April 28, 2025

Amy DeVita-McBride
Cleaner Air Oregon Project Engineer
Oregon Department of Environmental Quality
700 NE Multnomah St., Suite 600
Portland, OR 97232-4100

Re: Cleaner Air Oregon (CAO) Emission Inventory Form and Supplemental Data Revised Submittal

Dear Ms. DeVita-McBride,

acpi, Wood Products, LLC (acpi) received February 20, 2025 letter from Oregon Department of Environmental Quality (DEQ) commenting on the CAO Emission Inventory submitted by acpi on November 26, 2024. The letter communicated several questions regarding clarification of submitted data. On behalf of acpi, HDR Engineering, Inc. (HDR) is providing the following responses to the questions and requested additional information. HDR responses are provided in ***bold italic*** font.

1. Safety Data Sheets:
    a. Provide SDSs for all coating materials used at your facility. ***All coating material SDSs are contained in the provided zip file named "SDS Data.zip".***
    b. Provide a "cross-walk" for coating materials which matches acpi's naming used in the Inventory with the product names and/or codes presented in the "Independence Product Calculations.xlsx" workbook and the supplier's naming and/or product codes used in the SDSs and EDSs. ***The coating calculation tabs "COATING ACTUAL" and "COATING POTENTIAL" in the "Independence Product Calculation.xlsx" workbook were revised by adding the following columns to provide the requested material "cross-walk": EDS Name, EDS Product Code, SDS Name, STS Product Code.***

2. Revised Inventory: Submit to DEQ a revised Inventory (AQ520), along with all supporting calculations in Excel format, as well as all information required under OAR 340-245-0040(4). Include the following updates to the AQ520: ***A revised "AQ520Form.xlsx" workbook is provided.***
    a. Revised Coating Composition:
        i. Incorporate emissions for additional TACs identified in review of coating SDSs. ***One new TAC and several material TAC content***

changes were identified in review of the SDSs. These updates are incorporated in the revised "AQ520Form.xlsx" workbook.

ii. Provide a list of coatings for which TACs have been added to the Inventory after review of the SDSs. ***All changes resulting from review of the material SDSs are indicated by orange shading in the revised "Independence Product Calculations.xlsx" workbook.***

b. Review of Hazardous Air Pollutants (HAPs) emission estimates prepared for acpi's Title V permit renewal application show the coating operations (EU-01) has the potential to emit several TACs which were not included in the Inventory. Review and revise coating emissions as appropriate to resolve discrepancies. ***Since submittal of the Title V permit renewal application, acpi has switched material suppliers to Sherwin Williams. This resulted in a change of material formulations which reduced and eliminated various HAPs. The inventory submitted with the "AQ520Form.xlsx" workbook is representative of current material usage.***

c. TEU-17 and TEU-18

i. Update TEU names for TEU-17 and TEU-18 in Column A of Worksheet 2 to distinguish between the four wood products. Ensure naming of the TEUs in Column A of Worksheet 2 matches those in Column A of Worksheet 3. ***It is proposed that the naming convention for TEU-17 and TEU-18 remain unchanged. This is consistent with the naming convention for other TEUs (coating booths) which lists one TEU name for the booth, each of which has multiple materials that are summed to provide a total for each TAC. TEU-17 and TEU-18 represent the two woodworking dust control devices/exhaust points which collect emissions from all of the various individual woodworking machines. Splitting each wood type into a different TEU will not provide any additional clarity or refinement of the analysis. Instead, the Reference/Notes in Column I of Worksheet 3 were updated to detail the wood type and activities (also See 2.c.iii below).***

ii. Update TEU description in Column B of Worksheet 2 to include a description of the activity associated with each TEU. ***The description has been updated in the revised "AQ520Form.xlsx" worksheet to reflect that each TEU is comprised of both sawing and sanding operations.***

iii. Update the References/Notes in Column I of Worksheet 3 to indicate activities represented by the emission factor. ***The references/notes***

are updated in the revised "AQ520Form.xlsx" worksheet to detail the wood type and activity.

