



Oregon

Tina Kotek, Governor

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August 9, 2024

Eagle Foundry Co.
PO Box 250
Eagle Creek, OR 97022-0250
Sent via email only

Jack Scott,

Eagle Foundry (Eagle) was called into the Cleaner Air Oregon (CAO) program on February 1, 2022, and submitted an Emissions Inventory (Inventory) on May 16, 2022. In accordance with Oregon Administrative Rule ([OAR 340-245-0030\(2\)](#)), DEQ issued a written request on November 8, 2022, requiring additional information and a revised Inventory to be submitted by December 29, 2022. Eagle requested extensions to complete source testing and engineering analyses to inform emissions estimates, which DEQ granted. Eagle submitted a revised Inventory on January 11, 2023, and the results of source testing on May 15, 2023, June 15, 2023, and June 16, 2023. DEQ requested additional information and revisions to the Inventory on August 11, 2023, and approved the source test data on November 20, 2023. Eagle submitted a revised Inventory on January 10, 2024, incorporating DEQ's comments and the source test data.

DEQ has reviewed the Inventory and identified additional updates that are needed before approval. In accordance with [OAR 340-245-0030\(4\)\(b\)](#), DEQ is providing Eagle with a revised deadline for submittal of a revised Inventory and the following comments:

General Comment

Alloy Composition Assumptions:

Eagle is currently proposing to estimate Toxic Air Contaminant (TAC) emissions from the "GRIND", "AIRARC", and "MF_STEEL" Toxics Emissions Units (TEUs) by applying TAC percent compositions to Particulate Matter (PM) emissions. To do this, Eagle has chosen to average the percent compositions of each TAC based on all the alloy materials processed through each of these TEUs.

DEQ is concerned that not using a production-weighted averaging approach could lead to development of permit conditions that would be challenging to comply with and could require frequent reassessment of risk and/or enforcement. For this reason, DEQ strongly urges Eagle to consider either some form of production-weighted averaging, or determine the worst-case operating scenario, for development of TAC emissions from these TEUs.

Specific Comments

Please submit the information specified below **by September 23, 2024:**

1. Slag Handling (SLAG TEU): Provide the analytical report for the "slag dust analysis conducted by Apex Laboratories in September 2023" referred to on page 7 of Eagle's January 10, 2024, letter.
2. Raw materials handling: DEQ requires additional information to determine whether these activities can be considered exempt under [OAR 340-245-0060\(3\)\(a\)](#):

03-2631 Eagle Foundry Co.

- a. Provide Safety Data Sheets (SDSs) for all raw materials handled, including:
 - i. High Carbon Ferrous Chromium (HCFerCr);
 - ii. LC FerroChrome;
 - iii. HC Ferromanganese Alloy;
 - iv. LC Ferromanganese Alloy;
 - v. Ferro Molybdenum;
 - vi. Ferro Silicon;
 - vii. Nickel;
 - viii. Aluminum;
 - ix. Silicon/Titanium;
 - x. Ferro Titanium; and
 - xi. Carbon;
 - b. Provide maximum requested annual and daily throughputs for the HCFerCr; and
 - c. Indicate whether the bunker storing the HCFerCr is a sided enclosure, and provide a photo of the bunker.
3. 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\(4\)](#), including the following updates:
- a. Grinding (TEUs GRIND_NSS_C and GRIND_SS_C): Update the emission factor for controlled emissions to use the "captured and uncontrolled" emission factor of 16 pounds per ton, following the methodology in RTI International (2012).¹ Estimated control efficiencies may be applied to the 16 pounds per ton emission factor;
 - b. Foundry Melting and Cooling (TEU MF_STEEL): include silver and compounds (CASRN 7440-22-4) using an emission factor of 1.49×10^{-5} pounds per pound metal melted, per the source test data approved November 20, 2023;
 - c. Welding (WELD TEU):
 - i. The Lincore M welding wire SDS indicates that this is a flux-cored wire which would be used in FCAW welding, but the process is reported as GMAW/MIG which uses a solid electrode – update the process and emission factor to reflect FCAW welding if flux-cored wire is used;
 - ii. Correct the annual and daily emissions estimates for vanadium (CASRN 7440-62-2) – Table 8 of the supporting calculations includes molybdenum emissions in the vanadium totals; and
 - iii. In Worksheet 2 of the AQ520, update the annual Requested Potential to Emit (RPTE) to be consistent with the emissions calculations, which assume 10,688 pounds per year of wire/rod used;
 - d. Mold Making (MOLD_BP and MOLD_SP TEUs) :
 - i. For the Coated Cerabeads and Naigai Cerabeads:
 1. Correct the annual and daily emissions estimates for aluminum and compounds (CASRN 7429-90-5) – aluminum emissions were reported using the nickel and compounds CASRN (CASRN 7440-02-0) in Table 14 and in the AQ520 for the MOLD_SP TEU;
 2. The 10 percent “amorphous silica” listed on the SDS should not be reported – only crystalline silica is listed TAC;
 3. Only the aluminum metal portion of the aluminum oxide should be reported as “aluminum and compounds” – the weight of the oxygen may be omitted from the total; and
 - ii. For the Unibond Corepaste, only the silica (SiO₂) portion of the sodium silicate should be reported as crystalline silica; and

