. For purposes of this condition, the can coating lines include all processes beginning with and including the printer/decorators and ending with and including the inside bake oven.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

**34. Capture System Monitoring.** The permittee must monitor each capture system that exhausts to the RTO according to the facility's capture system monitoring plan. Prior to startup of Can Manufacturing Line 3, the permittee must revise the existing capture system monitoring plan to include the capture systems in Line 3. The plan must be made available for inspection by ORCAA upon request. At a minimum, the permittee must review and update the capturing system monitoring plan after each capture system performance test or annually, whichever is more frequent. At a minimum the monitoring plan must:

- a. Identify the operating parameter(s) to be monitored to ensure that each capture system is operated under negative pressure and the capture efficiency determined during the last performance test is continuously maintained;
- b. Explain why the parameter(s) is appropriate for demonstrating ongoing compliance; and
- c. Identify the procedures that will be used to monitor the operating parameter(s) (including method and frequency).

*[Regulatory Basis:*

*Line 1 and 2 - ORCAA Rule 6.1.10(b); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3);*

*Line 3 – ORCAA Rule 6.1.4(a)(2)]*

**35. Regenerative Thermal Oxidizer (RTO).** The following limits and requirements apply to the regenerative thermal oxidizer:

- a. **Design.** The RTO must be a three-chamber design with a design exhaust rate of at least 55,000 ACFM, which may be demonstrated through written documentation on the regenerative thermal oxidizer provided by the manufacturer.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

- b. **Approved Fuel.** The RTO may combust only natural gas unless prior approval is granted by ORCAA.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

- c. **Destruction Efficiency.** The RTO must have a minimum destruction efficiency of 98% for organic compounds as measured by EPA Method 25A.



[Regulatory Basis: ORCAA Rule 6.1.4(a)(2); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3)]

d. **Formaldehyde Emission Limit.**

- i. Emissions of formaldehyde from the RTO stack must not exceed 0.53 pounds per hour at all times.
- ii. Emissions of formaldehyde from the RTO stack must not exceed 0.26 pounds per hour when controlling emissions from Can Coating Lines 1 and 2 only.

[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 8.6(b)]

- e. **Opacity Limit.** There must be no visible emissions from the Regenerative Thermal Oxidizer as determined in accordance with EPA 40 CFR Part 60 Appendix A, Method 9. This limit does not apply during periods of cold start-up. For compliance with this condition, cold start-up is defined as the period beginning when the RTO is started and ending when the RTO reaches normal operating temperature. This opacity limit is in addition to the state-wide general opacity standard of 20% required under WAC 173-400-040(1) and ORCAA Rule 8.2.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]

- f. **Tune-ups.** Combustion systems must be tuned-up to meet the NO<sub>x</sub> and CO emissions levels stated below or the manufacturer's recommended or guaranteed operating emissions levels, whichever levels result in the least emissions of NO<sub>x</sub> and CO. The RTO must be tuned in the first month of operation and according to the minimum frequency stated below. Tune-ups shall be conducted according to the procedures in Condition 23(d).

Fuel	Tune-up Frequency	NO <sub>x</sub> (ppm @ 3% O <sub>2</sub> )	CO (ppm @ 3% O <sub>2</sub> )
Natural Gas	Every 61 months	60	50

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]

**36. RTO Bypass:** The following limits and requirements apply:

- a. The regenerative thermal oxidizer may be bypassed for maintenance purposes only.

[Regulatory Basis: ORCAA Rule 6.1.2(l)]

- b. The regenerative thermal oxidizer must not be bypassed for more than 200 hours on a 12-month rolling period.

[Regulatory Basis: ORCAA Rule 6.1.2(l)]

- c. When bypassing the RTO, only one of the following may be operational:
  - i. Coating Line 1; or
  - ii. Coating Line 2; or
  - iii. Coating Line 3 at a rate not to exceed 2000 cans-per-minute with no more than one decorator and one PIN oven operating.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(3); ORCAA Rule 8.6(b); ORCAA Rule 6.1.4(a)(5); WAC 173-460-080(3)]

- d. Total emissions of formaldehyde from Line 1 or 2 bypass stacks must not exceed 1.3 pounds per hour.

[Regulatory Basis: ORCAA Rule 8.6(b)]

- e. Total emissions of formaldehyde from Line 3 bypass stacks must not exceed 1.07 pounds per hour.

