



Oregon

John A. Kitzhaber, M.D., Governor



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November 9, 2011

Shannon Ortiz, Lifecycle Report Project Manager
U.S. Department of Energy – Richland Operations Office
P.O. Box 550, MSIN: A5-16
Richland, WA 99352

Dear Ms. Ortiz:

Thank you for the opportunity to provide comments on the 2011 Hanford Lifecycle Scope, Schedule and Cost Report (DOE/RL-2010-25 Rev. O). The report provides some very useful information and it already has become a valuable reference tool, particularly Appendix D and Appendix E. The document is well written and easily understandable. For the first time in the Hanford cleanup, a single report provides a comprehensive look at the extensive work that remains.

Comprehending the scope of the remaining Hanford cleanup is vital, and this document does fulfill that need. However, it is also vital to understand the likely impacts of accelerating or delaying cleanup projects. In that regard, this document falls short of meeting that need. An estimated project dollar cost does not provide a full understanding of what additional costs may be incurred if a project is delayed, or what costs could be saved if the project is accelerated. As such, we believe the Lifecycle Report does not fulfill Tri-Party Agreement Milestone M-036-01, which states the document should explain “how milestone changes and adjustments will affect lifecycle scope, schedule and cost.”

For example, if funding is \$200 million less than is shown necessary for compliance, the assumption may be that it is just \$200 million more that would have to be provided at some later date. There’s really no “consequences” or “impact” beyond a delay and possible non-compliance.

That delay, however, presumably has additional costs, such as:

- continued “safe and compliant” costs that would have to be made until a facility/structure is gone
- additional worker training costs, if workers are laid off or moved to other projects and then brought back
- keeping a treatment and/or disposal facility operational longer than planned (or ending up with orphaned waste)
- upgrading/replacing infrastructure that might have otherwise not been necessary

Taking this approach to identifying related costs could also provide information about potential funding saved by accelerating specific cleanup projects.

The limited “safe and compliant” costs that are included for the Plutonium Finishing Plant, the K Area and a few other facilities are revealing and very useful. These costs should be provided – perhaps in a separate appendix – for a larger number of facilities, including individual tank farms. This information would not only help in determining potential costs of delay or acceleration, but would also provide useful information to help prioritize cleanup activities. While broad estimated costs are provided by Area (100 Area, 200 Area, etc) for the years 2011-2016 (page E-53), a much more detailed breakdown is needed to fully understand what individual facilities/areas are costing to maintain.

The report should also provide cost estimates for realistic scenarios in the event that cleanup activities are further delayed. For example, if tank waste treatment is pushed back, a potential result could be a leaking double-shell tank or a collapsed tank dome. Those potential costs should be estimated and provided in this document.

We understand the need to put an “end date” into this document. However, the document should be very clear that a Long-Term Stewardship mission will be necessary well beyond 30 years after the completion of active cleanup. In justifying decisions to leave waste in place, the U.S. Department of Energy (DOE) has strongly declared that it will have a presence at Hanford – especially in the “Inner Area” of the Central Plateau – for as long as necessary to ensure that waste left behind does not pose a threat to people or the environment. It is not necessary to try and determine how long that will be now, but it is important that this document recognize and state that DOE’s long-term responsibilities will last well beyond 2091.

Again, we appreciate the opportunity to provide comments on this document. We look forward to seeing future versions of the Hanford Lifecycle Scope, Schedule and Cost Report. We have a number of specific comments that follow.

If you have questions about our comments, please contact me at 503-378-4906.

Sincerely,

A handwritten signature in black ink, appearing to read "Ken Niles". The signature is fluid and cursive, with the first name "Ken" being more prominent than the last name "Niles".

Ken Niles
Nuclear Safety Division Administrator

Cc: Jane Hedges, Washington Department of Ecology
Dennis Faulk, U.S. Environmental Protection Agency
Max Power, Chair, Oregon Hanford Cleanup Board
Susan Leckband, Chair, Hanford Advisory Board

Additional Comments from the Oregon Department of Energy on the 2011 Hanford Lifecycle Scope, Schedule and Cost Report

- It would be useful to include the names of the major contractors and their responsibilities. Since this document is to be updated annually, contracting changes can easily be captured.
- The anticipated period of action for cleaning up the Deep Vadose Zone seems unrealistically short. The funding profile shows the work beginning in 2019, increasing in funding in 2020, 2021, and 2022, and then dropping fairly quickly and wrapping up by 2026/2027. Given that most complex projects at Hanford (spent fuel, K- Basin sludge, groundwater, tank waste) have taken far more than this amount of time, it seems that the assumptions for this work should be revisited.
- Figure ES-1 (page ES-3) does not appear to show any “bump” in required funding around 2065 or 2070 to account for the estimated \$676 million cost of reactor removal.
- Text should say the “Oregon Department of Energy,” not the “Oregon Office of Energy.” (page 1-2, section 1.2.2).
- On page 1-11, section 1.5, 5th paragraph, 3rd sentence, the text says that “radioactive and hazardous substances are likely to remain in areas of the Hanford Site, even after cleanup.” We know that substantial amounts of contaminants will remain at Hanford. This should be changed to reflect this fact.
- Table 4-3, “D4 Closure,” states that this work element includes D4 of approximately 500 facilities. This number should be updated to reflect how many buildings have been demolished, how many are in progress, and how many remain.
- Page 4-15, section 4.3, “River Corridor Cleanup Assumptions and Uncertainties,” includes an assumption that “Final RODs will confirm that cleanup levels established in the interim RODs are protective of human health and the environment. Additional work scope to address ecological receptors will not significantly impact cost or schedule.” That is a significant assumption. A range of impacts should be included if this assumption proves to be incorrect.
- The graphics that show remaining estimated cleanup cost by Work Element (as examples, Figures 3-4, 4-5, 4-8, 5-4, and others) do provide some useful information in a broad sense, but at the same time are very difficult to pull out anything more specific than a trend. While the detailed spending is available in Appendix E, it would be more useful to have that information available together. Perhaps some of that detailed

information can be pulled from the Appendix into the body of the report so that it is adjacent to these otherwise generic figures.

