

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 21, 2008

TO: T. J. Dwyer, Technical Director
FROM: M. P. Duncan and M. T. Sautman, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending November 21, 2008

Plutonium (Pu) Processing and Storage: An External Technical Review (ETR) Team concluded that the Plutonium Preparation Project (PuPP) had a sound technical basis for processing Pu through the Mixed Oxide Fuel Fabrication Facility. However, the ETR team stated that the processing of the remaining excess Pu through H-Canyon, and subsequently adding the processed Pu to high-level waste sludge which would be vitrified at the Defense Waste Processing Facility (DWPF), was premised on an incorrect assumption. Specifically, the project assumed a ~5-6 times larger Pu concentration in the vitrified waste than that included in the Yucca Mountain license application. (4/25/08 report) In a memo this week, the acting Assistant Secretary of Environmental Management stated that DOE would revise plans for this excess Pu so that the vitrified waste form (for any Pu processed in H-Canyon and vitrified in the DWPF) conforms with the Yucca Mountain license application (0.897 g Pu/L). (Vitrifying this excess Pu at this concentration increases the remaining number of vitrified waste containers from ~4000 to ~9000). The memo also stated that DOE would evaluate the disposition of this excess Pu at the Waste Isolation Pilot Plant as an alternative. This week, DOE-Savannah River directed WSRC to maintain the 0.897 g/L fissile limit for future HLW canisters and to reflect this in the next revision of the Lifecycle Liquid Waste Disposition System Plan.

In light of the above fissile loading issue and other concerns, DOE is reevaluating their plans for H-Canyon, including the possibility of not processing any plutonium or irradiated spent fuel with the exception of daughter cans resulting from the K-Area Interim Surveillance project. However, full H-Canyon processing per the current plan is required to maintain free space at K-Area Materials Storage (KAMS) to allow the deinventorying of Los Alamos, Lawrence Livermore, and Y-12 and the accelerated receipts from Hanford to continue. If H-Canyon processing falls behind or a new vault is not built, storage space in K-Area could run out in late 2009. The ability of workers to access and remove containers at KAMS to support ongoing activities is already starting to be impacted by the current container inventory and continued increases in the inventory could drastically limit the available free space, which is needed when trying to access containers within the stacks. Meanwhile, engineers are pursuing statistical and structural analyses to avoid having to retrieve and inspect fifty-two 9975 shipping containers from Hanford that were recently identified as having a manufacturing error with their gland nuts.

F-Tank Farm: The DOE Mechanical Waste Removal Readiness Assessment (RA) Team identified two pre-start and one post-start findings. In general, there was a noticeable improvement in the conduct of operations and the interface between facility operations and the subcontractor compared to that seen during the contractor RA last August. (8/15/08, 8/22/08, and 9/12/08 reports)

Defense Waste Processing Facility: Management had suspended all scissors cleaning activities after a worker cut herself while decontaminating them (11/7/08 report). The hazard analysis and training for the plastic suit cutout and scissors decontamination tasks were deficient. A new decontamination method was implemented this week. It does not require swiping an exposed blade. WSRC plans to perform a broad review of decontamination tasks and sharps handling safety