[Regulatory Basis: ORCAA Rule 8.6(b)]

- f. Coating Line 3 must not operate in bypass mode until a performance test has been conducted to verify compliance with Condition 36(e). If necessary, Coating Line 3 may operate in bypass mode for the purposes of the performance test.

*[Regulatory Basis: ORCAA Rule 8.6(b)]*

- g. Visible emissions from the bypass stacks must not exceed ten percent opacity, six-minute average, as determined in accordance with EPA 40 CFR Part 60 Appendix A, Method 9. This limit does not apply during periods of cold start-up. For compliance with this condition, cold start-up is defined as the period beginning when the oven is started and ending when the oven reaches normal operating temperature. This opacity limit is in addition to the state-wide general opacity standard of 20% required under WAC 173-400-040(1) and ORCAA Rule 8.2.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

- h. The permittee must monitor bypasses of the RTO. Bypass monitoring must be conducted on each bypass line using one of the following procedures:
- i. Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow control position indicator that provides a record indicating whether the exhaust stream from the emission unit was directed to the control device or was diverted from the control device. The time and flow control position must be recorded at least once per hour as well as every time the flow direction is changed. A flow control position indicator must be installed at the entrance to any bypass line that could divert the exhaust stream away from the control device to the atmosphere.
  - ii. Install, maintain, and operate a bypass line valve or damper indicator to continuously monitor valve or damper position. The monitoring system must be inspected at least once every month to verify that the monitor will indicate valve or damper position.
  - iii. Secure the bypass line valve in the nondiverting position with a car-seal or a lock-and-key type configuration and visually inspect the seal or closure mechanism at least once a month. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve or damper is maintained in the closed position, and the exhaust stream is not diverted through the bypass line.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

**37. RTO Temperature Monitoring.** The permittee must monitor the combustion chamber temperature of the RTO as follows:

- a. Each RTO combustion chamber must be equipped with a sensor that continuously measures and records the temperature of each combustion chamber (or in the duct immediately downstream of the combustion chamber before any substantial heat exchange occurs). The combustion chamber temperature sensor must be accurate to within  $\pm 1\%$  of the temperature being monitored in degrees Fahrenheit or  $\pm 1.8$  degrees Fahrenheit, whichever is greater.
- b. Temperature sensors must be installed, maintained, and operated according to manufacturer specifications.
- c. The permittee must develop, implement, and update when necessary a quality control plan to verify that the temperature sensor is still functioning properly. At a minimum, the plan must include the verification method and frequency. Methods may include, but

are not limited to, comparisons of sensor output to redundant temperature sensors, to calibrated temperature measurement devices, or to temperature simulation devices. The temperature sensor must be replaced with a new sensor either if the sensor looks damaged and/or broken or the sensor no longer meets the accuracy requirement specified in Condition 37(a).

- d. The permittee must conduct temperature monitoring at all times the RTO is operating, except during bypass, monitoring malfunctions, associated repairs, and required quality assurance or control activities,
- e. The temperature must be recorded at least once for each successive 15-minute period and the average determined of all recorded readings for each successive 3-hour period.
- f. Prior to the initial performance test, the combustion chamber temperature setpoint must be established at a minimum of 1550 degrees Fahrenheit. The combustion chamber temperature (three-hour average) must not fall below 1500 degrees Fahrenheit.
- g. After the initial performance test, the average combustion chamber temperature measured at the most recent performance test must be established as the minimum combustion chamber temperature setpoint. The combustion chamber temperature (three-hour average) must not fall more than 50 degrees Fahrenheit below the average combustion chamber temperature measured at the most recent performance test.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2); ORCAA Rule 6.1.4(a)(5); WAC 173-460-060]*

**38. Operations and Maintenance Plan:** The Permittee must develop, implement, and update when necessary an operation and maintenance (O&M) plan to assure the capture and control systems are in continuous compliance with all applicable air regulations and standards. The O&M plan must be retained on site and made available to ORCAA for review when requested. Operating instructions must be established and posted such that they are available for all RTO operators.