- Figure 5.5 provides a graphic of the major Hanford groundwater plumes. In addition to this figure, it would be useful to have additional figures that show the groundwater plumes at each of the reactor areas and in each of the 200 Areas and the 300 Area.
- Table 5-4 shows groundwater operable unit remediation. The estimated period of remediation for several of these pump-and-treat systems seems unreasonably short.
- On page 5-39, the last bullet on the page discusses excavation depth in the Central Plateau. The last sentence says that “Excavation depths in the Outer Area would be up to 15 feet deep, to be consistent with remediation in the River Corridor.” That statement is not accurate, as there are many instances within the River Corridor where excavations have gone far deeper than 15 feet – especially when chasing a plume.
- On page 5-40, the last assumption listed is that “WIPP will remain operational through the end of Hanford Site cleanup operations that have the potential to generate TRU waste.” This is an issue that needs further exploration within this document. The topic provides an opportunity to demonstrate the necessity to ensure that these cleanup activities at Hanford are not dramatically delayed, because one of the impacts may be the need to extend the planned operating life of WIPP (at what would be a considerable cost), and that cost should be included in the document. With continued delays in the transuranic waste retrieval program, there is the potential for a major disconnect between Hanford cleanup and WIPP availability.
- The 2nd assumption for tank waste listed on page 6-16, which indicates the expectation that a national off-site geologic repository will be available to accept immobilized high-level waste from Hanford by April 2023 appears unrealistic. Plans and cost estimates should be included within this document that examine the construction of additional storage capacity for the immobilized high-level waste.
- The 8th assumption for tank waste listed on page 6-16 assumes the double-shell tanks will remain fully operational for the nominal 40 year waste treatment mission duration. We’re certainly hopeful that will be the case, but believe that this document should examine the potential of the inability to effectively use one or more double-shell tanks due to aging and potential leaks.
- Funding increases in the approximately 2019-2025 and 2038-2042 timeframes for Infrastructure Reliability Projects are not explained. The text should indicate what infrastructure improvement are expected to be necessary during these timeframes.

- While much work needs to be done through the Hanford Natural Resource Trustee Council to identify costs related to restoration and loss of use, this document should at least recognize this issue as a future cost and liability.
- In the “Range of Plausible Alternatives” for the 300 Area Groundwater (page A-13), the in situ installation of phosphate/polyphosphate treatment to sequester uranium in the vadose zone and groundwater is not likely to be effective. We recommend this alternative be deleted.
- In the “Range of Plausible Alternatives” for the Cesium/Strontium capsules (page A-18), using them for thermal generation of electricity/steam in future cleanup operations does not seem realistic, given problems that occurred when the capsules were leased for commercial use. We recommend this alternative be deleted.
- Alternatives for K Basin sludge other than processing at T Plant should be examined.
- TW-3 and other supplementary waste streams are overly reliant on disposing of wastes to on-site disposal facilities such as the Integrated Disposal Facility and the Environmental Restoration Disposal Facility. The site capacity and ability to handle mobile materials and the lack of waste forms dramatically limit the viability of such options. Other reasonable alternatives should be examined.
- All of the single-shell tank, double-shell tank, pipeline and ancillary facility alternatives rely on DOE being able to define high-level waste as something other than high-level waste in order to allow disposal at Hanford. In the event that this reclassification is not as broad as anticipated, other alternatives need to be examined, such as greater emphasis on retrieval of wastes for processing and disposal in a deep repository.
- Table A-5 lists the anticipated schedule for detailed analysis of cleanup action alternatives. “Disposition FFTF complex” is scheduled for more detailed analysis in the 2014 Hanford Lifecycle, Scope Schedule and Cost Report. We do not believe there is any urgency for this action and suggest it be pushed back for analysis. Any of the topics currently listed for further analysis in the 2015 Lifecycle Report would be a better substitute than FFTF.
- Appendix D, “Hanford Site Cleanup Decisions,” should include reference to Records of Decision which designate Hanford for disposal of off-site waste. This would include the February 25, 2000 *Record of Decision for the Department of Energy’s Waste Management Program: Treatment and Disposal of Low-Level Waste and Mixed Low-Level Waste; Amendment of the Record of Decision for the Nevada Test Site*, and the June 30, 2004 *Record of Decision for the Solid Waste Program, Hanford Site, Richland, WA: Storage and Treatment of Low-Level Waste and Mixed Low-Level Waste; Disposal of*

Low-Level Waste and Mixed Low-Level Waste, and Storage, Processing, and Certification of Transuranic Waste for Shipment to the Waste Isolation Pilot Plant.

- In the tables in Appendix E which describe scope summary (as examples, Tables E-1, E-4, E-7, and others), it would be useful in the narrative to include estimates of dates (a range is okay) that this report assumes major cleanup activities. For example, in Table E-4 where it explains the KW superstructure and substructure demolitions, it would be useful in the “Scope Summary” narrative to include a target range of dates for these activities. The budget numbers on the following page (Table E-5), shows these activities are expected in 2015-2017. Going deeper into the budget, (Table E-6), superstructure demolition is planned for 2016 and substructure demolition 2016-17. Sometimes, however, the budget information is not quite as clear as in this example. It would make for better understanding of when specific projects are expected to occur if those target dates or range of dates was included in the narrative.