d. Natural Gas Space Heaters (TEU-NGC):
    i. Information presented in the facility's permit review report indicates that acpi operates (14) natural gas-fired space heaters (totaling 1.1 MMBtu/hr) and six (6) process heaters (totaling 5.58 MMBtu/hr). Information provided with the Inventory indicates the facility only has 11 space heaters with a heat input capacity of 0.125 MMBtu/hr each (1.38 MMBtu/hr total). Please clarify this discrepancy and update the Inventory as appropriate. ***Information concerning natural gas emission sources presented in the Inventory and "AQ520Form.xlsx" workbook is correct. All process heaters at acpi are now electric.***
    ii. Confirm if the natural gas usage presented in Workbook 2 represents the capacity of the natural gas-fired units. If not capacity of these units, include the natural gas usage as "Requested PTE" or refine the capacity natural gas usage for this TEU. ***The natural gas usage is listed in the revised "AQ520Form.xlsx" workbook as "Requested PTE" and reflects 130 percent of actual historical usage.***
    iii. Confirm the emission points for the natural gas heaters presented in Column E of Worksheet 2. Currently natural gas combustion emissions are identified as being evenly distributed through the coating line and baghouse stacks. ***The natural gas emissions from the direct fired space heaters throughout the facility are vented internally throughout the production area. Emissions exit the building through the other equipment stacks, which maintain the building at negative pressure due to individual equipment exhaust flow. Natural gas emissions are assumed to be uniformly vented thorough these stacks.***
    iv. Include emissions estimates for benzo[a]pyrene (CASRN 50-32-8) in Worksheet 3. ***Benzo[a]pyrene emissions are included in the revised "AQ520Form.xlsx" workbook.***

e. TEU-1 through TEU-16: Provide additional documentation describing how product usage rates in Worksheet 4 and emission estimates in Worksheet 5 were developed for the Requested PTE/Capacity basis. This documentation must provide justification that this approach represents a worst-case approach to estimating TAC emissions from the coating operations. ***The product usage rates in Worksheet 4 and emission estimates in Worksheet***

5 of the "AQ520Form.xlsx" workbook were developed in the "Independence Product Calculations.xlsx" workbook as described below.

The actual annual material usage for each coating product used in each coating booth is based on the recorded facility total product usage in gallons for the representative emission inventory year and is provided in the worksheet tab COATING ACTUAL, column I. The lbs/yr value for each product is calculated in column M by multiplying the gallons of material used by the density of the material. The actual daily material usage value is calculated by dividing the annual usage value by the actual number of production days during the inventory period.

The capacity and requested PTE are assumed equal until the modeling analysis dictates a lower required requested PTE. The capacity is based on a maximum potential cabinet product rate of 876,000 cabinets per year. In order to exceed this value the acpi facility would need to be modified to add additional coating lines, therefore it is considered a physical restriction based on existing equipment capacity.

Each coating booth is capable of using a variety of types of coating materials. The gallon/cabinet usage rate for each specific type of coating is based on historic production records which track the amount of each specific type of coating required to produce a finished product. These coating type usage rates are developed in the PRODUCTION worksheet tab.

The worksheet tab COATING POTENTIAL, column J calculates the potential material usage for each coating product by multiplying the maximum cabinet production rate by the documented gallon/cabinet usage rate for each specific type of coating (pulled from the PRODUCTION tab based on the coating type listed in Column H) The potential lb/yr for each coating product is then calculated in column L by multiplying the gallons in column J by the density of the material. Potential daily emissions were calculated by dividing the maximum annual throughput by 365 days because to reach the maximum cabinet production rate of 876,000 cabinets per year the facility would have to operate year-round.

