



# Oregon

Kate Brown, Governor

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December 13, 2022

Cascade Steel Rolling Mills, Inc.  
3200 N Hwy 99W  
McMinnville, OR 97128

Sent via email only

RE: Warning Letter with Opportunity to Correct  
Cascade Steel Rolling Mills, Inc.  
WL 2022-WLOTC-7888  
36-5034-TV-01

Daniel Lee,

Cascade Steel Rolling Mills, Inc. (CSRSM) was called into the Cleaner Air Oregon (CAO) program on February 7, 2022, and submitted an Emissions Inventory (Inventory) on May 9, 2022. In accordance with Oregon Administrative Rule ([OAR 340-245-0030\(2\)](#)), DEQ issued a written request on August 26, 2022, requiring additional information and a revised Inventory to be submitted on October 10, 2022. CSRSM requested an extension of the October 10, 2022, due date on August 31, 2022, and again on September 23, 2022. Because these extension requests did not meet the criteria set in [OAR 340-245-0030\(3\)](#), which require sources to demonstrate progress towards completing the submittal and show that a delay is necessary for good cause, DEQ did not grant any extension of the due date. DEQ met with CSRSM on October 6, 2022, to discuss completing the Inventory. CSRSM submitted information and a revised Inventory on October 10, 2022.

DEQ completed a review of the Inventory and has determined that CSRSM failed to sufficiently provide the additional information and a revised Inventory as requested in DEQ's August 26, 2022, letter. This Warning Letter with Opportunity to Correct (WLOC) cites CSRSM for violation of [OAR 340-245-0040\(1\)](#) and (4) and allows for corrective actions. The WLOC is organized into three sections: (I) responses to issues raised in CSRSM's cover letter to the Inventory submitted October 10, 2022; (II) details of the violation; and (III) corrective actions required.

## **I. Responses to Issues Raised in CSRSM's October 10, 2022 Letter**

Planned Controls for Billet Cutting: CSRSM's October 10, 2022, cover letter states that control of billet cutting at casting (TEU EU-10) by the existing BH-2 has been included in the Inventory because it is "promptly achievable." A Notice of Approval Application filed by CSRSM on October 10, 2022, indicates that installation of the pollution control device is planned for completion by June 30, 2023. DEQ has determined that credit for this control device cannot be included in the Inventory's calculation of requested potential to emit (RPTE) at this time because DEQ has not received information sufficient

to process the application, nor has CSRSM committed to an enforceable timeline ensuring the installation of the modifications leading to capture and control of the billet cutting emissions prior to the date of Inventory approval. CSRSM may revise the Inventory to include controls when the modifications are complete and in operation.

Source Testing: To determine whether source testing is required to characterize emissions for a CAO Emissions Inventory, DEQ considers multiple factors including: the adequacy of available site-specific test data; the availability of reliable test data from similar facilities; the likely impact of each Toxic Air Contaminant (TAC) on Source Risk; and the time and effort required to acquire site-specific emissions data. DEQ has required some sources to perform stack testing to develop emission estimates for the CAO emissions inventory, typically in cases where insufficient information exists to inform reasonable emissions assumptions for risk-driving processes and TAC emissions. Additionally, the CAO program endeavors to balance the collection of site-specific data with the timely completion of the CAO process. At this time, DEQ is not requiring further source testing to complete the Inventory.

DEQ appreciates that CSRSM would like to conduct further source testing, and if CSRSM chooses to collect additional site-specific, source testing data for the purpose of refining TAC emission estimates, DEQ staff are available to review and approve source test plans to ensure acceptability of the results for use in the CAO Inventory. Be aware that any and all source testing performed for the purposes of the CAO program must comply with Oregon Revised Statutes ([ORS](#) 468A.070 and [OAR 340-212-0120](#)); specifically, sources being sampled must meet the requirements of the methods specified by DEQ. If the current exhaust configuration is unable to meet these requirements, modifications may be necessary for those sampling events. Upon DEQ approval of any future source testing data, the Inventory may be updated any time throughout the CAO process to include the revised data. Please note that voluntary testing efforts will not necessarily affect CAO submittal deadlines.

