



COLUMBIA STEEL CASTING CO., INC.

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November 30, 2021

Ms. Kenzie Billings
DEQ CAO Project Manager
Oregon Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232

Re: Cleaner Air Oregon – Additional Information Regarding Air Toxics Emissions
Inventory and Combined Modeling Protocol and Risk Assessment Work Plan
Columbia Steel Casting Co., Inc., Portland, Oregon

Dear Ms. Billings,

As part of the ongoing efforts related to Cleaner Air Oregon, Columbia Steel Casting Co., Inc. (Columbia Steel, CSCC) submitted an Air Toxics Emissions Inventory (Form AQ520) and combined Modeling Protocol and Risk Assessment Work Plan to the Oregon Department of Environmental Quality (DEQ) on May 26, 2021. Follow-up questions and a request for additional information was provided by the DEQ on July 15, 2021 with a due date of August 17, 2021. On August 4, 2021, DEQ approved an extension of a portion of the requested additional data, which was due by September 16, 2021. CSCC submitted responses to certain items within the July 15, 2021 letter on August 17, 2021 and submitted the responses of the remaining items on September 16, 2021. Follow-up questions and a request for additional information was provided by the DEQ on October 27, 2021 with a due date of November 30, 2021.

This document and the associated attachments provide responses to the items within the October 27, 2021 letter from DEQ. Note that the revised Air Toxics Emissions Inventory and Combined Modeling Protocol and Risk Assessment Work Plan are included as Attachment 1.

If you have any questions, please contact Bruce Schacht at (503) 286-0685, x286 or Sarah Kronholm from SLR International Corporation at (503) 709-7039.

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Sincerely,
COLUMBIA STEEL CASTING CO., INC.



Bruce Schacht
Environmental Engineer

Cc: Martha Cox, Columbia Steel Casting Co., Inc.
Dave Faust, Columbia Steel Casting Co., Inc.
Sarah Kronholm, SLR International Corporation
Brien Flanagan, Schwabe, Williamson & Wyatt

Attachments:

- Attachment 1 – Revised Air Toxics Emissions Inventory and Combined Modeling Protocol and Risk Assessment Work Plan
- Attachment 2 – Safety Data Sheets for Freeman Master Kincote Products
- Attachment 3 – NESHAP Subpart ZZZZZ Recordkeeping Documents
- Attachment 4 – Storage Pile Emissions Calculations

Responses to DEQ's Request for Additional Information

1. Safety Data Sheets

a. **Foseco Moldcote 34:** The Safety Data Sheets (SDSs) listed below include respirable crystalline silica, which is a reportable TAC. Revise the Emissions Inventory to include emissions estimates for silica, crystalline (respirable) (CAS No. 7631-86-9) in this material.

- i. **SDS08** (Foseco Moldcote 34)
- ii. **SDS09** (Foseco Isomol 780)

CSCC response: SDS08 (Foseco Moldcote 34) and SDS09 (Foseco Isomol 780) provide concentrations for silica, crystalline (quartz) (CAS No. 14808-60-7). Since this pollutant differs from silica, crystalline (respirable) (CAS No. 7631-86-9), is not listed on the DEQ pollutant list, and is not expected to be respirable because the materials are used in a liquid form, emissions estimates for silica, crystalline (respirable) (CAS No. 7631-86-9) were not added to the inventory.

b. **Freeman Master Kincote products:** The Safety Data Sheets (SDSs) listed below list reportable toxic air contaminants (TACs) in Section 3, Composition/Information on Ingredients, but do not provide chemical concentrations for reportable TACs listed. Please provide data supporting percent weight assumed for emissions estimates provided in the Emissions Inventory.

- i. **SDS15** (Black)
- ii. **SDS18** (Vermillion)
- iii. **SDS19** (Yellow)

CSCC response: Updated SDSs for the Freeman Master Kincote products (Black, Vermillion, and Yellow) with concentration data are provided in Attachment 2.

c. **Valspar Luster LAC WW LAC Sand Seal:** Section 3 of SDS22 lists acetone (CAS No. 67-64-1) at 50-70% weight in the product. Include acetone emissions estimates for this product in the revised Emissions Inventory.

CSCC response: Emissions for acetone have been added to the attached inventory for the Valspar Luster LAC WW LAC Sand Seal.

d. **3M Platinum Plus Filler:** SDS29 includes respirable silica, which is a reportable TAC (CAS No. 7631-86-9). Revise the Emissions Inventory to include emissions estimates for silica, crystalline (respirable) in this material.

