

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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January 7, 2010

The Honorable Steven Chu
Secretary of Energy
U. S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-1000

Dear Secretary Chu:

The Defense Nuclear Facilities Safety Board (Board) received your letter dated September 22, 2009, enclosing Revision 5 of the Implementation Plan for the Board's Recommendation 2001-1, *High-Level Waste Management at the Savannah River Site*. The Board remains concerned about delays in operation of a full-scale processing facility for salt waste, delays in recovering tank space, and the risks associated with these delays. Therefore, prior to its acceptance of Revision 5 of the Implementation Plan, the Board requests that DOE provide additional information regarding those risks as specified below.

The Board's Recommendation 2001-1 sought to reduce risks associated with the management of high-level waste at the Savannah River Site. The root causes for these risks were the lack of a salt processing capability and the lack of adequate tank space in Type III tanks. In the time since the Board issued the Recommendation, available tank space has not increased appreciably; usable space has remained at a level of approximately 1.5–2.0 million gallons, which is distributed in small volumes among many tanks. The key to reducing the overall risk is processing high-level waste as expeditiously as possible and managing the total tank space efficiently.

Two commitments in the Implementation Plan are meant to recover significant volumes of tank space, improve operational flexibility and worker safety, and ensure that milestones for tank cleaning and closure can be met. These are Commitment 2.14, startup of radioactive operations at the Salt Waste Processing Facility, and Commitment 3.9a, the return of Tank 48 to waste service. Revision 5 delays the dates for these commitments by approximately 4 and 5 years, respectively.


Revision 5 of the Implementation Plan includes some discussion of the reasons for the delays. However, the Board believes the plan does not provide an adequate assessment of their cumulative impacts and associated risks. The Implementation Plan also refers frequently to Revision 4 of the Risk Management Plan for tank waste, which is dated and contains several key assumptions that are no longer valid. Significant risks associated with the delays in salt

processing and recovering tank space remain. One such risk is a large leak in a high-level waste tank that requires the use of contingency tank space. In Revision 4 of the Risk Management Plan, DOE decided to "accept the risk" for this and other upset conditions. The Board recognizes that the contractor has proposed, but not implemented, a plan that may mitigate this risk.

Given the delays and associated risks discussed above, the Board requests the following information from DOE within 60 days of receipt of this letter:

- An updated and thorough assessment of the risks associated with the delays proposed in Revision 5 of the Implementation Plan for Recommendation 2001-1. This assessment should include impacts to available tank space over time, impacts to salt and sludge processing, and impacts on aging equipment.
- The analytical basis for accepting the risk, rather than mitigating the risk, of a leak from a high-level waste tank that uses all contingency tank space (Risk #149 in Revision 4 of the Risk Management Plan).
- A list of the risk-handling strategies (beyond the Risk Management Plan) necessary to prevent or mitigate the risks identified by the risk assessment.
- Proposed new interim milestones for the recovery of Tank 48 and for activities leading to radioactive operations of the Salt Waste Processing Facility.

Sincerely,



John E. Mansfield, Ph.D.
Vice Chairman

c: The Honorable Inés R. Triay
Mr. Jeffrey M. Allison
Mr. Mark B. Whitaker, Jr.