Metal Particulate Matter (PM) Exemption: CSRSM has reported significant TAC emissions from TEUs EU-1 (including melt shop baghouses BH-1, BH-1A, and BH-2), EU-3 (uncontrolled melt shop emissions), EU-10 (billet cutting at casting), and EU-12 (scrap billet cutting); therefore these TEUs cannot be determined to be Exempt TEUs under [OAR 340-245-0060](#)(3) and must be included as Significant TEUs in the CAO Inventory. Portions of emissions, as has been requested for the back-half PM fraction of metal TAC emissions from these Significant TEUs, do not qualify as distinct TEUs for the purposes of the CAO program, thus cannot be considered as Exempt TEUs.

Estimation of metal TAC emissions: CSRSM has emphatically stated that using non-site-specific data to estimate emissions of metal TACs beyond those provided in the Inventory would not be sufficiently accurate, and so CSRSM does not intend to revise the submitted estimates unless it is based on site-specific source testing data. DEQ understands these concerns but has determined that additional source testing is not necessary to adequately estimate these emissions for the purposes of completing the Inventory for the following reasons: (1) the majority of emissions are expected to be filterable; and (2) CSRSM has collected site-specific emissions data for the filterable (front-half) portion of PM for the TACs and TEUs expected to contribute most significantly to health risk. DEQ encourages CSRSM to consider the following when submitting a revised Inventory: using existing emissions data from similar facilities and activities; and applying appropriate assumptions to account for fugitive emissions that may not have been captured by the site-specific testing. Estimates for risk driving metal TACs will likely become emission limits with compliance testing requirements upon issuance of a Toxic Air Contaminant Permit Addendum (TACPA).

Estimation of dioxins/furans, polychlorinated biphenyls (PCBs), and polycyclic aromatic hydrocarbons (PAHs): DEQ has provided a list of recommended emission factors for these TACs that are based on a number of recent studies, some of which are currently in use by other regulatory agencies. These data include emissions sampling results from facilities with similar scrap melting operations and emissions control configurations – i.e., emissions from electric arc furnaces (EAFs) that are captured and controlled using ventilation and baghouses. In one case, applicable emissions data is available from a source manufacturing reinforcement bar from scrap melting in an EAF with baghouse controls, which are nearly identical operations to CSRSM. CSRSM must utilize these data to provide estimates for all the TAC species listed in Attachment A, “Emission Factors for Persistent Organic Pollutants and Polycyclic Aromatic Hydrocarbons”, for the following reasons:

1. CSRSM is currently not reporting any emissions of these TACs; and
2. Representative emissions data is available for these TACs from similar facilities melting scrap metal in EAFs with baghouse controls;

As detailed above, if CSRSM elects to pursue voluntary source testing to further characterize these emissions, and upon DEQ approval of the test methods and results, the Inventory may be updated any time throughout the CAO process to include the revised data.

Permit Limits: DEQ acknowledges CSRSM’s concern that DEQ could impose non-site-specific emission factors as enforceable permit limits. DEQ will assess the level of certainty of emissions estimates when determining whether to set enforceable permit limits based on emission estimates reported in the Inventory. For example, verification testing for TACs such as dioxins/furans, PCBs, and PAHs will likely be incorporated into the TACPA upon issuance, prior to setting enforceable permit limits. In cases where emissions have largely been characterized using site-specific data (for example, metal TACs from billet cutting and the melt shop), enforceable permit limits may be set without additional verification.

Use of maximum daily average wind speed for maximum daily emissions from drop points: DEQ has requested that CSRSM update the “Max Daily – Acute” emission factor to use a representative maximum daily average wind speed for unenclosed drop points. This request is consistent with [OAR 340-245-0040\(4\)\(b\)\(B\)](#), which requires reporting of the maximum mass emitted per day from each TEU; therefore, the maximum daily average wind speed must be used. However, as CSRSM notes in the October 10, 2022, submittal, higher ambient air impacts are associated with lower wind speeds; therefore, to avoid an unreasonable risk assessment scenario, this variation in meteorological parameters may be accounted for in the dispersion modeling analysis.

Updates to gasoline dispensing facility emissions: CSRSM’s October 10, 2022 cover letter stated that CSRSM required additional time to evaluate some of the materials provided. A follow-up email from John Browning of Bridgewater Associates, on behalf of CSRSM on October 21, 2022, indicated agreement with the calculation approach outlined by DEQ. CSRSM must complete the calculations as requested.