¹ RTI International, 2012, Table 6-2, (“Default PM Emission Factors for Finishing Operations”, emission factor for “grinding, uncaptured and uncontrolled”). Available at: <https://www.rti.org/publication/emission-estimation-protocol-iron-and-steel-foundries/fulltext.pdf>

- iii. For the MOLD_SP TEU, use the AP-42 emission factor for baghouse-controlled sand handling of 0.2 pounds per ton sand handled² (instead of the emission factor for uncontrolled sand handling and an estimated control efficiency);
- e. Small Palmer (S_PALMER TEU): Update the missing references in Table 1 (“Small Palmer Molding Line (dust collected)”) and Table 13 (footnote 1) of the supporting calculations;
- f. Update the AQ520 as follows:
 - i. On Worksheet 2, include any TEUs Eagle is requesting be considered exempt under [OAR 340-245-0060\(3\)\(a\)](#) and include the word “exempt” in the TEU description. Exempt TEUs must be included in the Inventory but emissions do not need to be quantified or included on Worksheet 3. Please include:
 - 1. Scrap handling;
 - 2. High Carbon Ferrous Chromium handling;
 - 3. Raw alloy material super sack handling;
 - 4. Raw alloy materials (drums and cans) handling;
 - 5. Maintenance shop chemical usage; and
 - 6. Any diesel or other fuels storage tanks operated on-site;
 - ii. On Worksheet 2, update the daily RPTE throughput for the MESH TEU to be consistent with the emissions and the supporting calculations (3 tons per day);
 - iii. On Worksheet 2, for the WELD TEU, update the Emission Type to “Fugitive”;
 - iv. On Worksheet 3, update control efficiency and reference documentation as follows:
 - 1. indicate in column I that the HOTTOP emission factor includes the 90 percent control;
 - 2. for TEUs MOLD_BP_V, MOLD_BP_I, and MOLD_SP_CC, remove any control efficiency listed in Column E and the note “Emission factor includes baghouse control” in the "Reference/Notes" column for isopropyl alcohol (CASRN 67-63-0) and phenol (CASRN 108-95-2);
 - 3. For TEUs MOLD_BP_V, MOLD_BP_I, MOLD_BP_C, and MOLD_BP_U, update Column E to indicate the control efficiency assumed is 90 percent.
 - 4. For TEUs GRIND_SS_C, GRIND_SS_F, GRIND_NSS_C and GRIND_NSS_F, update the "Reference/Notes" column to describe the metal speciation as the greater of the March 2021 baghouse dust data and the alloy percent composition instead of the “greater of March 2021 baghouse dust analysis and source test approved on November 20, 2023”;
 - 5. For TEUs D1-1, D1-3, D1-4, update the "Reference/Notes" column to include that TAC speciation comes from the product SDS as well as baghouse dust analysis where appropriate; and
 - 6. For the SCREENING TEU, update the "Reference/Notes" column to note: "AP-42 Chapter 12.10, Table 12.10-7. Assumes value for baghouse-controlled sand handling with sand-to-metal ratio of 1.16 tons per ton";
 - v. On Worksheet 3, correct the annual and daily emission factors for TEU GRIND_SS_F – they appear to have been transposed for chromium VI (CASRN 18540-29-9), nickel (CASRN 7440-02-0), and manganese (CASRN 7439-96-5); and
 - vi. On Worksheet 3, update emission factors for the SCREENING TEU to be consistent with the supporting calculations (in units of pounds per ton metal poured).

DEQ is requesting that you submit additional information to complete your 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

² AP-42 Section 12.10, Table 12.10-7 (“Particulate Emission Factors for Ancillary Operations and Fugitive Sources at Gray Iron Foundries”)

stating the specific statutory provision under which you claim exemption. Emissions data is not exempt from disclosure.

DEQ remains available to discuss this information request with you and answer any questions you may have. Failure to provide additional information, corrections, or updates to DEQ by the deadlines above may result in a violation of [OAR 340-245-0030\(1\)](#).

If you have any questions regarding this letter please contact me directly at (503)866-9643 or julia.degagne@deq.oregon.gov, and I look forward to your continued assistance with this process.

Sincerely,

A handwritten signature in cursive script that reads "Julia DeGagné".

Julia DeGagné
Air Toxics Project Engineer

Cc: Chad Darby, Maul Foster & Alongi, Inc.
Leslie Riley, Maul Foster & Alongi, Inc.
Yuki Puram, DEQ
Josh Alexander, DEQ
J.R. Giska, DEQ
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