U.S. Department Energy
Attn: Dana Cowley
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Richland, WA 99354
Submitted electronically to 324_ProposedPlan@rl.gov

August 15, 2025

To Whom It May Concern,

Thank you for the opportunity to comment on the 324 Building Proposed Plan, which presents a revised remedial action to address contaminated soil known as the 300-296 waste site underneath Hanford's 324 Building.

Hanford Challenge is a non-profit, public interest, environmental, and worker advocacy organization located in Seattle, WA. We are an independent 501(c)(3) organization incorporated in the State of Washington since 2008 and registered in Oregon. Our mission is 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 has members who work at the Hanford Site. Other members of Hanford Challenge work and/or recreate near Hanford, where they may also be affected by hazardous materials emitted into the environment by Hanford. All members have a strong interest in ensuring the safe and effective cleanup of the nation's most toxic nuclear site for current and future generations, and who are therefore affected by conditions that endanger human health and the environment.

Thank you for considering our comments on the 324 Building Proposed Plan. Hanford Challenge's main concerns include:

- **Protecting worker health and safety.** Detailed information related to hazards associated with the decoupled approach was not provided. The plan and public meeting only focused on statements about the coupled approach being more dangerous, but did not compare the hazards to workers between the two approaches. This lack of analysis limits the public's ability to fully understand the risks and implications. Transparent evaluation of worker safety across approaches is essential for informed decision-making and building public trust in the remediation process.
- **The characterization of waste under 324 Building and contamination that may be mobilized during 324 Building demolition.** We do not want hasty decisions made that result in High-Level, Greater Than Class C, and Transuranic wastes ending up in Hanford's onsite landfill, ERDF. We are also concerned about what contamination may become

airborne during the demolition of 324 Building. These issues have long-term implications for environmental safety, public health, and the integrity of Hanford's cleanup mission. Careful planning and transparent communication are critical to prevent irreversible consequences and ensure that the site is managed responsibly for future generations.

- **The lack of information and the failure to answer questions** about the revised cleanup plan for the 324 Building—including the complete omission of demolition plans—is deeply troubling. Without clear and comprehensive communication, stakeholders are left in the dark about critical risks, timelines, and decision-making processes. This lack of transparency erodes public trust and prevents meaningful engagement on issues that directly affect worker safety, environmental protection, and the health of surrounding communities.

Based on our review of the 324 Building Proposed Plan, associated presentations, and supporting documentation, Hanford Challenge has identified numerous unresolved concerns. In light of these findings, we respectfully recommend the following actions:

Revise the Proposed Plan, addressing all of our concerns as outlined below and bring it back for a new public comment period: Please revise the Proposed Plan and supporting documentation and bring it back for a new public comment period. As written, the Proposed Plan and its supporting documents do not provide enough information to justify, in our view, that the 324 Building revised cleanup plans will be protective of human and environmental health per the Nine CERCLA Criteria.

Hanford Challenge believes that the following comments demonstrate that the threshold criteria, primary balancing criteria, and modifying criteria have not been met for the 324 Building Proposed Plan. Please modify the plan to address the following concerns and issues:

- **Make demolition decisions first or in conjunction with the cleanup plan proposal**: Hanford Challenge believes the decision about 324 Building demolition is an integral piece of this cleanup plan. This decision making process needs to *precede* or accompany the planning process for a modified 324 Building cleanup.

  Both the Coupled and Decoupled approaches depend on the building demolition, yet information about the demolition is deferred to a separate process and a decision that hasn't been made. Many concerns have been raised about doing an open-air demolition of this building. Information provided has indicated that the building demo will be open-air. This is unacceptable. We do not believe an open air demo of this incredibly contaminated building will be protective of human health and the environment. In order to meet the threshold criteria that the remedies provide overall protection of human health and the environment and compliance with ARARs, options for building demolition need to be assessed and provided to the public for comment prior to making a formal Record of Decision about the modified 324 building cleanup. Update the Proposed Plan and supporting document to include this information and bring it back out for a new public comment period.

