Oregon
Kate Brown, Governor

Department of Environmental Quality
Agency Headquarters
700 NE Multnomah Street, Suite 600
Portland, OR 97232
(503) 229-5696
FAX (503) 229-6124
TTY 711

July 15, 2021

Sarah Kronholm, P.E.
SLR International Corporation
1800 Blankenship Road, Suite 440
West Linn, OR 97068

Ms. Kronholm,

DEQ has completed our review of the Cleaner Air Oregon (CAO) Toxic Air Contaminant Emissions Inventory Form AQ520 (Inventory) and Level 3 Modeling Protocol and Risk Assessment Work Plan (Combined Protocol and Work Plan) submitted on May 26, 2021, by SLR International Corporation on behalf of the Columbia Steel Casting Company, Inc. (CSCC) facility in Portland, OR. DEQ has determined that additional information is required for approval of the Inventory and Combined Protocol and Work Plan. According to Oregon Administrative Rule (OAR) 340-245-0030(2), DEQ requests additional information, corrections and updates to the Inventory and Combined Protocol and Work Plan by August 17, 2021.

DEQ's comments are organized in three sections below: (I) Process Flow Diagram, (II) Emissions Inventory, and (III) Modeling Protocol and Risk Assessment Work Plan.

I. Process Flow Diagram

In order to better understand all facility operations, DEQ requests that CSCC submit a detailed process flow diagram. Ensure that the process flow diagram includes all Toxics Emissions Units (TEUs) as defined in OAR 340-245-0020(60) that emit Toxic Air Contaminants (TACs) listed in OAR 340-245-8020 Table 2. Ensure that TEU designations are consistent with CSCC's Standard Air Contaminant Discharge Permit in accordance with OAR 340-245-0060(1).

II. Emissions Inventory

1. *Tab 2. Emissions Units & Activities:*
    a. Provide a cross-reference table for DEQ's reference to clarify which TEUs identified in the Inventory correspond to Device ID and Pollution Control Device IDs listed in Section 1.0 of CSCC's Standard ACDP.
    b. For any TEUs you determine to be exempt, substantiate that each TEU meets the applicable criteria as defined in OAR 340-245-0060(3). List all TEUs you have designated as exempt in accordance with OAR 340-245-0040(3)(a)(A) in CSCC's Inventory.
    c. Include emissions from wind erosion of the facility's outdoor material storage piles in the Inventory.

2. *Tab 3. Pollutant Emissions – EF*

    a. Revise emission factors for metals detected during December 2020 source testing. Method 29 source testing yields two analytical sample fractions per test run (front half and back half). In accordance with Appendix G of DEQ's Recommended Procedures for Conducting Toxic Air Contaminant Health Risk Assessments, if a toxic air contaminant is not detected in any source test runs or samples, you can consider the toxic air contaminant not present, and treat its concentration as zero in that portion of the risk assessment; if a toxic air contaminant is detected in 10% or more of the test runs or samples, assign a concentration of one-half the detection limit to those test runs or samples that were non-detect. Average the detected values with ½ detection limit values for the non-detect samples, and report the final average value for use in the risk assessment.

        The following TACs from the December 2020 source testing had a mix of non-detects in the front half and/or back half samples. DEQ allows the substitution of zero or one-half the detection limit for each sample fraction in accordance with Appendix G of DEQ's Recommended Procedures for Conducting Toxic Air Contaminant Health Risk Assessments.

        i. Baghouse 1 (BH1):
            1. Antimony and compounds (CAS No. 7440-36-0)
            2. Arsenic and compounds (CAS No. 7440-38-2)
            3. Beryllium and compounds (CAS No. 7440-41-7)
            4. Cadmium and compounds (CAS No. 7440-43-9)
            5. Cobalt and compounds (CAS No. 7440-48-4)
            6. Phosphorus and compounds (DEQ Sequence ID 504)
            7. Vanadium (fume or dust) (CAS No. 7440-62-2)
        ii. Baghouse 2 (BH2):
            1. Antimony and compounds (CAS No. 7440-36-0)
            2. Arsenic and compounds (CAS No. 7440-38-2)
            3. Cadmium and compounds (CAS No. 7440-43-9)
            4. Cobalt and compounds (CAS No. 7440-48-4)
            5. Phosphorus and compounds (DEQ Sequence ID 504)
            6. Selenium and compounds (CAS No. 7782-49-2)
        iii. Baghouse 15 (BH15):
            1. Arsenic and compounds (CAS No. 7440-38-2)
            2. Lead and compounds (CAS No. 7439-92-1)
            3. Nickel and compounds (CAS No. 7440-02-0)
    b. Classify the nickel emissions from heat treat and core ovens and ladle heaters as Insoluble nickel (CAS or DEQ ID).
    c. Provide Safety Data Sheets (SDS) for welding materials (e.g., rod, wire, etc.) used in each welding activity performed onsite (e.g., gas metal arc welding, shielded metal arc welding, flux-cored arc welding, and submerged arc welding).
    d. Provide specific references used for all emissions calculations and clearly indicate how each reference was used.
    e. Include emissions estimates for polycyclic aromatic hydrocarbons (PAHs), polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/Fs), and polychlorinated

biphenyls (PCBs) from the steel and manganese electric arc furnaces (EAFs) and induction furnaces in Buildings 8 and 11.

f. Provide baghouse (BH) dust and sand system fines analytical data used as the basis for emissions estimates for BH1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 19, 20, 22, 24, 26, and RC18.

g. Provide the feedstock composition data referenced in BH1, BH2, and Buildings 8 and 11 roof vent emissions estimates.

h. For emissions estimates based on baghouse dust sample data, substantiate the use of the same hexavalent chromium percentage of total chromium for all baghouses, and provide baghouse-specific hexavalent chromium sample data where available.