*[Regulatory Basis: ORCAA Rule 8.8]*

**39. Capture and Control Systems Recordkeeping:** The following records must be maintained for at least five years from the date the record originated, or as specified, and made available for inspection upon request:

- a. Documentation of RTO design specification per Condition 35(a).
- b. Records of RTO tune-ups required by Condition 35(f).
- c. Records of all RTO bypass monitoring including start time and end time, reason for the bypass, emission units venting to the atmosphere during bypass, and amount of each coating material applied during the bypass.
- d. Capture system monitoring plan and all associated capture system monitoring.
- e. Records of LSM filter efficiency per Condition 24(a).
- f. LSM O&M plan required by Condition 24(d). The permittee must keep an inspection and maintenance log for the LSM filter system including the date of each inspection, the name of the inspector, and any repairs and/or maintenance work performed.
- g. RTO combustion chamber temperature monitoring records including all temperature readings and 3-hour averages.
- h. RTO temperature sensor quality control plan and all associated monitoring and maintenance activities.

- i. RTO and capture system O&M plan required by Condition 38. The permittee must keep an inspection and maintenance log for the RTO and its capture systems including the date of each inspection, the name of the inspector, and any repairs and/or maintenance work performed.
- j. Records of maintenance conducted on the equipment listed in Condition 1.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

**40. Ongoing Performance Testing Required.**

- a. A performance test of RTO destruction efficiency must be performed at least once every 61 months or whenever required by ORCAA.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2); ORCAA Rule 1.5(i)]*

- b. A performance test for compliance with formaldehyde emission limits in Condition 35(d) and Condition 36(d) must be conducted when required by ORCAA.

*[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 8.6(b); ORCAA Rule 1.5(i)]*

- c. A subsequent performance test for capture efficiency testing is required within 61 months of the initial test or earlier if requested by ORCAA. After that, additional testing may be required if significant changes have been made to the capture system or when required by ORCAA.

*[Regulatory Basis: ORCAA Rule 6.1.10(b); ORCAA Rule 1.5(i)]*

**41. Line 3 Bypass Performance Test.** As required by Condition 36(f), the permittee must conduct a performance test prior to operating Coating Line 3 when the RTO is in bypass mode. The performance test shall be conducted to verify the short-term (maximum hourly) formaldehyde emission rate during bypass of Line 3 is less than or equal to the limit in Condition 36(e) and establish an emission factor for formaldehyde during bypass. Following the initial performance test, the permittee must conduct a performance test for compliance with Condition 36(e) when required by ORCAA.

*[Regulatory Basis: ORCAA Rule 8.6(b); ORCAA Rule 6.1.2(l); ORCAA Rule 1.5(i)]*

**42. Performance Testing Requirements.** All performance testing must be conducted as follows unless an alternative has been approved by ORCAA:

- a. Testing must be conducted when all can coating lines are operating at maximum production rate and applying the ink, overvarnish, and inside spray combination that will result in the maximum emissions.
- b. Capture system performance testing must be conducted by determining the weight and VOC content of each material applied according to EPA Method 204A and inlet mass of VOC to the RTO by Method 25A or alternative methods if approved by ORCAA. As an alternative to conducting separate performance tests to demonstrate compliance with Conditions 32 and 33, the permittee may conduct a compliance test to demonstrate that the overall organic compound capture efficiency of the capture and collection systems of Lines 1, 2, and 3 is at least 80%.
- c. Performance testing for RTO destruction efficiency must be conducted according to EPA Method 25A or alternative method if approved by ORCAA.
- d. Performance testing for formaldehyde must be conducting according to EPA Method 320 or alternative method approved by ORCAA.

- e. Performance testing to determine the volumetric flowrate must be conducted according to EPA Methods 1-3 or alternative method if approved by ORCAA.
- f. A performance test must consist of three runs. Each run must be a minimum of one hour (or longer if the test method requires).
- g. During the performance test, the permittee must monitor and record the RTO combustion chamber temperature(s) at least once every 15 minutes during each of the three test runs. The temperature must be monitored in the combustion chamber or immediately downstream before any substantial heat exchange occurs.