- **Provide information about how waste will be thoroughly characterized**: It is important to Hanford Challenge that the waste that is removed from under the 324 Building, and the contamination in the hot cells and 324 Building, is well characterized to prevent long-lived radionuclides from ending up in the Environmental Restoration Waste Disposal Facility (ERDF). Ensure thorough characterization to make sure High-Level (HLW), Greater Than Class C (GTCC), and transuranic (TRU) wastes do not end up in ERDF. As written, there is insufficient information in the Proposed Plan and supporting documents about how waste in the soil and building would be characterized to determine that CERCLA Criteria 1: Overall Protection of Human and Environmental Health, will be met by the proposed remedies.

  If possible, isolating hot spots of contamination (which may be HLW, GTCC, or TRU) for containment and offsite disposal is preferable to downblending massive quantities of soil with the hot spots of contamination to meet Waste Acceptance Criteria for ERDF. Update the Proposed Plan and supporting documents to include how waste will be thoroughly characterized, how hot spots of contamination will be handled and treated, and bring the plan back out for a new public comment period.

- **Provide accessible information about the difference in waste volumes generated between the two alternatives**: Despite asking USDOE and EPA staff and reading the provided documents, Hanford Challenge was unable to determine why the amount of waste that needs to be disposed of varies so significantly between the two alternatives. We need more information to be able to understand how the 4th CERCLA criteria "*Reduction of toxicity, mobility, or volume through treatment…",* has been met, especially since the preferred alternative generates a much higher volume of waste. The preferred alternative generates significantly more waste that will need to be disposed of than the coupled approach. Please update the Proposed Plan and supporting documents to include how and why waste volumes differ between the two cleanup alternatives, and how the 4th CERCLA Criteria is met, and bring the plan back out for a new public comment period.

- **Address all of the questions and concerns raised by the public, workers, Tribal Nations, and the State of Washington:** Hanford Challenge was unable to get answers to many of the questions we raised during the public comment period. A common answer we received when asking questions about the Proposed Plan, was to submit those questions as formal public comments. As requested, we have included a list of our questions as an attachment to our comments. Please answer all of these questions. We believe that the information we seek is necessary to form an informed opinion and provide meaningful input on the Proposed Plan. The 9th CERCLA Criteria, Community Acceptance, cannot be met until the public has access to this information. It is insufficient to provide this information in a response to comments summary that accompanies the formal Record of Decision. Please provide answers to all of the

attached questions in a revised Proposed Plan that comes out for a new public comment period.

- **Provide a detailed comparison of worker health and safety risks between the two plans**: The Proposed Plan repeatedly asserts that the coupled approach is dangerous to worker health and safety, but does not provide equivalent information about the worker health and safety risks inherent in the decoupled approach. Please provide detailed information that specifies and compares the safety risks to workers in all of the alternatives being considered and bring a revised Proposed Plan back out for an additional public comment period. Please also make past Health and Safety Plans (HASP) related to 324 Building accessible to the public on a 324 Building webpage, and clarify how the HASP will be updated to ensure protection of worker health and safety for this cleanup project.

- **Adequately address concerns raised by the current and former 324 Building workforce**: Conversations with workers familiar with 324 Building seem to contradict assertions made in the Proposed Plan by USDOE and EPA that the decoupled approach is safer. Workers who have been preparing for this cleanup for years have expressed concern that the decoupled approach has too many unknown variables to assess whether or not it is safer than proceeding with the coupled approach. Workers have articulated that using the 324 Building in the coupled approach provides better shielding and a more protective work environment than the decoupled approach, in which the building is torn down before any contaminated soil is removed. Significant concerns have been raised including:
    - Lack of information about how mobilizing contamination will be prevented during an open-air demolition of the building, including radionuclides, asbestos, and chemical contaminants within the building and hot cells, and the leaked waste under the 324 Building which could be mobilized by dust suppression measures during the demolition.
    - Lack of information about the way in which remote removal of soil will be accomplished to support the conclusion that the decoupled approach is safer for workers and the public.
    - Lack of familiarity with using superstructures at the Hanford site for cleanup work and how the structures will be designed to handle wind, dust storms, and wildfire risks on site.
    - Lack of information about how the decoupled approach will address skyshine radiation as the layers of soil are removed.

