

**Version #:** 3

**Date Revised:** [05/19/2025]

**Letter Heading:**

To: Brian Harkins (DOE)  
Stephanie Schleif (ECY)  
Laura Buelow (EPA)

Subject: Path Forward for the 324-Building Removal and Remediation

The Hanford Advisory Board's (HAB's or Board's) primary mission is to provide informed and actionable advice to the U.S. Department of Energy (DOE), the Washington State Department of Ecology (ECY), and the U.S. Environmental Protection Agency (EPA), collectively known as the Tri-Party Agreement (TPA) agencies.

The HAB has long advocated for action ([Reference 1](#)) and supports DOE's efforts to safely and effectively remove the 324 Building and remediate the underlying contaminated soils. This advice to the TPA agencies does not choose one of the remedies, as both presented options will result in the removal of contamination and reduction of risk to the river and region. The 2006 Removal Action Work Plan ([Reference 2](#)) and 2015 Remedial Action Work Plan ([Reference 3](#)) in conjunction with the 300 Area Record of Decision (ROD) ([Reference 4](#)) are high-level documents. Solutions to the concerns below are not sufficiently discussed in these generic 300 Area plans. It is the Board's advice that, following selection of a remedy, DOE should consider the following when developing site-specific Remedial Design/Remedial/Removal Action Work Plans and Waste Management Plans for the 324 Building and 300-296 Waste Site:

- When DOE updates the site-specific plans, incorporate concerns raised during the Proposed Plan public comment period.
- Use lessons learned from prior building removal actions to manage potentially contaminated building materials
- Use waste classifications and other regulatory tools to assure the 324 Building materials and contaminated soils meet the Waste Acceptance Criteria
- Develop a contingency plan for permitted interim safe storage, separation, and treatment in the event that mixed transuranic waste or high-level waste is identified to ensure that there is an appropriate disposal/storage facility readily available to accept the waste before initiating operations.
- Use lessons learned from covered excavations and operations at the Hanford Site and elsewhere in the complex to ensure the 324 Building Health and Safety Plan is protective of

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hazards to the workforce associated with airborne soils and contamination spread as well as extreme temperatures and other environmental conditions.

- As conditions change during removal and remediation, confirm that the monitoring well network is adequate to ensure protectiveness of human health and the environment.

### **Background:**

The 324 Building is located in the 300 Area of the Hanford Site, 1,000 feet from the Columbia River and less than a mile from the northern border of the City of Richland. The facility was constructed in 1966 and provided a venue for a substantial body of research involving highly radioactive materials including waste. During a 1980s project to vitrify highly radioactive waste which had strontium-90 and/or cesium-137 added to it to simulate high-level waste, the liquid spilled on the floor of B Cell. In 2010, investigations supporting disposition of the facility identified highly dangerous levels of radiation in the soils under the hot cell, likely associated with the earlier spill. Based on the best information at the time, a complex remedy was developed to safely remove the contamination from under the building and prevent the spread of the radionuclides. In 2022, during the final stages of preparation, a previously unknown area of soil contamination was identified outside of the reach of the remote excavator. DOE and EPA, the lead regulatory agency on the project, determined that the best path forward was to conduct a Focused Feasibility Study (FFS) ([Reference 5](#)) in support of a Proposed Plan ([Reference 6](#)) to amend the 2013 revised ROD.

The FFS and associated Proposed Plan present two options for cleaning up the site: a “coupled” and a “decoupled” removal and remedy. The coupled remedy would rely on the shielding of the building to remove the high activity contaminated soils that the equipment can reach, then demolish the building, and build an enclosure to reach the rest of the contaminated soils. This option would remove some contamination sooner but would take longer overall. The decoupled option would remove the building and then construct an enclosure over the waste site to minimize risk of contamination spread. DOE has selected the decoupled option as the preferred alternative, as it is estimated to be less expensive and to be completed a few years faster. While the Board advocates for action, there is no consensus on support for a specific alternative. While DOE’s preferred option is potentially less expensive and faster, some Board members raised concerns related to potential exposure to airborne dust in the temporary enclosure, worker comfort, temperature concerns, and limited protection/shielding from the contaminated soils. Examples from Rocky Flats and the tank retrieval programs were given as potential concerns.