*[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]*

**43. Performance Testing Notifications, Plans and Reports.** Whenever performance testing is required:

- a. The permittee must submit a notification of the intent to conduct a performance test and a site-specific test plan to ORCAA at least 60 calendar days before the scheduled date of a performance test.
- b. At a minimum, the test plan must include the following:
  - i. Test program summary;
  - ii. Test schedule;
  - iii. Data quality objectives;
  - iv. Internal and external quality assurance program;
  - v. Identify the operating parameters to be monitored to ensure that the capture efficiency of the capture system and the control efficiency of the RTO determined during the performance test are maintained at all times; and
  - vi. Identify the operating parameters and ink, overvarnish, and inside spray that will be used to meet the objective in Condition 44(a).
- c. The permittee must submit a performance test report to ORCAA no later than 60 days after completion of the test. The performance test must be certified as true and accurate by responsible officials from the testing contractor and the permittee. At a minimum, the performance test report must contain the following information:
  - i. A description of the source and sampling location;
  - ii. The date and time of each test;
  - iii. A summary of test results reported in units and averaging period appropriate to the applicable standard;
  - iv. A description of the test methods and quality assurance procedures used;
  - v. The types and amounts of coating materials;
  - vi. Operating parameters of the emission units and control equipment during each test;
  - vii. Raw field data and sample calculations; and
  - viii. Deviations from approved test plans or the O&M Plan.

*[Regulatory Basis: ORCAA Rule 8.11; ORCAA Rule 1.5(d)&(i)]*

**44. Exhaust Stack and Vent Requirements.** Exhaust stacks and vents must meet the following requirements:

- a. There must be no flow obstructions at the point of discharge from the exhaust stacks or vents (i.e. cap) for the Line 2 Pin Oven, Line 1 and 2 Inside Bake Oven, Regenerative Thermal Oxidizer, or any Line 3 stack/vent. However, a weatherproof stack exhaust configuration that does not obstruct the air flow as it exits the stack is acceptable.

[Regulatory Basis: ORCAA Rule 6.1.4(a)(2)]

- b. Each stack or vent listed below must have a height above ground that is equal to or greater than the following:

Stack or Vent	Height equal to or greater than...
Line 1 Pin Oven Bypass Stack	14.3 meters
Line 2 Pin Oven Bypass Stack	14.3 meters
Line 1 Inside Bake Oven Bypass Stacks	14.0 meters
Line 2 Inside Bake Oven Bypass Stacks	14.0 meters
Regenerative Thermal Oxidizer Stack	18.3 meters
Line 3 Can Washer Stack	17.4 meters
Line 3 Rooftop Vents	13.7 meters
Line 3 Pin Oven Bypass Stacks	14.3 meters
Line 3 Inside Bake Oven Bypass Stacks	14.0 meters

[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 6.1.4(a)(3); ORCAA Rule 6.1.4(a)(5); WAC 173-460-070]

- c. No later than 90 days from the startup of Can Manufacturing Line 3, the permittee shall measure the velocity or volumetric flowrate of the following exhaust stacks or vents listed below to verify rate is as listed in Condition 1 or higher. ORCAA must be notified of the test date, planned test method, and operational parameters that will be monitored (i.e. fan speed, damper settings) at least seven days prior to the testing. After the initial test, subsequent verification of volumetric flowrates from stacks or vents may be required if significant changes have been made to the exhaust system or when required by ORCAA.
- i. Line 3 Can Washer stack
  - ii. Line 3 Decorator room vents
  - iii. Line 3 Printer Oven Bypass Stacks
  - iv. Line 3 Inside Bake Oven Bypass Stacks

[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 1.5(i); ORCAA Rule 6.1.4(a)(3); ORCAA Rule 6.1.4(a)(5); WAC 173-460-070]

**45. Exhaust Stack and Vent Monitoring Plan.** No later than 30 days after measuring velocity or volumetric flowrate as required by Condition 44(c), the permittee must develop and implement an exhaust stack and vent monitoring plan. The plan must be made available for inspection by ORCAA upon request. At a minimum, the monitoring plan must:

- a. Identify the operating parameter(s) to be monitored to assure that the flowrate from the exhaust stacks or vents are continuously maintained as listed in Condition 1;
- b. Explain why the parameter(s) is appropriate for demonstrating ongoing compliance;
- c. Identify the procedures that will be used to monitor the operating parameter(s) (including method and frequency); and
- d. If ongoing monitoring is not necessary for a specific stack, documentation of that determination (i.e. fixed speed fan).