  Meaningful information needs to be provided that addresses these concerns in a revised Proposed Plan that goes out for an additional public comment period prior to making a decision about the path forward. Ensure proactive measures to solicit input from current and past 324 Building workers throughout the 324 Building revised cleanup planning process, not just during the public comment period.

- **Include detailed information about how workers and the public will be protected during the cleanup:** We couldn't find enough detail to determine whether or not the proposed remedies protect worker and public health and safety during this high-hazard cleanup. Please include detailed information about how worker and public health and safety will be protected in a revised Proposed Plan.

- **Include the Atomic Energy Act and the Nuclear Waste Policy Act as Applicable or Relevant and Appropriate Requirements (ARARs)**: Hanford Challenge concurs with Oregon Department of Energy's concern about the omission of the Atomic Energy Act and the Nuclear Waste Policy Act in the list of ARARs in Appendix A of the Nov 2013 *Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1*. Please include the Atomic Energy Act and the Nuclear Waste Policy Act as ARARs in the Revised Proposed Plan that comes out for a new public comment period. Additionally, individually list all ARARs that apply to 300-296 in an appendix to the revised Proposed Plan instead of incorporating them by reference through the 2013 ROD.

- **Update the Cleanup Plan and Institutional Controls to be protective of Tribal Nations**: The 324 Building Cleanup Plan and Institutional Controls need to be updated to sufficiently protect human and environmental health and protect Tribes' reserved rights.

  The Institutional Controls in the Draft Proposed Plan (first set in the 2013 300 Area Record of Decision) include: deed restrictions, calling the Benton County Sheriff to report unauthorized access, unspecified activities that disrupt or lessen the performance of the cleanup plan, and USDOE issuing annual reports on how well the Institutional Controls are working. The Proposed Plan fails to consider how Tribal Nations intend to use Hanford in the future and fails to explain how the proposed cleanup plan and institutional controls will be protective of these uses. Please consult with Tribal Nations to ensure that the revised Proposed Plan is protective of Tribal members and reserved rights and accounts for Tribes' future use of Hanford.

Thank you for considering our comments. We have attached the list of questions we would like answered to our comments.

Sincerely,

Nikolas Peterson, Executive Director
Hanford Challenge

324 Building Proposed Plan Questions to Address

Please address the following questions in a revised Proposed Plan. It is important that the public have an additional formal public comment period that addresses these concerns prior to USDOE and EPA making a determination about Public Acceptance, per the Ninth CERCLA Criterion.

General Questions about the Proposed Plan:

- On page 2 of the Proposed Plan, "Opportunities to comment include a public meeting (see side bar) and a prepaid comment form at the back of this document." We could not find the prepaid comment form at the back of the Proposed Plan. Where is the prepaid comment form located?
- The Proposed Plan section summarizing the remedial action alternatives seems to abruptly end on p. 15 before transitioning to the cost and duration comparison. What happens after the "remaining soil RTD Post-Demolition– for the Coupled and Decoupled Alternatives" step?
- "Previous Tribal Nations Participation" section (p.6 of Proposed Plan) just describes that there are treaties with Tribal Nations. How have the Tribes been involved so far on 324 Building cleanup planning?
- When we get to the stage of "completing verification sampling and waste site reclassification," for both the Coupled and Decoupled approaches (p.12 of Proposed Plan), what does this entail?
- On page 16 of the Proposed Plan there are tables comparing the duration and cost for the Coupled and Decoupled approaches. One activity on the table is "Mobilization, Sitework, Construct New Retrieval Enclosure," and while the expected duration is the same for both the Coupled and Decoupled approaches, the cost is $1.5 million more for the Coupled approach ($87.5M for Coupled v.s. $86M for Decoupled). Why?