Inclusion of TAC emissions from scrap handling and fugitive road dust: All TEUs must be included in the Inventory, regardless of whether the emissions unit is listed as a source of Hazardous Air Pollutants in the Title V permit review report (see OAR 340-245-0040). [OAR 340-245-0020\(59\)](#) defines a TEU as

“an emissions unit, or one or more individual emissions producing activities, that emit or have the potential to emit any toxic air contaminant.” CSRM indicated in its October 10, 2022, cover letter that additional study would be necessary to determine the potential for TAC emissions from these activities. DEQ recognizes that representative dust composition data is likely needed to estimate emissions and may not be readily available. CSRM must provide a sampling plan to inform emissions estimation from scrap handling and fugitive road dust, and subsequently must include these emissions in the Inventory.

Inclusion of TAC emissions from maintenance shops: CSRM’s October 10, 2022 cover letter indicated a desire to discuss DEQ’s exemption guidance further prior to completing emission estimates. CSRM must include maintenance shop emissions in the Inventory, or provide information to substantiate that specific activities should be determined to be Exempt TEUs by DEQ. DEQ staff remain available to discuss emissions estimation procedures and exemption determinations.

## II. Details of violation

This WLOC cites CSRM for violation of [OAR 340-245-0040](#)(1) and (4) and allows for corrective actions. CSRM failed to sufficiently provide the following information, as detailed in the August 26, 2022, letter issued by DEQ:

1. **Information Requirement #1.b.iv:** Update emissions to reflect existing conditions and include current, verifiable capture and control efficiencies and emission points for TEU EU-10 (uncontrolled billet cutting at casting), as it is described in the current Title V Operating Permit.
2. **Information Requirement #2.b.i:** Include emission estimate for mercury (CASRN 7439-97-6), assuming a filterable fraction equal to 0.00043 percent of total particulate matter for TEU EU-3, as listed in CSRM’s Permit Review Report (36-5034-TV-01, Page 59).
3. **Information Requirement #2.c:** Use the data set “Filter Only no Blank Subtraction” instead of the “Filter Only Reagent Blank Subtraction” from the 2019 Emissions Testing report to provide a conservative basis for the “Roof Monitor” and “Billet Cutting” TAC emission factors.
4. **Information Requirement #4.d.ii:** For the melt shop baghouse BH-1 (TEU EU-1), include an estimate of phosphorus (DEQ SEQ ID 504) emissions, for consistency with detections in the 2013 Filter Testing data.
5. **Information Requirement #5:** For melt shop fugitive emissions (TEU EU-3) and melt shop baghouses (TEU EU-1, baghouses BH-1, BH-1A, and BH-2), include emission estimates for dioxins/furans (various CASRNs); polychlorinated biphenyls (PCBs; CASRN 1336-36-3 and various CASRNs); and polycyclic aromatic hydrocarbons (PAHs; various CASRNs).
6. **Information Requirement #8.a.i:** For slag handling (TEU EU-5), update zinc (CASRN 7440-66-6) emission factors to reflect the analytical result of 160 mg/kg reported in the slag analytical report.
7. **Information Requirement #8.b:** Update the “Max Daily – Acute” emission factor to use a representative maximum daily average wind speed for unenclosed drop points.
8. **Information Requirement #10:** For the Gasoline Dispensing Facility (TEU EU-15): calculate VOC emissions from tank filling, breathing, and emptying using the methodology presented in AP-42, Section 7.1.3; calculate daily VOC working losses using the methodology from the Texas Commission on Environmental Quality (TCEQ); and include a complete set of TACs emitted from the gasoline dispensing facility.

9. **Information Requirement #11.a:** Revise the Inventory to include scrap handling (permitted emission unit EU-9) as a TEU.
10. **Information Requirement #11.c:** Revise the Inventory to include TAC emissions from maintenance shops and routine maintenance activities (including incidental welding and miscellaneous chemical usage) as a TEU.
11. **Information Requirement #11.d:** Revise the Inventory to include fugitive dust from unpaved roads (permitted emission unit EU-11) as a TEU.

Additionally, the following revised emissions or TEU data in the Inventory are incomplete and require correction or additional supporting documentation:

