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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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March 31, 2009

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) issued Recommendation 2001-1, *High Level Waste Management at the Savannah River Site*, in March 2001. The focus of this Recommendation is to ensure the high-level waste system at the Savannah River Site remains capable of safely supporting vital waste stabilization and disposition programs. Recommendation 2001-1 included several sub-recommendations for regaining usable tank space within the tank farms, with the goal of improving efficiency, operability, and worker safety. Currently, three significant commitments in the Department of Energy (DOE) Implementation Plan remain incomplete and face delays of 3 years or longer. These delays may require additional compensatory measures to mitigate the related safety risks of continued reliance upon limited space in aging high-level waste tanks.

The first commitment facing long delays is Commitment 3.9a—the return of Tank 48 to waste service. Revision 4 of the Implementation Plan for Recommendation 2001-1, dated July 11, 2006, established a due date of January 2010 for Commitment 3.9a. However, recent site planning documents indicate that the return of Tank 48 to waste service is not anticipated until September 2013. The Board's letter to the Acting Assistant Secretary for Environmental Management dated March 5, 2009, provides a more detailed discussion of the delays in the Tank 48 project. DOE's plan to recover the 3 year delay in the Tank 48 schedule remains unclear.

The second commitment that will not be met on time is Commitment 3.10—startup of an evaporator at the Defense Waste Processing Facility (DWPF). An operating evaporator at DWPF would reduce or eliminate the large volume of liquid waste being sent from the DWPF to the tank farms. Revision 4 of the Implementation Plan provides a due date of July 2011 for Commitment 3.10. While the contractor has completed some studies for the design of such an evaporator, there are no plans for near-term procurement and installation. Instead, the contractor has issued a Recycle Management Plan that aims to mitigate the impacts of the liquid waste from the DWPF on the tank farms.

The third commitment to be delayed is Commitment 2.14—startup of radioactive operations at the Salt Waste Processing Facility by September 2011. DOE recently approved

Critical Decision-3 for the Salt Waste Processing Facility, with a baseline schedule that reflects the start of radioactive operations in October 2015.

The contractor has implemented compensatory measures to mitigate some of the impacts of these delays, and these measures are consistent with the associated Risk Management Plan. However, the contractor has been forced to carry forward undesirable assumptions and risks in the Risk Management Plan much longer than was anticipated. Examples include the inability to effectively mitigate and recover from a large tank leak; the continued reliance on aging tanks and equipment; and continued operations with limited tank space, which necessitate frequent small waste transfers. Finally, the lack of space in double-shell tanks has led the contractor to consider the reuse of old, noncompliant Type I tanks—a return to the risky course of action that prompted the Board to issue Recommendation 2001-1 in the first place.

Given that Recommendation 2001-1 was written to address safety issues associated with delays in high-level waste processing at the Savannah River Site and that the Implementation Plan sets forth a course of action to address those issues, the Board is concerned about the continuing delays. Therefore, the Board requests that DOE submit a revised Implementation Plan within 90 days of receipt of this letter that includes the following:

- New proposed dates for the three outstanding commitments, accompanied by technical justifications for the changes
- An evaluation of the safety implications of delays in completing the three commitments
- Compensatory measures necessary to mitigate the safety risks identified by the evaluation discussed above, and a plan and schedule for implementing the new measures

Sincerely,



A. J. Eggenberger
Chairman

c: Dr. Inés Triay
Mr. Jeffery M. Allison
Mr. Mark B. Whitaker, Jr.