Decoupled Approach Questions:

- "A decoupled approach was not previously considered because it would have been inconsistent with the 2013 ROD" (p.11 of Proposed Plan) - In what way was the Decoupled approach inconsistent with the 2013 ROD?
- On page 2-4, the Focused Feasibility Study cites the 2013 ROD, "The highly contaminated soil that requires remote excavation methods will be retrieved and placed into other non-leaking Building 324 hot cells. These cells provide additional shielding to workers from radioactive contaminants." In the Coupled approach, the 324 Building hot cells provide shielding and storage space for the highly radioactive soil that is excavated from below the building. What acts as the equivalent of a hot cell in the Decoupled approach to fully shield workers from the radiation once the soil is excavated?
- On page 5-6 of the Focused Feasibility Study while analyzing the Coupled Approach the study states, "The collective impacts of these difficulties and uncertainties lead to a high probability of project risks that could lead to schedule delays and increased cost during execution." What about the difficulties and uncertainties associated with the Decoupled

approach and the use of the temporary waste retrieval enclosure? The FFS appears to downplay the project risks and concerns associated with the Decoupled approach.

- On page 5-5 of the Focused Feasibility Study under the analysis of the Coupled approach it states, "As has been noted for continuing activities within the 324 Building, equipment degradation continues. Therefore, even with the replacement of known degraded equipment, there are likely to be additional equipment issues." Is equipment degrading due to age, due to exposure to high levels of radiation, both, or something else? If some equipment degradation is the result of exposure to high levels of radiation, then the Decoupled approach would also have equipment degradation issues and this should be included as part of the analysis.

Coupled Approach Questions:

- Under the Coupled Approach, 324 Building Min Safe & Support is estimated to cost $87.5 M. Can you provide specifics for what activities are included under "Min Safe and Support?"
- How is B-Cell dealt with in the Coupled approach prior to building demolition? Are parts of B-Cell left in place after demolition to provide shielding from the contaminated soil?
- On page 4-5 of the Focused Feasibility Study that analyzes the Coupled Approach it states, "The grout-filled void space from the pre-demolition excavation of highly contaminated soil through the B Cell floor would enable some efficiency with initial post-demolition excavation activities until the interface is reached between the grout material and remaining contaminated soil from the 300-296 waste site." How does filling the excavated area to the original floor elevation with grout enable some efficiency with post-demolition excavation activities?

Demolition Questions:

- What is the process for determining how the 324 Building will be demolished? Why isn't this process proceeding or in conjunction with the 324 Building Proposed Plan? Are you considering demolishing the building under a structure to prevent airborne contamination from spreading in the environment, potentially impacting workers and the public?
- At what point in the process do you construct the superstructure around the building? How much of the building do you demolish before putting up the superstructure? Will there be open-air demolition of the 324 Building? What will happen for the change-over between demolition and the superstructure? Will the soil remain shielded as the superstructure goes up?
- How is B-Cell dealt with in the Decoupled approach prior to building demolition? We appreciated the clarity about how the contamination is removed in the Decoupled approach as described in the Environmental Calculation File, but are wondering about the specifics regarding B-Cell. Are parts of B-Cell left in place after demolition to provide shielding from the contaminated soil?
- From the public meeting, it sounds like the demolition of the 324 Building and information associated with demolition happens in a different document. We were curious about where in the demolition process this work scope begins, as it sounds like

for Pass One there is "upper structure removal" and "lower structure and floor removal" for Pass Two. Is this separate from the demolition, or overlapping work scope? Is the same work crew doing this work or does it get passed off between different work crews?

- Why are costs for disposition and demolition of the 324 Building excluded from estimates for the Coupled approach?
- How will the use of water/dust suppression be controlled to avoid mobilizing the contamination below the building after demolition?
- What craft/workforce will be employed for demolition? Is it the same for demolition and the contaminated soil excavation? What training and protections will be in place to protect workers during the demolition?