12. Total emissions of organic TACs from TEU EU-1 must include emissions for Baghouse 2 (BH-2) as well as Baghouse 1 (BH-1) and Baghouse 1A (BH-1A), and must include all TACs with available emissions data.
13. In the supporting calculations, the calculation of combined melt shop fugitive emissions (TEU EU-1, emission point MELTFUG) must be revised to use the uncontrolled emission factor from scrap billet cutting rather than the controlled emission factor; alternatively fugitive emissions may be calculated separately for EU-1, EU-10, and EU-12 in both supporting calculations and the AQ520.
14. In the supporting calculations, the calculation of combined melt shop fugitive emissions (TEU EU-1, emission point MELTFUG) must be corrected to sum emissions from scrap billet cutting and the melt shop using consistent units - for example, pounds per tons of steel processed; alternatively fugitive emissions may be calculated separately for EU-1, EU-10, and EU-12 in both supporting calculations and the AQ520.
15. The daily emission calculations for the roof monitor (TEU EU-3) must use the daily emission factor instead of the annual emission factor.
16. The daily fluoride (DEQ SEQ ID 239) emissions calculation for EU-1 (BH-1) must use throughput in number of baghouse bags burned instead of tons of steel produced.
17. Fluoride (DEQ SEQ ID 239) emissions from TEU EU-1 must be apportioned appropriately between baghouses BH-1, BH-1A, and BH-2.
18. Emission factors for the 7 million British Thermal Units per hour (MMBtu/hr) Electric Arc Furnace Burner must match the emission factors in the Oregon DEQ 2020 Air Toxic Emissions Inventory Combustion Emission Factor Tool, for natural gas external combustion units < 10 MMBtu/hr.
19. Additional information is needed to characterize the slag handling process.
20. Additional information is needed to substantiate fluoride (DEQ SEQ ID 239) emission factors.
21. Additional information is needed to determine the potential for TAC emissions from wastewater processes.
22. Additional details regarding emission factor references and control efficiencies are required in the AQ520 Emission Inventory form.

Based on the Inventory submitted October 10, 2022, DEQ has concluded that CSRSM is responsible for the following violation of Oregon environmental law:

**VIOLATION:**

- (1) CSRSM failed to submit a timely and complete emissions inventory as required under OAR 340-245-0040(1) and (4). Specifically, CSRSM failed to provide DEQ with the requested revisions, corrections, and additional information necessary to approve the Inventory by the date specified

in the DEQ comment letter issued on August 26, 2022, pursuant to OAR 340-245-0030(2). This is a Class II violation according to OAR 340-012-0054(2)(i).

Class I violations are the most serious violations; Class III violations are the least serious.

### III. Corrective Actions Required

By no later than February 13, 2023, CSRSM must satisfy the following Corrective Actions:

1. Submit to DEQ a revised Inventory (AQ520 form), along with all supporting calculations in Excel format, as well as all information as required under [OAR 340-245-0040\(4\)](#), including the following updates:
  - a. Roof monitor (TEU EU-3) and billet cutting (TEUs EU-10 and EU-12): use the data set “Filter Only no Blank Subtraction” instead of the “Filter Only Reagent Blank Subtraction” from the 2019 Emissions Testing report for the “Roof Monitor” and “Billet Cutting” TAC emission factors as the information provided was insufficient to support the validity of the blank corrections.
  - b. Billet cutting (TEUs EU-10 and EU-12): update emissions to reflect existing conditions and emission points for TEU EU-10, as it is currently configured.
  - c. Melt shop (TEU EU-1):
    - i. Include emission estimates for the following TACs, including any expected fugitive emissions, using emission factors listed in “Attachment A. Emission Factors for Persistent Organic Pollutants and Polycyclic Aromatic Hydrocarbons”<sup>1</sup>:
      1. Polychlorinated dibenzo-p-dioxins (PCDDs) & dibenzofurans (PCDFs) TEQ (DEQ SEQ ID 646);
      2. PCBs TEQ (DEQ SEQ ID 645);
      3. Polycyclic aromatic hydrocarbons (PAHs; DEQ SEQ ID 401)<sup>2</sup>;
      4. Benzo[a]pyrene (CASRN 50-32-8);
      5. Naphthalene (CASRN 91-20-3);
      6. Hexachlorobenzene (CASRN 118-74-1); and
      7. Polybrominated diphenyl ethers (PBDEs; DEQ SEQ ID 401);
  - d. Melt shop baghouses (TEU EU-1, baghouse BH-1):
    - i. Include emissions for phosphorus (DEQ ID 504), for consistency with detections in the 2013 Filter Testing data. Phosphorus was detected in BH-1A, sample Run #3 at 50 mg/kg;
  - e. Melt shop baghouses (TEU EU-1, baghouses BH-1, BH-1A, and BH-2):
    - i. Update fluoride (DEQ SEQ ID 239) emissions as follows:
      1. Update the daily fluoride emissions calculation for the burning of baghouse bags in BH-1 to use throughput in number of baghouse bags burned instead of tons of steel produced; and

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<sup>1</sup> Source materials and a list of references consulted in development of these emission factors is provided as Attachment B.

