



REGION 10
SEATTLE, WA 98101

June 11, 2026

MEMORANDUM

SUBJECT: Comments on Multiple Source Control Submittals
Arkema Facility, Portland, Oregon
ECSI # 389

FROM: Laura Hanna, RG, Remedial Project Manager 
Superfund and Emergency Management Division, EPA

TO: Katie Daugherty, Project Manager
NWR Cleanup, Oregon Department of Environmental Quality

The following are the U.S. Environmental Protection Agency's (EPA's) comments on the three groundwater pathway evaluation documents titled *Interim Remedial Action Measure 1 Performance Monitoring Evaluation Memorandum* (PME; dated March 31, 2026), *Updated Groundwater Source Control Measure Monitoring Evaluation Memorandum* (Updated GW SCME; dated March 31, 2026), and *Arkema Quarter 4, 2025, Groundwater Monitoring Report* (GMR; dated April 2, 2026). The three groundwater pathway documents were prepared by Environmental Resources Management, INC (ERM) for the Arkema Facility (Arkema). Arkema is located at 6400 NW Front Ave in Portland, Oregon and listed as Environmental Cleanup Site Information (ECSI) #389. The site is located along the Willamette River upland of the River Mile 7 West A (RM7Wa) remedial design project area within the Portland Harbor Superfund Site (PHSS).

EPA's comments are high level as the three groundwater pathway evaluation deliverables do not include information/evaluations that address prior EPA source control comment¹ submitted to DEQ and the Arkema Group pertinent to understanding changes to groundwater gradients, flow direction and contaminant flux resulting from the ISS (IRAM 1) construction. EPA continues to recommend these pre-planning evaluations are needed. EPA's overall objective is to ensure that IRAM-related uncertainties do not impede remedial design (RD) progress, and that groundwater impacts are evaluated in a timely, proactive manner. EPA's comments pertinent to this objective are provided

¹ Comment include EPA Primary Comment 2 (dated March 5, 2026) on the *In Situ Stabilization Final Design Report* (dated February 13, 2026).

below and categorized as “Primary,” which identify concerns that must be resolved to achieve the objective.

Primary Comments

1. Performance monitoring framework needs clearer goals and metrics

Arkema should develop well-defined, quantitative remediation objectives tied to contaminant thresholds, which limits the ability to evaluate progress toward cleanup goals. Establishing measurable targets (e.g., relative to cleanup levels or target capture zone objectives) and incorporating metrics such as mass flux would significantly improve the ability to assess remedy effectiveness and forecast timelines to achieve success.

2. Monitoring program would benefit from a more comprehensive, adaptive approach

While groundwater concentration trends are being evaluated, the program could be strengthened by incorporating additional lines of evidence (e.g., geochemical and biological data) and using results to adapt monitoring strategies over time. A more integrated, stepwise framework would better support evaluation of plume attenuation, regulatory compliance, and long-term system performance. The Siltronic Enhanced In Situ Bioremediation Performance Monitoring Program Progress Report 2025 Update (MFA, 2025) is an example of how evaluating performance of an upland groundwater remedy should be planned out, implemented, and reported.

3. Follow-Up IRAM #1 Evaluation (Post-Construction): EPA acknowledges and appreciates that the post-construction evaluation in the PME will include groundwater contaminants of concern (COC) concentration time series plots, and an assessment of groundwater elevations and groundwater flow direction in the IRAM 1 PME well network. EPA recommends revising the post-construction evaluation to include additional specifics such as groundwater flow directions will include both horizontal and vertical directions, estimate reduction of groundwater contaminant flux post IRAM 1 construction for all pertinent COCs, and what corrective action conditions may apply if the ISS causes impacts. The statistical screening approach presented in the Updated GW SCME could be incorporated into the PME to support evaluating IRAM #1 effectiveness.

References

2025. Maul Foster & Alongi (MFA). Enhanced In Situ Bioremediation Performance Monitoring Program Progress Report 2025 Update. Prepared for Siltronic Corporation. December 24.

cc: David Lacey, DEQ
Katie Young, CDM Smith
Scott Coffey, CDM Smith