Worker Health and Safety Questions:

- Will there be air conditioning and heating within the superstructure to protect workers from extreme temperatures while working?
- What kind of PPE and shielding will be required for workers in the decoupled approach?
- In Table 5: Summary of the Analysis of Alternatives Against the Nine Criteria, for "Implementability" (p. 20 of Proposed Plan) - Why is worker risk mentioned for the Coupled approach but not for the Decoupled approach? "Reliance on use of the 324 Building to perform the Coupled Alternative involves inherent worker exposures to additional radiological and industrial hazards that must be accounted for in planning and execution for the maintenance activities and upgrades."
- Why is there an assumption that there are more worker exposure risks in the Coupled vs. the Decoupled approach? The Focused Feasibility Study and Proposed Plan fail to analyze the difficulties, including radiological and industrial hazards, that are inherent in removing all of the highly radioactive waste while using the superstructure as laid out in the Decoupled approach.
- Do you know anything about how DOE and its contractor will be preventing "skyshine radiation" in the steps between the passes where they are digging out a layer and still have to add on another 3ft of soil. Is the ceiling of the second containment structure designed to stop the skyshine?
- Will there be additional costs to train workers for the Decoupled approach since it will be very different from the mock-up work training that has been preparing workers for digging up the contamination within the building?

Temporary Waste Retrieval Enclosure Questions:

- Can you give specific examples of past projects at Hanford that used a temporary waste retrieval enclosure?
- Have temporary waste retrieval enclosures ever been used in the past for cleanup of incredibly hot radioactive materials similar to the contaminated soil below 324 Building with readings up to 8,900 R/hr? If so, can you provide specific examples?
- It sounds like there would be a double layer of containment around the remote excavation in both Decoupled and Coupled approaches but how does this work? Is it

one big superstructure, and then another fully enclosed structure around the remotely operated equipment?

- How will impacts from dust and wind storms be accounted for as part of the enclosure design? How will site fire risks be mitigated that could impact a cleanup with a retrieval enclosure?

Contaminated Soil Questions:

- On page 2–5 of the Focused Feasibility Study and page 7 of the Proposed Plan: "Dose rates exceeding 1 R/hr were recorded for about 660 of the 2,200 total measurements and were recorded up to 20 ft below the bottom of the B Cell floor (or approximately 32 ft below ground surface)." Were any of the boreholes put in deeper than 32 ft below the ground surface to check the dose rate? If so, what were those readings? How does the really high-dose rate contamination compare to other cleanup projects at Hanford?
- On pages 5-5 and 5-6 of the Focused Feasibility Study regarding the Coupled approach, "After accessible contaminated media is excavated using the REAs within B Cell, the excavation would need to be interim filled until post-demolition remedial actions resume. This would increase the total waste volumes that would need to be remediated." However, Table 13 Comparison of Quantities for the Coupled and Decoupled Alternatives on p.24 of the Environmental Calculation File shows higher quantities of waste for the Decoupled approach: "151 01.05.01.02 B 300-296 Contaminated Soil Removal and Disposition – Soil Waste Bins: Coupled Quantity 788 each, Decoupled Quantity 3,937 each." "152 01.05.01.02 B 300-296 Contaminated Soil Removal and Disposition – IP-2 Waste Containers for Bins Coupled Quantity 156 each, Decoupled Quantity 780 each." "154 01.05.01.02 B 300-296 Contaminated Soil Removal and Disposition – Grout Coupled Quantity 1,694 yards, Decoupled Quantity 8,438 yards." These quantities seem to show that the Decoupled approach would result in larger waste volumes needing to be remediated. Can you please explain this discrepancy between the FFS and the ECF?
- After removing the contaminated soil, where are you getting the clean soil for the backfill and how much will be needed? Do quantities of clean fill differ between the coupled and decoupled approaches?
- What fixatives will be used on the soil and walls of the 324 Building to prevent contamination from spreading?
- Is there any plan to put in an additional groundwater monitoring well in the vicinity?
- What is the contingency plan if characterization of the waste prevents its disposal in the Environmental Restoration Disposal Facility?