



Oregon

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May 7, 2024

Jacob Neal
Portland General Electric Company
121 SW Salmon Street
Portland, OR 97204

via electronic delivery (email)

**Re: DEQ Comments on Willamette River Study Area Reports
ECSI# 5249**

Dear Jacob Neal:

The Oregon Department of Environmental Quality (DEQ) reviewed the following Willamette River Study Area Reports:

- *River Mile 13.5 Year 7 Isolation Cap Inspection Report*¹
- *River Mile 13.1 Year 5 Isolation Cap Inspection Report*²
- *River Mile 13.1 IMMP 2023 Surface Sediment Characterization Field Report*³

AECOM prepared these reports on behalf of Portland General Electric Company (PGE) in accordance with the *River Mile 13.5 and 13.1 Cap Inspection, Monitoring, and Maintenance Plan*⁴ (IMMP).

In addition to the review comments provided herein, DEQ requests that PGE amend the IMMP definition for a significant seismic event for the River Mile 13.5 and 13.1 sediment caps. The IMMP defines a significant seismic event as an earthquake greater than magnitude 6. As we communicated in our recent correspondence⁵ related to cap monitoring at the Station L site (ECSI 0151), the methods for measuring or determining whether a magnitude 6 earthquake has occurred are not clearly established. DEQ requests that PGE adopt the following definition for a significant local seismic event: A 72-year earthquake (50% chance of exceedance in 50 years), which corresponds with a measured peak ground acceleration of 0.044 g recorded at National Strong Motion Project [NSMP] Station 2172⁶. If desired, PGE may calculate a site-specific peak ground acceleration value representative of the 72-year earthquake (50% chance of exceedance in 50 years) with the U.S. Geological Survey (USGS) Unified Hazard Tool⁷ using the Dynamic Conterminous U.S. 2014 edition and site-specific subsurface data.

¹ AECOM. 2024. River Mile 13.5 Year 7 Cap Inspection Report. Prepared for Portland General Electric Company. February 9.

² AECOM. 2024. River Mile 13.1 Year 5 Cap Inspection Report. Prepared for Portland General Electric Company. February 28.

³ AECOM. 2024. River Mile 13.1 IMMP 2023 Surface Sediment Characterization Field Report. Prepared for Portland General Electric Company. February 28.

⁴ AECOM. 2018. River Mile 13.5 and 13.1 Cap Inspection, Monitoring, and Maintenance Plan. Prepared for Portland General Electric Company. June 22.

⁵ DEQ. 2024. Letter to Jacob Neal (Portland General Electric Company). Regarding: 2021 Station L Cap Monitoring Report, ECSI# 151. April 18.

⁶ NSMP Station 2172 (<https://earthquake.usgs.gov/monitoring/nsmp/stations.php>) is located at Portland State University Cramer Hall (1721 SW Broadway, Portland, Oregon 97201)

⁷ <https://earthquake.usgs.gov/hazards/interactive/>

Our comments on the Willamette River Study Area Reports are provided below, separated by report. Please revise the reports to address our comments.

River Mile 13.5 Year 7 Isolation Cap Inspection Report Comments

- 1) **Evaluation of the Results.** DEQ has the following comments:
 - a) This section discusses portions of the cap with a thickness less than the design minimum. The text indicates that “the majority” of these areas are “just” under the 2.63-foot minimum thickness, although one location has less than 2 feet of cap thickness. As shown on Figure 3, a portion of the isolation cap is approximately 0.5-foot thick (less than 20% of the design minimum). Please revise the text to provide a more quantitative description of areas with cap thicknesses less than the design minimum. We recommend a table that identifies the approximate area of cap with a thickness between the following ranges: 2.5-2.63 ft, 2-2.5 ft, 1.5-2 ft, 1-1.5 ft, 0.5-1 ft. In addition, please create a figure showing (or identify in an existing figure) the areas where cap thickness is less than the design minimum.
 - b) The last paragraph of this section states that even though the cap thickness is less than the design minimum of 2.63 ft, the isolation layer thickness was designed to be protective for a minimum of 100 years. The cap thickness in one area is less than 20% of the design minimum, suggesting that the performance life within that area could be significantly shorter than 100 years. DEQ requests additional lines of evidence to support the conclusions about protectiveness in areas that have experienced significant loss of cap material. These lines of evidence should include discussion of the contaminant of concern concentrations in the samples nearest the apparent erosion.

River Mile 13.1 Year 5 Isolation Cap Inspection Report Comments

- 1) **Table 1, Post Construction Inspections and Appendix B.** The river elevation at the Morrison Bridge Gage⁸ on August 9, 2023 at 12:50 pm is 2.95 feet, or 7.97 feet North American Vertical Datum of 1988 (NAVD 88).
- 2) **Year 5 Isolation Cap Inspection Activities, Visual Shoreline Monitoring and Inspection.** DEQ has the following comments:
 - a) As noted above, the water level at the time of the inspection was 7.97 feet NAVD 88, which is approximately 3 feet higher than the IMMP requirement.
 - b) The last paragraph states that no damage to the cap from debris or human activity was observed during the visual inspection. DEQ clarifies that during the inspection, DEQ and PGE observed a small fire pit created within the armor stone in one location. Based on our observation, the fire pit did not pose a threat to cap integrity, but we request that the report note its presence.
- 3) **Evaluation of the Results, Physical Conditions.** The last bullet of this section discusses cap areas where the isolation material includes carbon amendments. Since the portion of the cap with carbon amended sand has different thickness requirements compared to the CETCO mat (24 inches versus 12 inches, respectively), DEQ requests that the report discuss these two areas separately.

⁸ USGS Station 14211720 (<https://waterdata.usgs.gov/monitoring-location/14211720/>) is located at the Morrison Bridge.

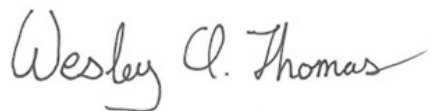
- 4) **Figures 5 and 6.** DEQ has the following comments:
 - a) Please include a representative cross section parallel with the shoreline that follows the approximate boundary between the shoreline armor and cap body armor.
 - b) Please identify the location of Outfall 33.
- 5) **Figure 12.** DEQ recommends adding a note to the figure that areas within the “emergency fill area” consist of between 2 and 16 feet of clean sand overlain by the cap, and the additional clean sand is not included in the cap thickness analysis.
- 6) **Figure 13.** Please revise the callout to clarify that the lowest cap thickness is 0.4 foot, and not 0.04 foot or 0 foot.

River Mile 13.1 IMMP 2023 Surface Sediment Characterization Field Report Comments

- 1) **General.** DEQ has the following general comments regarding the surface weighted average concentration (SWAC) calculation methodology:
 - a) Please list the areas assigned to each of the four characterization areas (S-100 through S-400).
 - b) Please clarify if/how the 2010 historical Thiessen polygons were used to calculate the 2023 SWACs. If the historical polygons were not used to calculate the 2023 SWACs, please remove them from Figures 2a through 2f.
 - c) Please include backup worksheets for the SWAC calculations in an Appendix.
- 2) **Table 3, Sediment Sample Results Compared to Screening Criteria and Reference Values.** Clarify whether the SS-100 and SS-500 samples (i.e., duplicates) were averaged before calculating the overall average concentration.

We appreciate PGE’s efforts to monitor and maintain the River Mile 13.1 and 13.5 sediment caps. Please do not hesitate to contact me at (971) 263-8822 or Wesley.Thomas@deq.oregon.gov if you have questions regarding this letter.

Sincerely,



Wesley A. Thomas, PE
Project Manager
NWR Cleanup Section

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ECSI No. 5249 File