



# Oregon

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Orchid Orthopedic Solutions Oregon, Inc.  
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*Sent electronically only*

Nathan Holwege,

DEQ called in Orthopedic Solutions Oregon, Inc. (Orchid) in Oregon City, OR to the Cleaner Air Oregon (CAO) program on June 27, 2024. DEQ received the submittal of the CAO Emissions Inventory (Inventory) for Orchid on November 22, 2024 (Your DEQ Online Submittal ID 65714). In accordance with [Oregon Administrative Rule \(OAR\) 340-245-0030\(2\)](#), DEQ issued a written request on March 18, 2025, requiring additional information and a revised Inventory to be submitted by May 19, 2025. Orchid requested an extension to DEQ's deadline. Orchid submitted supporting information on May 15, May 16, and May 23, 2025. Orchid submitted additional supporting information and the revised Inventory on June 17, 2025. In accordance with [OAR 340-245-0030\(4\)\(b\)](#), DEQ issued a written request on December 8, 2025, requiring additional information and a revised Inventory to be submitted by February 6, 2026. Orchid submitted supporting information on January 6 and January 12, 2026; additional supporting information and the revised Inventory were submitted on February 6, 2026.

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 Orchid with a revised deadline for submittal of a revised Inventory. Please submit the information specified below by **60 days** after the issuance date of this letter, or **June 15, 2026**.

## General Comments

1. **Capacity:** Per [OAR 340-245-0040\(4\)\(a\)\(B\)\(i\)\(III\)](#), existing sources are only required to submit potential annual and maximum daily production activities and usage based on capacity if the source chooses to be permitted as a de minimis source. Based on information presented in the Inventory, the activity and usage data presented as "Capacity" does not meet the definition of such under [OAR 340-200-0020\(20\)](#). DEQ has addressed required updates to the Inventory in the proceeding "Specific Comments" section.
1. **Capture Efficiency for Foundry Emissions:** Evren NW, on behalf of Orchid, conducted a smoke study on December 8, 2025, to investigate potential ventilation routes for fugitive emissions from casting operations (inclusive of emissions from melting, charging & tapping, pouring, and cooling) at Orchid. The results were submitted to DEQ on January 6 and January 12, 2026. The images captured during this study demonstrate inward flow of smoke at two of the individual roof vents located in the same building area where casting activities occur. Orchid is proposing that the results of this study fully support 100 percent capture of these emissions and subsequent control of these emissions by baghouses DC1, DC2, and DC3. These units control particulate matter (PM) emissions from Gate Grinding, Sandblast, Cutting, Knock Out, and Cutoff activities which are in rooms connected to the Casting area via roll-up doors.

At this time DEQ will not approve 100 percent capture without further substantiation. Despite the

inward flow demonstrated at the two roof vents, there are multiple other routes for fugitive emissions to be released from in the area that were not addressed in the study, including:

- a. Openings in the ventilation stack from four (4) pre-heat ovens that can draw air from the casting area; and
- b. Ventilation through doorways after cessation of casting operations. Orchid has indicated that man doors and bay doors near casting operations are only kept closed during active casting activities.

Orchid has provided anecdotal evidence that indicates that baghouses DC1-DC3 pull enough air from these rooms that additional makeup air from the general building area is required to relieve the negative pressure. However, it has not been demonstrated through this smoke study that the air flow to these baghouses provides adequate air turnover in the casting area to be considered full capture of emissions from these processes and negate the other potential ventilation pathways.

Based on the information provided, DEQ will approve a capture efficiency of 50 percent for the emissions from the casting area. DEQ has addressed required updates to the Inventory in the proceeding "Specific Comments" section.

If Orchid would like to pursue additional testing or analysis of the building ventilation to support a higher capture efficiency of casting operations emissions, please consult DEQ prior to initiating the work. This will ensure DEQ has adequate time to evaluate the proposed testing methodology to determine if it is appropriate for a capture efficiency demonstration. Alternatively, as discussed in previous meetings, another option available for Orchid to demonstrate a higher capture efficiency, would be to install direct ventilation of the casting operations through an overhead hood or alternate engineered ventilation design to be routed directly to one of the pre-existing baghouses DC1-DC3.

### Specific Comments

1. **Process Flow Diagram:** Submit to DEQ a revised process flow diagram (PFD) to address the following comments.
  - a. Update the emissions type for the Casting TEUs (F-75 CAST and 17-4 CAST) to be consistent with the revised Inventory. These TEUs are noted as "fugitive" emissions in the PFD.
  - b. Include the F-75 SANDBLAST TEU and 17-4 SANDBLAST TEU activities which are collected at DC6. The PFD only includes emissions from these TEUs which vent to DC3 and DC4.
2. Review of information in Orchid's 2025 Annual Report submitted to DEQ on February 12, 2026, indicates that the facility replaced pollution control devices DC1, DC2, and DC3 in April 2025. Submit manufacturer filter specifications for these new units.
3. **Revised Inventory:** Submit to DEQ a revised AQ520 Inventory Form, 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. Per General Comment 1, Orchid should omit potential annual and maximum daily production activities and usage based on capacity unless the numbers presented represent the actual capacity. Only sources seeking to prove they are de minimis are required to assess risk at capacity.
  - b. Casting TEUs (F-75 CAST and 17-4 CAST): Per General Comment 2, DEQ will not accept the assumption of full capture of casting operations emissions (inclusive of emissions from melting, charging & tapping, pouring, and cooling) by control devices

- DC1, DC2, and DC3. The justification provided is inadequate to support such a high degree of capture for emissions generated from casting activities. Based on information presented to date, DEQ will approve up to 50 percent capture of casting operations emissions by the baghouses.
- c. 17-4 SANDBLAST TEU: Update the TEU Description on Worksheet 2 to more accurately reflect activities at this TEU. The Inventory describes this TEU as emissions from grinding activities.
  - d. F-75 Alloy TEUs: Update the reference for nickel and compounds (CASRN 7440-02-0) on Worksheet 3 for the following TEUs. Nickel content of alloy noted differs from that in the material's specifications.
    - i. F-75 CAST;
    - ii. F-75 CUT;
    - iii. F-75 GRIND; and
    - iv. F-75 SANDBLAST.

DEQ requests 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 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\(4\)\(b\)](#).

If you have any questions regarding this letter please contact me directly at (971) 300-3653 or [amy.devita-mcbride@deq.oregon.gov](mailto:amy.devita-mcbride@deq.oregon.gov). I look forward to your continued assistance with this process.

Sincerely,

*Amy DeVita-McBride*

Amy DeVita-McBride  
Cleaner Air Oregon Project Engineer

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