



April 19, 2023

Feedback Submitted Electronically to: HLW_AOA@rl.gov

Attn: Jennifer Colborn
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To Whom It May Concern,

Hanford Challenge and Columbia Riverkeeper appreciate the opportunity to submit feedback on Hanford Nuclear Site's high-level waste treatment Analysis of Alternatives (HLW AoA). The safe and effective treatment of Hanford's high-level tank waste is essential to the protection of human health and the environment.

Hanford Challenge is an independent 501(c)(3) non-profit, public interest, environmental, and worker advocacy organization incorporated in the States of Washington and Oregon with a mission to create a future for the Hanford Nuclear Site that secures human health and safety, advances accountability, and promotes a sustainable environmental legacy. Hanford Challenge includes members who work at Hanford Nuclear Site; who work, live, and/or recreate near the site; and who are affected by conditions that endanger human health and the environment. Each member has a strong interest in ensuring the safe and effective cleanup of the nation's most toxic nuclear site for current and future generations.

Columbia Riverkeeper is a 501(c)(3) nonprofit organization with a mission to protect and restore the Columbia River, from its headwaters to the Pacific Ocean. Since 1989, Riverkeeper and its predecessor organizations have played an active role in educating the public about Hanford, increasing public participation in cleanup decisions, and monitoring and improving cleanup activities at Hanford. Columbia Riverkeeper and its 16,000 members in Oregon and Washington have a strong interest in protecting the Columbia River, people, fish, and wildlife from contamination at Hanford, including pollution originating in Hanford's tank farms.

Thank you for considering the following comments:

Improve Public Accessibility. Public accessibility to engage in meaningful comment is vital for Hanford cleanup. The added burdens to accessing information is an issue that must be addressed at all stages of public involvement. We ask for an improved feedback process that focuses on public accessibility and ensures information is presented to the public for comment in a manner that is easily understandable. Specifically:

- We appreciate the Washington Department of Ecology accepting our request for a meeting to bring questions about the HLW AoA. The insight provided was helpful.
- Even with our experience reviewing technical Hanford documents, the overall format and the qualitative nature of the scoring with unconstrained and constrained funding was difficult to follow. Reducing this difficulty would not only increase public accessibility, but also site accountability and trust. For example:
 - The confusing use of superscript throughout the HLW AoA documents for presumably citing the footnotes out of order.¹
 - It is unclear how Alternative 17 is viable per the constrained funding scenario² given Hanford's history of exceeding high-end costs/funding and the fact that an exact end date for Alternative 17 cannot be determined and is projected to require more than 134 years to accomplish.³
 - Although we understand that HLW AoA is not a 'decision-making document,' we also recognize that it will be used to influence and inform decision-making. As such, providing the public with a clear explanation of the scoring and its purpose is critical to public understanding and involvement in the feedback process.
- We suggest providing links to all documents incorporated by reference⁴ or generally applicable⁵ to increase public accessibility and understanding. We have found that these documents are often difficult or impossible to access online. Removing this barrier to public accessibility by providing links could be a simple solution to this issue.
- Finally, we suggest providing the public with a key on 'how to review for feedback' to increase public accessibility. Each key should set the commenter up to easily begin their review with key information written with a primary focus on public understanding, which

¹ See, e.g., compare supertext both citing footnote 33 pages apart: [High Level Waste Analysis of Alternatives \(HLW AoA\) Addendum 1](#) at A-51, "(CDR)³³" compared to [HLW AoA Addendum 1](#) at A-56, "2012³³."

² [HLW AoA](#) at 50, "If the high-end cost ranges are realized, all alternatives except for Alternative 17 would become non-viable due to funding constraints."

³ [HLW AoA](#) at 98, "Because of the limited LAW processing capability and the resultant limitation on DST space availability, the tank waste treatment mission takes over 134 years to complete (beyond year 2168). An exact date cannot be determined, or extrapolated, due to model capability limitations. "

⁴ See, e.g., [HLW AoA](#) at 67, "Additional information on the waste forms and the containers to be disposed of in the IDF are provided in the IDF Performance Assessment (PA)¹." Reference 't' cites RPP-RPT-59958, 2019, Performance Assessment for the Integrated Disposal Facility, Hanford Site, Washington, Rev. 1A, Washington River Protection Solutions, LLC, Richland, Washington. (We were able to locate a 2018 version of this document online, but not the 2019 version cited here.)

⁵ See, e.g., [HLW AoA](#) at xiii footnote 3, "Alternatives 1 and 5 fail to complete the HLW treatment mission due to insufficient annual funding. See Section 8 and Appendix E[;]" and [HLW AoA](#) at 9 "During this review, Alternative 9 was determined to be non-viable from a cost perspective since it would require completing the PT Facility and construction of a new HFPF in parallel. Given the cost constraints on the ORP budget, completion of both projects would significantly delay the start of HLW treatment." (Without reference or access to the DOE's cost classification system, funding constraints stated throughout the HLW AoA are unclear and lead one to question: What is sufficient annual funding? What is the non-viable cost amount and how is this determined?).

should include at minimum the purpose of the AoA, a summary of the findings, and an explanation of the next steps in the AoA process.