There are three coating lines at the facility that each utilize five coating booths. Each coating line uses the same coating materials because each

line processes a different part of the overall cabinet assembly and must apply the same coating to each part of the same cabinet. All lines are staffed with the same number of spray guns and coating staff, therefore, production usage between the lines is equivalent. The total material throughput for the facility was multiplied by 0.33 to account for one-third of the coating usage in each coating line. The rework coating booth, which is used for final product corrections after assembly, uses the remaining 1 percent of coating.

The actual emissions for each coating product used in each coating booth are calculated using the material usage in Workbook 4 multiplied by the percent composition in Workbook 5.

Because it is physically possible (and probable) for a coating booth to use one specific coating material for a complete hour, the worst-case (highest TAC content) coating material was assumed to be used continually, as opposed to a mixture of products, which would potentially result in lower overall TAC content on an hourly basis. Therefore, the potential TAC emissions listed in Workbook 5 for each TAC from a given coating booth (TEU) was taken from the maximum individual TAC value calculated in "Independence Product Calculations.xlsx" worksheet tab COATING POTENTIAL. This value is listed in Workbook 5 as "All Materials Potential Emissions" for each coating booth. This approach presents a hybrid coating mixture that is unlikely to occur under normal operating conditions and assumes the maximum TAC value for all coatings is applied at all times.

3. Glue: The process flow diagram indicates that glues are used in the Cabinet Assembly process. Please review the SDS for all glue products used in production and update the inventory as needed to account for TAC emissions from production glue use. Provide copies of SDSs for all flues and adhesives used in the production for DEQ's review***. The glue SDSs are provided. Only one glue contains TACs and was added as TEU-20.***

4. Stains: Provide an explanation of the difference between "Spray Stains" and "Wipe Stains" the supporting workbook "Independence Product Calculations.xlsx" specifies production levels for these two types of stains. Explain if emissions from these two types of stains are quantified differently. ***All stains are applied via identical spray***

application and are quantified as such. Wiping stains are wiped off the finished product after leaving the booth. spray stains are not wiped.

5. Transfer Efficiency: Provide documentation to support a spray booth transfer efficiency of 75 percent. ***Documentation regarding the paint gun specifications and transfer efficiency is attached to this response letter.***

6. Filter Specifications: Provide documentation (such as vendor specification sheets) to support a spray booth filter removal efficiency of 99.2 percent for particulate matter (PM). ***Documentation regarding the panel filter specifications and removal efficiency is attached to this response letter.***

7. Spray Line Operation: Confirm the total number of spray lines at acpi. The facility's permit notes a total of four spray lines with five spray booths each, but the Inventory only accounts for 3 spray lines. ***acpi currently operates 3 spray lines, each with 5 coating booths, and 1 additional re-make booth for specialty work and product corrections.***

8. Process Flow Diagram: Update the process flow diagram to incorporate the following requested changes.
    a. Identify TEU-17 and TEU-18 on the diagram. ***TEU-17 and TEU-18 are identified as the North and South Dust Collectors, respectively. These units collect emissions from all woodworking equipment used for cutting and sanding operations.***
    b. Update Stack IDs for the North and South Dust Collectors to match the Stack IDs in the Inventory. ***Stack IDs for the North and South Dust Collectors were updated on the process flow diagram.***
    c. Ensure formatting of TEU and Stack IDs match those used in the Inventory. ***Formatting of TEU and Stack IDs were updated on the process flow diagram.***
    d. Update TEU-NGC emission points as appropriate per Specific Comment 2.d.iii. ***The source name for TEU-NGC was updated to TEU-19. The natural gas emissions from the direct fired space heaters throughout the facility are vented internally throughout the production area. Emissions exit the building through the other equipment stacks, which maintain the building at negative pressure due to individual equipment exhaust flow. Natural gas emissions are assumed to be uniformly vented thorough these stacks.***

We look forward to working with ODEQ on the completion of the risk assessment process. If you have any questions regarding the submitted information or need additional information, please do not hesitate to contact me at (763) 278-5905, or via e-mail at graetz@hdrinc.com.

Sincerely,

HDR Engineering, Inc.

