



## Department of Energy

Washington, DC 20585

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DNF SAFETY BOARD

The Honorable Peter S. Winokur  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, NW, Suite 700  
Washington, DC 20004

Dear Mr. Chairman:

The purpose of this letter is to report completion of one commitment of the Department of Energy's (DOE) Implementation Plan (IP) Revision 6 for Defense Nuclear Facilities Safety Board (Board) Recommendation 2001-1, *High Level Waste Management at the Savannah River Site*; provide the required yearly update for this recommendation; and to inform you of programmatic progress that is prompting changes to several other commitments. We intend to work with your staff regarding the path forward for addressing these changes, as you suggested during our October 18, 2011, meeting.

DOE has completed IP Commitment 3.13.2, "Complete Modular Side Solvent Extraction Unit Tie-in Design." This commitment is an interim milestone toward Commitment 3.13.3, "Complete Tank 50 Return to General Service," which is due by December 2012. Shielded riser plugs for Tank 50 have been constructed, that support storage of higher activity waste. DOE intends to continue using Tank 50 as the feed tank for the Saltstone Production Facility (SPF) as described in the Liquid Waste System Plan, revision 16, but not use Tank 50 for higher activity waste storage. The SPF feed tank usage is considered of higher priority to ensure uninterrupted availability of qualified feed for the SPF subsequent to the start-up of the Salt Waste Processing Facility (SWPF). Consequently, DOE does not anticipate continuing action toward completion of this commitment at this time.

Implementation Plan Commitment 3.9.2, "Authorize Procurements of Fluidized Bed Steam Reformer (FBSR) Auger/Grinder," is scheduled for completion in December 2011, as an interim milestone toward Commitment 3.9.7, "Return Tank 48 to Tank Farm Service." As discussed with the Board in June 2011, significant tank waste program progress has eliminated dependency on Tank 48 for accelerated waste retrieval and treatment. Based on recent system planning, which will be documented in Revision 17 of the Liquid Waste System Plan, recovery of Tank 48 is not considered necessary until the end of the Savannah River Site liquid waste processing life-cycle, and then, only to support cleaning and closure of the tank. The Plan will document use of Tank 21 as a salt hub tank until alternate Type III space becomes available. Although this would delay Tank 21 (a Type IV tank under Federal Facilities Agreement (FFA) closure constraints) grouting by 3 years, Tank 21 would be grouted 2 years prior to the FFA requirement. Consequently, DOE has suspended Tank 48 FBSR project activities and will instead



investigate chemical destruction of the currently stored organics using copper-catalyzed Fenton's chemistry. The lack of programmatic need for near-term recovery of this tank provides the opportunity to study this approach, which, if feasible, would result in significant cost savings over the FBSR process.

For Commitment 3.12, "Reduce Defense Waste Processing Facility (DWPF) recycle by 1.25 Mgal/Yr," DOE plans to shift the DWPF outage period to install hardware systems associated with this commitment to coincide with the outage to tie-in the SWPF. A single coordinated outage will minimize production impacts to the liquid waste system without adding significant execution risk. Therefore, the completion date for this commitment will be delayed from October 2014 to December 2015, consistent with Commitment 2.14, "Begin SWPF Radioactive Operations."

During the past 3 years, over 15 million gallons of usable new-style tank space has been created through evaporator operations, DWPF vitrification, salt waste treatment, and saltstone disposal. In addition, more efficient use of available tank space has been achieved through beneficial reuse of DWPF recycle (the largest volume influent to the tank farms) for salt dissolution chemistry adjustment, and minimization of water usage in DWPF through flowsheet and operational modifications. This valuable space has been used to remove waste from, and clean old-style tanks; prepare, qualify, and treat sludge waste for disposal; prepare, qualify, treat, and dispose of salt waste; and support nuclear materials stabilization and disposal through H-Canyon. Progress in these areas is fully aligned with the Board's January 7, 2011, letter, which states that "the key to reducing the overall risk is processing high-level waste as expeditiously as possible and managing the total tank space efficiently."

If you have any further questions, please contact me or Mr. Matthew Moury, Deputy Assistant Secretary for Safety and Security Program, at (202) 586-5151.

Sincerely,



David Huizenga  
Acting Assistant Secretary for  
Environmental Management

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