<sup>2</sup> Summed benzo[a]pyrene toxicity equivalents.

2. Apportion fluoride emissions from TEU EU-1 to baghouses BH-1, BH-1A, and BH-2, as appropriate.
- ii. Update organic TAC emissions estimates to:
    1. Include all TACs which have emissions information available in the “Electric Arc Furnace Baghouse Gases Emissions Test Report” (dated March 3, 1995, and provided as Attachment C);
    2. Include emissions from BH-2, accounting for additional emissions expected due to the increased collection efficiency achieved with the installation of BH-2;
    3. To satisfy requirements 1 and 2 above, emissions for BH-1, BH-1A, and BH-2 may be calculated as shown in Attachment D, using source test data for BH-1, documented baghouse flow rates, and the VOC calculation methodology used in the Title V Permit Review Report (page 27). Alternatively, justification may be provided for a different estimate.
  - iii. Update emission factors for the 7 MMBtu/hr Electric Arc Furnace burner (TEU EU-16\_ng) to match the emission factors in the “Oregon DEQ 2020 Air Toxic Emissions Inventory Combustion Emission Factor Tool” for the “Natural Gas External Combustion, emission units < 10 MMBTU/hr”.
- f. Melt shop fugitive emissions (TEU EU-1, emission point MELTFUG):
- i. In the supporting calculations, update the fugitive portion of the scrap billet cutting emissions (TEU EU-1, emission point MELTFUG) to use the uncontrolled emission factor rather than the controlled emission factor; alternatively fugitive emissions may be calculated separately for EU-1, EU-10, and EU-12 in both supporting calculations and the AQ520.
  - ii. In the supporting calculations, update the fugitive portion of the scrap billet cutting emissions (TEU EU-1, emission point MELTFUG) to correctly sum emissions from scrap billet cutting and the melt shop using consistent units (for example, pounds per tons of steel processed); alternatively fugitive emissions may be calculated separately for EU-1, EU-10, and EU-12 in both supporting calculations and the AQ520; and
  - iii. Update the daily Fluoride (DEQ SEQ ID 239) emissions calculation to use throughput in number of baghouse bags burned instead of tons of steel produced.
- g. Roof monitor (TEU EU-3):
- i. Update the daily emission calculations to use the daily emission factor instead of the annual emission factor; and
  - ii. Include emissions for mercury (CASRN 7439-97-6) as 0.00043 percent of particulate matter, as listed in CSRSM’s Permit Review Report (36-5034-TV-01, Page 59).
- h. Slag handling (TEU EU-5):
- i. Update zinc (CASRN 7440-66-6) emission factors to reflect the analytical result of 160 mg/kg listed in the slag analytical report (currently the analytical result is listed as 16 mg/kg);
  - ii. Update the “Max Daily – Acute” emission factor to use a representative maximum daily average wind speed for unenclosed drop points; and



- iii. Include emission estimates for the following TAC species, using concentrations listed in Attachment A:
      - 1. PCDDs & PCDFs TEQ (DEQ SEQ ID 646); and
      - 2. PCBs TEQ (DEQ SEQ ID 645);
  - i. Gasoline Dispensing Facility (TEU EU-15):
    - i. Calculate VOC emissions from tank filling, breathing, and emptying using the methodology presented in AP-42, Section 7.1.3;
    - ii. Calculate daily VOC working losses using the attached methodology from the TCEQ (provided with DEQ's August 26, 2022 letter) - assume maximum daily emissions are equal to maximum hourly emissions multiplied by the maximum hours of tank filling. Provide justification for the worst-case liquid temperature used, or assume the TCEQ default of 95 degrees F; and
    - iii. Include a complete set of TACs emitted from the gasoline dispensing facility - in the absence of site-specific gasoline composition data, the TAC speciation provided with DEQ's August 26, 2022 letter may be used.
  - j. Include estimated emissions from scrap handling and unpaved roads:
    - i. Use established methodologies to determine PM emissions and site-specific dust sampling analysis to speciate TACs for the following TEUs:
      - 1. Scrap handling (permitted emission unit EU-9); and
      - 2. Fugitive dust from unpaved roads (permitted emission unit EU-11); and
    - ii. The dust sampling plan must be approved by DEQ prior to sampling and should include, at a minimum, heavy metal TACs, fluorides, PCDD/PCDFs, and PCBs.
  - k. Revise the Inventory to include emissions from maintenance shops and routine maintenance activities (including incidental welding and miscellaneous chemical usage), or provide justification for exemption per [OAR 340-245-0060\(3\)\(a\)](#).
  - l. Revise the AQ520 as follows:
    - i. Update the "Reference/Notes" column in Tab 3 to fully specify the source of the emission factor for each TEU and TAC (for example, AP-42, WebFire, specific source tests, etc.) and any related notes (for example, control efficiency references); and
    - ii. Update the "Control Efficiency" column in Tab 3 to specify the total combined control efficiency for each pollutant from the specified TEU and TAC, when the control efficiency is known or estimated.
- 2. Please provide the following additional documentation to support the emissions inventory:
  - a. For all raw materials used, including but not limited to the slag oxidizing agent and molten metal additives:
    - i. Safety Data Sheets; and
    - ii. Estimated maximum annual and daily usage rates;
  - b. Substantiation for emissions of fluorides (DEQ SEQ ID 239), including testing data used in the development of permitted emission factors, as well as an explanation of why the emission factor listed in AP-42, Section 12.5.1, Table 5-9 (0.059 pounds per ton steel produced) is not representative of emissions from the EAF and melt shop;
  - c. A detailed description of the wastewater system, including a process flow diagram, characterization of wastewater including available analytical data, and a description of each process unit and wastewater point of use;
  - d. A detailed description of the slag wetting process, including:



