



Oregon

Kate Brown, Governor

Department of Environmental Quality
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June 24, 2021

Ricci Keller
EcoLube Recovery
11535 N Force Ave.
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Ms. Keller,

DEQ received the Cleaner Air Oregon (CAO) Air Toxics Emissions Inventory Form AQ405CAO (Inventory) for the EcoLube Recovery (EcoLube) facility in Portland, OR dated December 9, 2020. Following receipt of the Emissions Inventory (Inventory), DEQ met with EcoLube to discuss submitted materials on February 11, 2021, March 19, 2021, and April 7, 2021. Pursuant to OAR 340-245-0030(2), DEQ determined that additional information is required for DEQ to approve your Inventory. DEQ requires EcoLube to conduct source testing on the regenerative thermal oxidizer (RTO), pursuant to OAR 340-212-0120, in order to provide a complete and approvable Inventory for the purposes of the CAO program under OAR 340-245-0040(1). Additionally, DEQ has the following comments on the Inventory:

I. Specific Comments

1. Please revise the Emissions Inventory to include the following:
 - a. Actual production data for both activity levels and resulting emissions estimates for the 2019 calendar year in accordance with OAR 340-245-0040(3)(a)(B)(i) & (b)(B)(i).
 - b. Emission type (e.g. point or fugitive) for each TEU ID listed in Tab 2. Emissions Units & Activities.
2. Please provide written explanation of why hourly activity levels and emission rates were used in the Emissions Inventory as opposed to pounds per volume of fuel combusted (e.g., lb/1000 gal).
3. Please provide supporting information (e.g., engineering testing, source testing, parametric monitoring) to verify the assumption that no sulfur trioxide is emitted from the RTO.
4. Emission Factor References (A table summarizing DEQ's acceptance or rejection of proposed RTO emission factors is provided as an appendix to this letter):
 - a. **January 2020 source test (metals and phosphorus):** DEQ approves the use of source testing data from EcoLube's January 2020 testing event to characterize metals and phosphorus emissions from the RTO.
 - b. **Emissions Estimation Protocol for Petroleum Refineries, Version 3, Appendix D—Emission Factors for Combustion Sources, Table D-9a. Summary of Data for Emission Factor Development – Heaters Firing Fuel Oil:** DEQ does not approve the use of these data for developing emission estimates for dibenzo-p-dioxins/furans (PCDD/Fs) and polycyclic aromatic hydrocarbon (PAH) emissions associated with distillate combustion emissions from the onsite heater (HTR-3) for the following reasons:
 - i. These data were generated from a single source testing event;
 - ii. Dissimilar process (HTR-3 exhaust is routed to an RTO, which will affect the emissions profile);
 - iii. No emission factors are provided for potential polychlorinated biphenyl (PCB)

- emissions;
- iv. Uncertainty regarding RTO operating temperature; and
- v. Feedstock variability.
- c. **SCAQMD Reporting Procedures for AB2588 Facilities Reporting their Quadrennial Air Toxic Emission Inventory in the Annual Emission Reporting Program, Appendix B, Table B-2:** DEQ accepts the use of this emission factor to estimate hydrochloric acid emissions from the RTO.
- d. **Emissions Estimation Protocol for Petroleum Refineries, Version 3, Appendix D—Emission Factors for Combustion Sources, Table D-11a. Summary of Data for Emission Factor Development – Heaters Firing Refinery Fuel Gas:** DEQ does not consider these data to be representative of EcoLube’s PCDD/F and PAH emissions associated with refinery gas combusted in HTR-3 that are then routed through the RTO. DEQ does not approve use of these emissions data to characterize the aforementioned toxic air contaminants (TACs) due to the reasons listed in (3)(b), above.
- e. **SCAQMD Reporting Procedures for AB2588 Facilities Reporting their Quadrennial Air Toxic Emission Inventory in the Annual Emission Reporting Program, Appendix B, Table B-1:**
 - i. DEQ accepts the use of the following emission factors to characterize natural gas combustion from the RTO: acrolein, benzene, formaldehyde, acetaldehyde, ethylbenzene, hexane, toluene, xylenes, ammonia, and zinc.
 - ii. DEQ does not approve the use of this resource to characterize PAH emissions from the natural gas combustion in the RTO due to the reasons listed in item (3)(b) above, excluding feedstock variability. Regarding the PAH emissions from the natural gas combustion in the RTO, if EcoLube wants to differentiate these emissions from the source testing results for PAH emissions from the RTO [OAR 340-245-0050(5)(c)], then DEQ requires that the PAH emissions from natural gas combustion be reported as individual PAH compounds.
- 5. Carbon system samples were collected on December 18, 2008 and analyzed for sulfur compounds and volatile organic compounds, including carbon disulfide, using EPA Method 15/16 and EPA Method TO-15, respectively. Please use the average carbon disulfide value provided in these two analytical reports in your revised Emissions Inventory.

II. Source Testing

Pursuant to ORS 468A.070 and OAR 340-212-0120(1)(a), DEQ requires EcoLube to test the outlet emissions from the RTO by December 31, 2021 as follows:

1. The following sampling methods must be performed:
 - a. EPA Method 23 must be used to sample for the following TACs listed in OAR 340-245-8020 Table 2. Please use the Proposed EPA Method 23 Revisions provided in the Revised EPA Method 23, attached.
 - i. Each dioxin and furan congener, as well as totals for each class of congeners (e.g., Total tetrachlorodibenzo-p-dioxins, Total hexachlorodibenzofurans).
 - ii. Each PCB congener.
 - iii. Each PAH and PAH-derivative.
 - iv. Chlorobenzene and chlorophenol.
2. Consistent with section 2.3 of the [DEQ Source Sampling Manual](#), EcoLube must provide the source test plan to DEQ at least 30 days before conducting the source test. Please review sections 2.7 and 2.8 of the sampling manual when proposing a minimum sample volumes for each test method. Please consult with DEQ prior to submittal of the test plan if you have any concerns regarding sample volumes and/or analytical detection limits.

3. Source test results are due to DEQ within 60 days after the test is completed and must include the information required in Appendix A of the Source Sampling Manual.

Confidential or trade secret information submitted to DEQ

DEQ is requesting that you submit the above 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. Your submittal due dates are summarized below:

1. Conduct source testing of the RTO, analyzing for TACs as specified above by **December 31, 2021**.
2. The source test plan is due to DEQ **30 days** before the test.
3. The source test results are due to DEQ **60 days** after completing the test.
4. Submit your revised Inventory to DEQ no later than **30 days** after receiving DEQ approval of the source test results.

DEQ remains available during this timeframe to discuss the submittal 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).

DEQ acknowledges the challenges in establishing an accurate inventory for this facility. Filling these data gaps is a high priority for further work, and having an accurate representation of current and potential future emissions at this facility will allow DEQ to approve the final risk assessment.

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, P.E.
DEQ CAO Project Manager

Enclosure: RTO Emission Factor Review

Cc: Eric Spencer, EcoLube Recovery
Drew Lane, EcoLube Recover
John Browning, Bridgewater Group

Joshua Alexander, DEQ
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