Gregory J. Raetz
Senior Professional Associate

c. John Hamlin, acpi
Alex Haulman, DEQ
Zach Loboy, DEQ
Thomas Rhodes, DEQ
J.R. Griska, DEQ

Attachments: Paint Gun Specifications
Panel Filter Specifications
via Electronic File – SDS Data.zip
via Electronic File – AQ520Form.xlsx
via Electronic File – Independence Product Calculations.xlsx

3300 SERIES

SPRA-GARD EFFICIENCY
RP PAINT ARRESTORS

RP ARRESTORS

OVERVIEW: The finest efficiencies possible can be achieved with this series of Paint Arrestors. This performance is achieved through the use of a high-density polyester backing which is structurally very strong. Due to the high efficiency, only a single stage is necessary in a wide variety of applications. Available in pads or rolls.

PAINT ARRESTOR IDENTIFICATION

Model: 3300 Series Spra-Gard High Efficiency RP Paint Arrestor

RP Part Number: 3332 Pad (20” x 20”)

Number of pads in series: 1

TEST INFORMATION

Paint Description: High Solids Baking Enamel

(S.W. #1 Permaclad 2400, red)

Paint Spray Method: Conventional Air Gun at 40 PSI Spray

Feed Rate: 142 grains/min. 135 cc./min.

Air Velocity: 150 FPM

TEST RESULTS

Initial Pressure Drop of Clean Test Filter: 0.06 in. wg

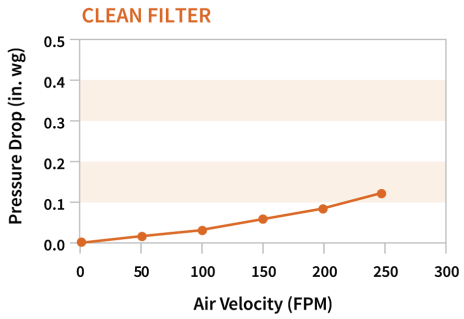
Final Pressure Drop of Loaded Test Filter: 0.50 in. wg

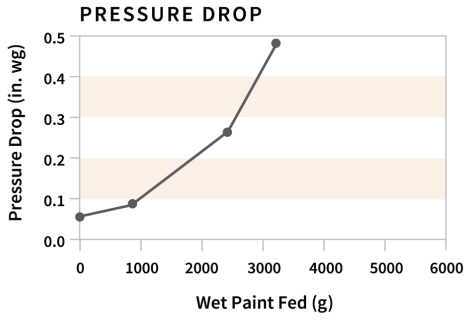
Paint Holding Capacity of Test Filter: 2136 grams = 4.7 lb.

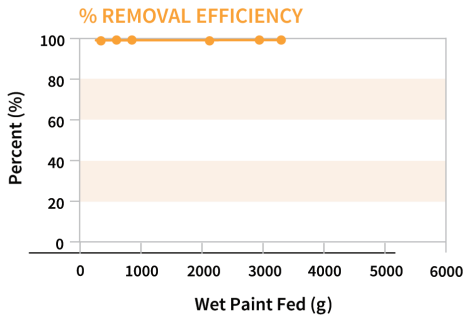
Average Removal Efficiency of Test Filter: 99.89%

Product Tested by LMS Technologies, Inc.

TEST SUMMARY:







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Equipment

Designation	Pressure bar (psi)	Aircap	Swivel fitting	Seat	Part number
Airmix® Xcite®+ Light gun 120B VX24 KHVLP AIRCAP FAN ADJUST	120 bar (1740 psi)	VX24	-	carbide	135733120
Airmix® Xcite®+ Light gun 240B VX24 KHVLP AIRCAP FAN ADJUST	240 bar (3480 psi)	VX24	-	carbide	135733220