There is additional uncertainty based on the nature of contamination and disposal pathways for soils from the waste site. DOE takes the position that the contamination is high activity waste which can be disposed at the on-site Comprehensive Environmental Response, Compensation, and

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Liability Act (CERCLA) landfill. DOE also notes that there may be unanticipated materials which could assay as mixed transuranic waste. In addition, there are persistent questions as to whether some material may be considered high-level waste. The question of high-level waste is not necessarily a simple one, and the potential exists for a protracted discussion or legal challenge as to the nature of the waste. Included in the advice are two strategies to mitigate the risk of this delay or the potential that the waste is later determined to be classified as high-level.

**Advice:**

The Board advises the TPA agencies to proceed with the building removal and waste site cleanup in a manner that is protective of the workforce, the community, and the environment. Either of the proposed alternatives have the potential to accomplish this provided that sufficient planning is incorporated into the action. The Board's advice is to develop or update site-specific plans (Remedial Design/Remedial Work Plan, Removal Action Work Plan, and Waste Management Plan) to complete the work safely and effectively.

The Board advises DOE to consider comments received during the Proposed Plan comment period when updating the aforementioned plans.

The Board advises DOE to use lessons learned from building demolition across the site, such as the Plutonium Finishing Plant, to manage the contaminated debris.

The Board advises DOE to use waste classifications and other regulatory tools to assure the 324 Building materials and contaminated soils meet the Waste Acceptance Criteria.

The Board advises DOE to develop and discuss with regulators a potential interim storage, separation, and treatment area for retrieved contaminated materials should mixed transuranic or high-level waste materials be identified. The interim storage area should be away from the River Corridor and be engineered to isolate the material from the environment.

The Board advises DOE to use lessons learned from Hanford and elsewhere in the complex to ensure that the 324 Building Health and Safety Plan is protective of hazards to the workforce associated with airborne soils and contamination spread as well as extreme temperatures and other environmental conditions.

The Board advises the TPA agencies to ensure that planning documents evaluate whether the monitoring well network is adequate to detect possible changes in contaminant concentrations during removal of the building and contaminated soil.

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**References:**

1. Hanford Advisory Board Values, November 2, 2012. Link: [https://www.hanford.gov/files.cfm/HAB\\_ValuesWhitePaper\\_Attach.pdf](https://www.hanford.gov/files.cfm/HAB_ValuesWhitePaper_Attach.pdf)
2. Removal Action Work Plan 2 For 324 327 Buildings and Ancillary Facilities, DOE/RL-2005-95, Rev. 0, September 1, 2006. Link: <https://pdw.hanford.gov/document/DA03897999>
3. Integrated Remedial Design Report/Remedial Action Work Plan for the 300 Area (300-FF-1 300-FF-2 and 300-FF-5 Operable Units), DOE/RL-2014-13, Rev 0, June 8, 2015: <https://pdw.hanford.gov/document/0081153H>
4. Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5 and Record of Decision Amendment for 300-FF-1, November 26, 2013. Link: <https://pdw.hanford.gov/document/0087180>
5. Focused Feasibility Study for Remedial Action at the 300-296 Waste Site, DOE/RL-2024-33, Rev. 0, May 29, 2025. Link: <https://pdw.hanford.gov/document/AR-35052>
6. Proposed Plan to Amend the Hanford Site 300 Area Record of Decision for 300-FF-2 to Address Changed Field Conditions at the 300-296 Waste Site, DOE/RL-2024-34, Rev. 0, May 29, 2025. Link: <https://pdw.hanford.gov/document/AR-35053>

**Originating Committee:** Cleanup and Risk Mitigation

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**CC/BCC:**

*Mark all applicable names/organizations to be included as advice recipients (in addition to the addressees).*

**TPA Agency Representatives**

- Roger Jarrell, DOE-EM
- Brian Harkins, DOE
- Stephanie Schleif, ECY
- Laura Buelow, EPA
- Meegan Tripp, DOE
- Roberto Armijo, EPA
- Ryan Miller, ECY

**Site-Specific Advisory Boards**

- Savannah River Site Citizens Advisory Board
- Nevada Site Specific Advisory Board
- Northern New Mexico Citizens Advisory Board
- Paducah Citizens Advisory Board
- Oak Ridge Site Specific Advisory Board
- Idaho Cleanup Board
- Portsmouth Site Specific Advisory Board
- Kelly Snyder, DFO

**OR/WA Congressional Delegations (to Chief of Staff)**

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**Requests to Receive Advice**

- Jessica Keys, Staff to Sen. Merkley