IDF Waste Stream Uncertainty. The future use of Integrated Disposal Facility (IDF) includes important unknown factors. A concern we have consistently raised is the uncertainty about what contaminants will end up in IDF that could then end up in the leachate collection system (LCS). Given that the HLW AoA is a tool used to review the various options for treating HLW, we expected it to address or at least acknowledge the uncertainty and potential issues.

- We ask for clarity regarding a key assumption that “[Low Activity Waste] that is immobilized by grouting can be disposed of at IDF.”⁶
 - Does this mean that it is assumed that the grouted LAW (1) contains contaminants accepted for disposal at IDF; (2) bounds contaminants, thus is accepted for disposal at IDF; or (3) will be accepted for disposal at IDF for some other reason?
 - Do the Alternatives relying on this assumption include consideration of the variety of unknown factors surrounding the grout process, including the timelines and other considerations for (1) the process to change the record of decision; (2) additional NEPA decisions; (3) SEPA decisions; and (4) the decision-making process with all necessary stakeholders for determining the specific method for transporting⁷ the pretreated LAW to PFNW and then the grouted LAW from PFNW to its disposal facility?

Finally, we’d like to bring your attention to the following questions and concerns:

- **‘Lowest Possible Harm’ Alternative.** Given that “Alternative 17 provides HLW pretreatment and treatment capabilities with the lowest possible capital investment[,]”⁸ we question why there is not a ‘lowest possible harm’ alternative considered for comparative analysis? This gives the perception that cost is being prioritized over environmental, health, and safety protections. While including a lowest possible harm alternative would provide a clearer picture of the spectrum of options, their viability, and the dedication to prioritizing worker, public, and environmental safety.
- **Interim Storage Sites.** “[T]he disposition pathway and required facilities for treatment, storage, or disposal of spent HLW melters has not been determined. The AoA team has assumed that spent HLW melters will be transported to a concrete pad near the IDF for interim storage pending a decision on the disposition pathway.”⁹ Does this assumption consider the engineered design life for interim storage sites? Is there a total of all of the waste without a disposal pathway that would need interim storage at Hanford?

⁶ [HLW AoA Addendum 1](#) at A-viii.

⁷ See, e.g., [HLW AoA Addendum 2](#) at B-6, footnote 21, “The specific method for transporting the pretreated LAW in the tanker cars to the off-site PFNW Facility has not been determined. For purposes of evaluating Alternatives 18, 18 Prime, 19, and 19A, the WTP HLW AoA team assumed that the tanker cars would be transported over existing roadways to the PFNW Facility.”

⁸ [HLW AoA](#) at 10, 97.

⁹ [HLW AoA Addendum 1](#) at A-11; Addendum 2 at B-1

- **Risky Business: Perma-Fix Northwest.** We have previously commented on Perma-Fix Northwest (PFNW), located within Richland city limits, and its disturbing history of accidents, violations, findings, and non-compliances that raise serious concerns about its treating waste from Hanford Nuclear Site.¹⁰ We understand that cost and timeline are seen as improved with off-site support; however, we believe this understanding neglects to consider the major risks associated, including catastrophic accident risks due to transportation on public roadways to PFWN, the treatment of waste within Richland city limits, and the less experienced workforce. Given the history at PFWN and the risks associated, we ask that PFWN not be considered.
- **New Double Shell Tanks.** We have consistently advocated for and discussed the necessity of new double shell tanks (DSTs),¹¹ which we expected to see within the HLW AoA as a common larger expense factored into each of the Alternatives. Unfortunately, DSTs are not being prioritized as we had expected. It is unclear how DSTs would only be needed for specific Alternatives considering the reality of their engineered design life and need for the purchase of new DSTs.

The safe and effective treatment of Hanford's high-level tank waste is essential to the protection of human health and the environment. All processes for managing, storing, and treating Hanford's tank waste are a top concern of Hanford Challenge and Columbia Riverkeeper. We appreciate the work the Department of Energy is doing to uphold its commitments.

Thank you for considering our comments.



Nikolas Peterson, Executive Director Hanford Challenge



Dan Serres, Conservation Director Columbia Riverkeeper

¹⁰ See Risky Business at Perma-Fix Northwest, <https://www.HanfordChallenge.org/pfnw>, 12/4/2020.

¹¹ See, e.g., Tank Waste, <https://www.hanfordchallenge.org/tank-waste>, (last accessed 04/13/2023); Energy Department Proposes to Abandon Untreated High-Level Nuclear Waste in Underground Tanks Next to the Columbia River, <https://static1.squarespace.com/static/568adf4125981deb769d96b2/t/5b1eb0a12b6a28a8dda1b435/1528737953654/2018+06.11+Press+Release+on+Hanford+tank+waste.pdf>, 06/11/2018; and <https://static1.squarespace.com/static/568adf4125981deb769d96b2/t/5744970645bf218cc6841f88/1464112903204/2016+04.26+Press+release+possible+AY-101+failure+at+Hanford.pdf>, 04/26/2016.