CSCC response: SDS29 (3M Platinum Plus Filler) contains concentrations for silica, crystalline (quartz) (CAS No. 14808-60-7). As noted above in the response to Item 1.a, emissions estimates for silica, crystalline (respirable) (CAS No. 7631-86-9) were not added to the inventory.

e. **Welding materials:** SDSs for all welding materials include chromium content, and all but one SDS (SDS04, Randor Products) state that hexavalent chromium compounds may be in the welding fume or base metals which contain chromium. However, no hexavalent chromium emissions estimates were included in the Emissions Inventory for welding

activities. Revise the Emissions Inventory to include hexavalent chromium emissions from welding activities.

CSCC response: The SDSs for welding materials note that hexavalent chromium compounds *may be* present in the welding fume or base metals; however specific concentrations and/or emissions data is not provided. For example, the SDS for the Lincoln 312 SS welding wire states “Materials that contain chromium may produce some amount of hexavalent chromium (CrVI) and other chromium compounds as a byproduct in the fume.” This statement is included in the information for personal protective equipment and is not intended to represent specific contents of the material. On behalf of CSCC, SLR has reached out to the suppliers of the welding materials for concentration data for hexavalent chromium. As of the date of this letter, responses have not been received. Because the SDS information is intended to be for potential safety precautions, and does not contain information useful for air toxics emissions data, we have not included hexavalent chromium emissions estimates in the inventory.

2. Steel scrap material specifications: Please provide the records required to be kept by Condition 8.5.b.ii of your Standard Air Contaminant Discharge Permit.

CSCC response: CSCC is required to keep specific records as part of the requirements of 40 CFR Subpart ZZZZZ for Small Foundries, including records of written materials specifications as part of a metallic scrap management program, as well as records that demonstrate compliance with the program. Included in Attachment 3 are the following:

- CSCC Pollution Prevention Scrap Management Program
- Certifications from scrap metal suppliers confirming compliance with the program (Bob’s Metals, Inc., Metro Metals Northwest, Inc., and Pacific Recycling, Inc.)

3. Baghouse 1 and Baghouse 2 emissions estimates: During source testing completed in December 2020, total particulate matter (PM) emissions were measured for Baghouses 1 and 2 (BH1 and BH2). Revise the Emissions Inventory to apply the dust analyses for BH1 and BH2 to the Total PM emission factor determined during December 2020 source testing.

CSCC response: In the attached updated inventory, the PM emission factors for BH1 and BH2 were updated to the December 2020 Total PM source test values.

4. Sand system fines analytical data:

a. Attachment 2 of the information provided on August 17, 2021 included analytical data used as the basis for emissions estimates for several baghouses. The average weight percent of metals present in fresh, newer, and aged sand was applied to the PM emission factors for BH3, BH4, BH5, BH8, BH9, BH17, BH20, and BH22. Revise the Emissions Inventory to calculate TAC emissions for BH6 (Group 8 Sand System) using this same analytical data.

CSCC response: The previous submittal used the PM emission factor value from the prior ACDP for BH6. The calculations for the BH6 emissions in the attached updated inventory use the updated PM emission factor from the recently renewed ACDP.

b. Attachment 3 of the information provided on August 17, 2021 included lab results for four different samples used as the basis for emissions estimates for several baghouses. DEQ's review of emissions estimates indicate that the PM emissions factor for BH16 is ten times lower than what DEQ calculated using the information provided. Revise emissions estimates for BH16 as needed, or provide supporting information to explain this discrepancy.

CSCC response: The emission calculations for BH16 in the updated inventory submitted to DEQ on September 16, 2021 use the PM emission factor from the Review Report, which is 0.02 lb/ton metal. However, the Emission Detail Sheet lists the PM emission factor for BH16 as 0.2 lb/ton metal. Per discussion with the DEQ on November 2, 2021, no updates are needed to the air toxics emissions inventory.

5. Storage Pile Emissions Estimates:

a. Round storage pile height measurements to the nearest foot, or explain how measurements were obtained to the nearest hundredth of a foot.

CSCC response: The storage pile emissions calculations have been updated to include the height measurements rounded to the nearest foot. Please see Attachment 4.

b. Explain why an automotive shredder residue particle size distribution was used for the silt content percentage of storage piles, or use a more representative particle size distribution.

CSCC response: The storage pile emissions calculations have been updated to change the silt content percentage to the iron and steel production slag value in AP-42 Table 13.2.4-1 Typical Silt and Moisture Contents of Materials at Various Industries. As discussed in the September 16, 2021 response, the spent sand contains binders, which when wet activates the clay, forming a crust that protects against wind erosion. As such, the calculations greatly overestimate emissions from the storage piles. Also as noted in September letter to DEQ, the piles are routinely inspected to implement dust mitigation measures as needed, and based on past experience, dust migration from the sand piles is not observed even during windy conditions in the dry season. We request that the sand storage piles be considered an exempt TEU.

c. Revise note 2 to match material pile shape used.

CSCC response: Note 2 was updated to reference the assumed conical-shaped piles.