Accessories

Designation	Length	Internal ø	Max operating pressure (bar)	Fitting	Part number
Stainless steel fitting M1/2"JIC - M1/4 BSPT					550542
Inline fluid filter Male-Male 1/2"JIC	-	-	500	MM 1/2"JIC	155010000
Inline fluid filter Male-Female 1/2"JIC	-	-	500	MF 1/2"JIC	155010100
SWIVEL FITTING NG22 500BAR MF1/2" JIC			500	MF 1/2"JIC	129732425
SWIVEL FITTING NG22 500B F1/2" JIC M1/4NPS			500	MM 1/2"JIC	129732435
Stainless steel fitting M1/2"JIC - M1/4 NPT			400	MM1/2"JIC	905210502
Textile hose Ø3.2 FF1/2" JIC 240B 0.6M with spring	0.6 m (2 ft)	3.2 mm (1/8")	240	FF1/2"JIC	050220061
Textile hose Ø3.2 FF1/2" JIC 240B 1M with spring	1m (3.2 ft)	3.2 mm (1/8")	240	FF1/2"JIC	050220101
Textile hose Ø3.2 FF1/2" JIC 240B 1.5M with spring	1.5 m (5 ft)	3.2 mm (1/8")	240	FF1/2"JIC	050220151
Textile hose Ø3.2 FF1/2" JIC 240B 2M with spring	2 m (6.5 ft)	3.2 mm (1/8")	240	FF1/2"JIC	050220201
Textile hose Ø3.2 FF1/2" JIC 240B 3M with spring	3 m (10 ft)	3.2 mm (1/8")	240	FF1/2"JIC	050220301
Textile hose Ø4.8 FF1/2" JIC 240B 0.6M with spring	0.6 m (2 ft)	4.8 mm (3/16")	240	FF1/2"JIC	050240061
Textile hose Ø4.8 FF1/2" JIC 240B 1M with spring	1m (3.2 ft)	4.8 mm (3/16")	240	FF1/2"JIC	050240101
Textile hose Ø4.8 FF1/2" JIC 240B 1,5M with spring	1.5 m (5 ft)	4.8 mm (3/16")	240	FF1/2"JIC	050240151
Textile hose Ø4.8 FF1/2" JIC 240B 2M with spring	2 m (6.5 ft)	4.8 mm (3/16")	240	FF1/2"JIC	050240201
Textile hose Ø4.8 FF1/2" JIC 240B 3M with spring	3 m (10 ft)	4.8 mm (3/16")	240	FF1/2"JIC	050240301
Straight extension 400 mm length	400 mm	10 mm			075810010

Kits

Description	Maximum output pressure(bar (psi))	Gun type	Tip	Hoses included	Swivel fitting	Pump type	Mounting	Packing material	Output filter	Suction rod	Part Number
Airmix® PACK 15C50 W/M FILTER SUC Xcite®+Light120 12.114 H7.5M	90 (1305)	Xcite®+ 120 Light	12-114	7.5 m (24 ft)	•	15C50	Wall	GT	•	Ø 23	151143600

Spare Parts

Designation	Max operating pressure (bar)	Part number
VX24 KHVLP - Xcite®+ type ring		132720020
Aircap protection (pack of 3)		132720003
Stainless steel screen for filter, M4 (pack of 5)	500	129609907
Stainless steel screen for filter, M6 (pack of 5)	500	129609908
Stainless steel screen for filter, M12 (pack of 5)	500	129609909
Seal kit (Air) for Xcite®+ and Xcite®+ light	400	129729908
Seal kit (Fluid) for Xcite®+ light 120 & 240	240	129733926
Carbide seats, seals and diffusers (2 of each) for Sflow® and Xcite®+	400	129740908
Acetal Seat (no diffuser) for Xcite®+ and Xcite® (60 bar max)	60	129729904
Diffuser (package of 10)		129740910
Seals for diffuser (package of 10)		129740911
Tip cleaning needles (nozzles > 0.9) (6 pieces)		000094002
Tip cleaning needles (nozzles ≤ 0.9) (6 pieces)		000094000
Kit retrofit Xcite®+ to Xcite®		129732080

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Airmix® Xcite®+ Light

Manual Spray Gun

Airmix® / Manual Guns

THE LIGHTEST AIRMIX® MANUAL SPRAY GUN ON THE MARKET!