3. *Tab 4. Material Balance Activities:* Provide Safety Data Sheets (SDS) for all materials listed.
4. *Tab 5. Pollutant Emissions – MB:* If Fiberlay Fiberfiller Structural Putty is no longer used onsite, remove it from the Inventory.

III. Modeling Protocol and Risk Assessment Work Plan

1. DEQ's understanding is that some of CSCC operations occur only at night. Consider using a variable emission rate that may be more reflective of emission rate fluctuations during a 24-hour period or include a discussion in the modeling protocol about why a variable emission rate is not appropriate.
2. Verify baghouse stack height and diameter parameters. Some baghouses appear to have significantly higher exit velocities than others.
3. Explain why the exit gas velocities for natural gas ovens were not measurable, when exit gas temperature was measurable.
4. Section 3.5.2 states that "The four exposure types are residential, non-residential adult, non-resident worker, and acute." This list has residential adult listed twice and has omitted "non-residential child". Revise this statement to list "non-resident child" rather than "non-resident adult."
5. Areas assigned "Exclusive Farm Use" should include residential exposure, and potentially worker exposure in appropriate areas. Revise these exposure locations to assess for residential and worker risk, as appropriate. Acute exposure should also be evaluated at residential and worker exposure locations.
6. The State of Washington can be categorized as "Excluded" for the purposes of Cleaner Air Oregon risk assessment.
7. The exposure crosswalk provided does not appear to match Figure 17 of the Protocol for Southwest Portland and is missing residential assignments that are noted in Figure 17. Revise the crosswalk to match Figure 17.
8. Table 8 quotes OAR 340-245-8040 Table 4 (Table 4) in showing that *antimony and compounds* does not have an acute risk-based concentration (RBC). DEQ understands that this is an error in Table 4. *Antimony and compounds* has an acute toxicity reference value of 1 $\mu g/m^3$, which should be used as the acute RBC for this TAC. DEQ issued a revised spreadsheet of TRVs and RBCs with corrections in July 2020, and will be making corrections to tables in future rulemaking. Include antimony and compounds in the risk assessment.
9. In OAR 340-245-8020 Table 2, the chemical with CAS Number 78-40-0 is incorrectly identified as triethyl phosphine. The correct chemical is triethyl phosphate. This correction is being proposed in the next CAO rulemaking. There are no RBCs for triethyl phosphate.
10. Section 4.5 states that because there are very few HI5 chemicals, the risk assessment will be conducted assuming all chemicals are HI3 chemicals, rather than using a risk determination ratio

(RDR) approach. There may be ambiguity in CAO rules regarding whether an RDR must be calculated when there are both HI3 and HI5 chemicals. However, for this facility, DEQ agrees that it is reasonable and acceptable to make the simplifying assumption that all chemicals are HI3 chemicals.

11. Include at least a preliminary uncertainty evaluation in Section 4.6 of the Work Plan. DEQ recognizes that additional uncertainties may be identified during the risk assessment.

Confidential or trade secret information submitted to DEQ

DEQ is requesting that you submit additional information to complete your Toxic Air Contaminant Emissions Inventory. If you think that any of that information is confidential, trade secret or otherwise exempt from disclosure, in whole or in part, you must comply with the requirements in OAR 340-214-0130 to identify this information. This includes clearly marking each page of the writing with a request for exemption from disclosure and stating the specific statutory provision under which you claim exemption. Emissions data is not exempt from disclosure.

Submittal Deadlines

Please communicate any questions or clarifications regarding the above comments proactively in order to provide timely submittals. Submit the process flow diagram(s) and revised Inventory and Work Plan no later than **August 17, 2021**.

DEQ remains available during this timeframe to discuss submittals with you and answer any questions you may have. Failure to provide additional information or corrections required by DEQ by this date may result in a violation of OAR 340-245-0030(1) and OAR 340-245-0040(1).

Please contact me directly at 503.229.5247, billings.kenzie@deq.state.or.us, and we look forward to your continued assistance with this process.

Sincerely,

Kenzie Billings Digitally signed by Kenzie Billings Date: 2021.07.15 08:51:30 -07'00'

Kenzie Billings
DEQ CAO Project Manager

Cc: Martha Cox, CSCC
Bruce Schacht, CSCC
J.R. Giska, DEQ
David Graiver, DEQ
Keith Johnson, DEQ
Thomas Rhodes, DEQ
Anzie St. Clair, DEQ