- i. Location;
  - ii. Whether process is batch or continuous;
  - iii. Approximate temperature of slag;
  - iv. Source of water used and method of wetting; and
  - v. Amount of water applied, per ton slag handled; and
- e. Description of process assumptions used to determine the 90% effectiveness factor for oxidation of hydrogen sulfide from the data reported in Rehmus et al, 1973<sup>3</sup>.

The updated Inventory, supporting calculations, and all supporting documentation should be sent to [julia.degagne@deq.oregon.gov](mailto:julia.degagne@deq.oregon.gov).

DEQ is issuing this Warning Letter with Opportunity to Correct because the violation cited by DEQ reflects CSRSM's failure to provide the required emissions data and supporting information for all regulated TAC emissions in its Inventory. The CAO program's purpose is to assess and limit public health risk from TAC emissions from industrial and commercial facilities. CSRSM was designated as a priority ("Group 1") facility for CAO in 2019, based on available emissions information and the resulting potential risk to public health. Of particular concern are metal TACs emitted by the steel production processes at CSRSM. Hexavalent chromium, arsenic, nickel, and cadmium are regulated for their cancer-causing potential and potential to cause acute and chronic noncancer health effects. Manganese, lead, and other metal TACs are regulated for their noncancer health risk potential. Due to the potential health risks, particularly acute risk associated with TACs such as manganese and lead, DEQ is committed to moving CSRSM through the CAO process expeditiously.

Should this violation remain uncorrected, this matter may be referred to DEQ's Office of Compliance and Enforcement for formal enforcement action, including assessment of civil penalties and/or a Department order. Civil penalties may be assessed for each day of violation. Further, pursuant to [OAR 340-245-0030\(4\)\(a\)](#), DEQ may modify the information that has been submitted and provide CSRSM with a final approved Emissions Inventory for use in completing the CAO process.

If you believe any of the facts in this Warning Letter are in error, you may provide information to me at [julia.degagne@deq.oregon.gov](mailto:julia.degagne@deq.oregon.gov). DEQ will consider new information you submit and take appropriate action.

DEQ endeavors to assist you in your compliance efforts. Should you have any questions about compliance or about the content of this letter, you may contact me at (503) 866-9643 or the email address listed above.

Sincerely,



Julia DeGagné  
Air Toxics Project Manager

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<sup>3</sup> F.H Rehmus, D.P. Manka & E.A. Upton, "Control of H<sub>2</sub>S Emission During Slag Quenching", Journal of the Air Pollution Control Association, 23:10, 1973.)

Enc: Attachment A, Emission Factors for Persistent Organic Pollutants and Polycyclic Aromatic Hydrocarbons  
Attachment B, Emission Factor Details and References  
Attachment C, Emissions Test Report for CSRSM Electric Arc Furnace Baghouse  
Attachment D. Recommended Organic TAC Emission Factors for EU-1

Cc: Jim Spahr, CSRSM  
Brian Lewallen, CSRSM  
Stanley N. Alpert, CSRSM  
Tom Wood, Stoel Rives  
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File