- **Excellent Airmix® finish quality**
- **High transfer efficiency - up to 86% (HVLP compliant)**
- **Designed to access recessed areas of parts**

Markets

BOND • PROTECT • BEAUTIFY

Airmix® Xcite®+ Light

Manual Spray Gun

The Airmix® Xcite®+ Light manual spray gun focuses on lightness, simplicity and maneuverability. For maximum benefits, this spray gun is available in two versions: 120 and 240 bar (1740 & 3480 psi)

Sames created Airmix® technology in 1975. Airmix® is an intermediate spray technology that combines the finish quality of Airspray with the productivity of Airless and is the industrial standard for Air-Assisted Airless® today. The **Airmix® Xcite®+ Light** manual spray gun from the Sames range benefits:• Lightweight:
30% weight reduction without compromising the perfect gun balance
• Compact design for easy access to recessed areas and complex shaped parts
• Effortless trigger pull reduces muscle strain and carpal tunnel injuries

Airmix® spraying technology is the best compromise between productivity and finish quality with the highest transfer efficiency up to 86%.

Benefits per technologies	Transfer efficiency	Atomization quality	Flow rate
Airspray spraying	☆☆☆	☆☆☆☆	☆
Airmix® spraying	☆☆☆☆	☆☆☆	☆☆☆
Airless spraying	☆☆☆	☆	☆☆☆☆

Technical data table

Designation	Value	Unit: metric (US)
Maximum Fluid Pressure	120 - 240 bar (1740 & 3480 psi)	bar (psi)
Maximum Air Pressure	6 (87)	bar (psi)
Recommended Air Pressure (min)	0.7 - 3 (11.6 - 43)	bar (psi)
Air Consumption	4.8 - 7.2 (2.8 - 4.2)	m3/h (cfm)
Transfer Efficiency	up to 86	%
Maximum Fluid Temperature	50 (122)	°C (°F)
Air Inlet	M 1/4" NPS	
Fluid Inlet	F ½" JIC (M1/2" JIC with supplied fitting)	
Trigger Lock Safety	♦	
Polished Forged Aluminum Body	♦	
Stainless Steel, PTFE, Carbide Wetted Parts	♦	
Trigger Pull	9.8 - 13.7 (2.2 - 3.1)	N (lbs)
Weight	385 (13.5)	g (oz)
ATEX Certification	CE-UKCA II2G Ex h IIB T6 Gb X	

sames kremlin

Technologies

Airmix® spray technology

HVLP

HVLP

Description

Performance

1 Large tip selection with dedicated X-tra Fine Finish tips for water-based material with wide choice of flow rates and fan width patterns

♦ High flow rates to meet demanding production needs

♦ High transfer efficiency - up to 86%

♦ Unsurpassed finish quality

♦ Lightweight and flexible design reduces operator fatigue

♦ Diffuser and deflector embedded to decrease the atomizing air consumption and improve atomization

Productivity

2 Large amplitude of the fan width adjustment for time savings; no need to change the tip

3 Compact design with optional inline filters and whip hose connected directly to the spray gun for easy access into recessed areas

4 Trigger lock and aircap protection for operator safety

5 Improved trigger design to ensure the operator's comfort

6 Female fluid inlet fitting to help connecting any fluid hoses

♦ Easy adjust aircap to facilitate the rotation of the head from horizontal to vertical spray

Sustainability

♦ Anodized body is excellent for wear resistance

♦ Double seal, fluid nozzle and tip to prevent paint from backing up into air passages

♦ Stainless steel fluid passages compatible with all materials

♦ The tips are made of the hardest carbide in the world to guarantee the longest life possible

♦ PTFE seals, packing & stainless steel, carbide wetted parts for long life usage