[Regulatory Basis: ORCAA Rule 6.1.2(l); ORCAA Rule 6.1.4(a)(5); WAC 173-460-070]



## Attachments

### Applicable Performance Standards that apply to Crown Cork & Seal

Title Citation	Brief Description (Consult rule/regulation for specific requirements)	Applies to
<b>New Source Review (NSR)</b> ORCAA Rule 6 Chapter 173-460 WAC	Approval by ORCAA through a NOC application is required prior to establishing or constructing any new source of emissions or modifying an existing source. This includes removal of a control device or substantial modification of an existing control device.	Applies generally to all air pollution sources
<b>Demolition and Asbestos Requirements</b> ORCAA Rule 6.3	Requires notification prior to certain demolition or asbestos projects as well as requirements for asbestos projects and disposal.	Applies generally to all air pollution sources
<b>Interference or Obstruction</b> ORCAA Rule 7.1	Prohibits willfully interfering with or obstructing the Executive Director or any Agency employee in performing any lawful duty.	Applies generally to all air pollution sources
<b>False or Misleading Statements</b> ORCAA Rule 7.2	Prohibits any person from willfully making a false or misleading statement to the Board or its representative as to any matter within the jurisdiction of the Board.	Applies generally to all air pollution sources
<b>Unlawful Reproduction or Alteration of Documents</b> ORCAA Rule 7.3	Prohibits reproducing or altering, or causing to be reproduced or altered, any order, registration certificate or other paper issued by the Agency if the purpose of such reproduction or alteration is to evade or violate any provision of these Regulations or any other law.	Applies generally to all air pollution sources
<b>Display of Orders and Certificates</b> ORCAA Rule 7.4	Any order or registration certificate required to be obtained by these Regulations shall be available on the premises designated on the order or certificate. In the event that the Agency requires order or registration certificate to be displayed, it shall be posted. No person shall mutilate, obstruct, or remove any order or registration certificate unless authorized to do so by the Board or the Executive Director.	The Approval Order issued in conjunction with this NOC approval must be retained on site.
<b>Concealment and Masking</b> WAC 173-400-040(8) ORCAA Rule 7.5	Prohibits installation or use of any device or means to conceal or mask emissions of an air contaminant, which causes detriment to health, safety, or welfare of any person, or causes damage to property or business.	Applies generally to all air pollution sources
<b>Emissions Detrimental to Persons or Property</b> WAC 173-400-040(6) ORCAA Rule 7.6	Prohibits causing or allowing the emission of any air contaminant from any source if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business.	Applies generally to all air pollution sources
<b>Visible Emissions</b> WAC 173-400-040(2) ORCAA Rule 8.2(a)	Prohibits emissions with opacity of greater than 20% for more than three (3) minutes in any one hour.	Applies generally to all air pollution sources
<b>General Requirements</b> WAC 173-400-040(1)(c) ORCAA Rule 8.3	All emissions units are required to use reasonably available control technology (RACT).	Applies generally to all air pollution sources.



## Attachments

<b>Fugitive Emissions</b>  <b>WAC 173-400-040(4)(a)</b> <b>ORCAA Rule 8.3(c)</b>	<p>The owner or operator of any emissions unit engaging in materials handling, construction, demolition, or other operation which is a source of fugitive emission shall take reasonable precautions to prevent the release of air contaminants from the operation.</p>	<p>Applies generally to any activity that results in fugitive emissions.</p>
<b>Fallout</b>  <b>WAC 173-400-040(3)</b> <b>ORCAA Rule 8.3(e)</b>	<p>Prohibits particulate emissions from any source to be deposited, beyond the property under direct control of the owner or operator of the source, in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material was deposited.</p>	<p>Applies generally to all air pollution sources.</p>
<b>Odor</b>  <b>WAC 173-400-040(5)</b> <b>ORCAA Rule 8.5</b>	<p>ORCAA Rule 8.5 contains general requirements for controlling odors and a general prohibition of odors that unreasonably interfere with the use or enjoyment of a person's property.</p>	<p>Applies generally to all air pollution sources.</p>
<b>Excess Emissions Provisions</b>  <b>WAC 173-400-107; WAC 173-400-108</b> <b>ORCAA 8.7</b>	<p>Requires excess emissions be reported to the Agency as soon as possible and within 24 hours and establishes criteria qualifying excess emissions as unavoidable.</p>	<p>Applies generally to all air pollution sources</p>
<b>Equipment Maintenance and Repair</b>  <b>ORCAA Rule 8.8</b>	<p>ORCAA Rule 8.8 requires that all air contaminant sources keep any process and/or air pollution control equipment in good operating condition and repair.</p>	<p>Applies generally to all air pollution control devices.</p>
<b>Record Keeping and Reporting.</b>  <b>ORCAA Rule 8.11</b>	<p>Requires the following:  1. Maintenance of records on the nature and amounts of emissions and other related information as deemed necessary by ORCAA;  2. Reporting of emissions to ORCAA upon request.</p>	<p>Required of all facilities registered with ORCAA.</p>
<b>Sulfur Dioxide</b> <b>WAC 173-400-040(7)</b>	<p>No person shall cause or allow the emission from any emissions unit in excess of one thousand ppm of sulfur dioxide on a dry basis, corrected to seven percent oxygen for combustion sources, and based on the average of any period of sixty consecutive minutes.</p>	<p>Applies generally to facilities that emit Sulfur Dioxide.</p>
<b>Fugitive Dust</b>  <b>WAC 173-400-040(9)</b>	<p>The owner or operator of a source or activity that generates fugitive dust must take reasonable precautions to prevent that fugitive dust from becoming airborne and must maintain and operate the source to minimize emissions.</p>	<p>Applies to any activity that results in fugitive dust.</p>
<b>State Greenhouse Gas Reporting</b> <b>Chapter 173-441 WAC</b>	<p>Requires annual reporting of Greenhouse Gas emissions to Ecology.</p>	<p>Applies to generally to all stationary process units that exhaust to the atmosphere.</p>
<b>Particulate Standards for Process units</b> <b>ORCAA Rule 8.3(a)</b> <b>WAC 173-400-060</b>	<p>Prohibits emissions from any process unit in excess of 0.1 grain/dscf. EPA test methods from 40 CFR Appendix A shall be used should demonstration of compliance be required.</p>	<p>Applies generally to all process units that emit particulate matter that exhaust to the atmosphere.</p>
<b>Particulate Standards for Combustion Units</b> <b>ORCAA Rule 8.3(a)</b> <b>WAC 173-400-050(1)</b>	<p>Prohibits emissions from any combustion unit in excess of 0.1 grain/dscf. EPA test methods from 40 CFR Part 60 Appendix A shall be used should demonstration of compliance be required.</p>	

## Attachments

<b>40 CFR Part 60, Subpart WW</b>	New Source Performance Standards - Standards of Performance of the Beverage Can Surface Coating Industry. Applies to beverage can surface coating lines with the following affected facilities: new, modified, or reconstructed exterior base coat operation, overvarnish coating operation, and inside spray coating operation.	Applies to the overvarnish and inside spray coating operations.
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## 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](http://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: <b>Crown Cork &amp; Seal Company, Inc.</b>	<b>For ORCAA use only</b>
Mailing Address: 1202 Fones Road, Olympia, WA 98501	File No: <u>152</u> County No: <u>67</u> Source No: <u>8</u> Application No: <u>23NOC163</u>
Physical Address of Project or New Source: 1202 Fones Road, Olympia, WA 98501	Date Received: <b>Received</b> <b>SEP 08 2023</b>  <b>ORCAA</b>
Billing Address: 1202 Fones Road, Olympia, WA 98501	
Project or Equipment to be installed/established:  Inside Spray Revision & TAP Analysis	
Anticipated startup date: <u>09</u> / <u>08</u> / <u>2023</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>08/28/20</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).	
<b>Name of Owner of Business:</b> Crown Cork & Seal Company, Inc.	<b>Agency Use Only</b>
Title: Corporation	
Email: <u>mantry@crowncork.com</u> Phone: <u>215-698-5308</u>	CONDITIONALLY APPROVED FOR CONSTRUCTION ONLY IN ACCORDANCE WITH RCW 70A.15, WAC 173-400 ORCAA REGULATIONS (SEE ATTACHED ADDENDUM FOR CONDITIONS OF APPROVAL)
<b>Authorized Representative for Application (if different than owner):</b> Teresa Compton	
Title: <u>Plant Manager</u>	
Email: <u>teresa.compton@crowncork.com</u> Phone: <u>360-491-4900</u>	
I hereby certify that the information contained in this application is, to the best of my knowledge, complete and correct.	
<b>Signature of Owner or Authorized Representative: (sign in Blue Ink)</b>	<u>12/27/2023</u>
Date: <u>9/8/2023</u>	 DATE <b>ORCAA</b>
<b>IMPORTANT:</b> Do not send via email or other electronic means. ORCAA must receive Original, hardcopy, signed application and payment prior to processing application.	