

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 5, 2013

**TO:** S. A. Stokes, Acting Technical Director  
**FROM:** M. T. Sautman and D. L. Burnfield, Site Representatives  
**SUBJECT:** Savannah River Site Weekly Report for Week Ending April 5, 2013

**Spent Nuclear Fuel (SNF):** In 2000, DOE issued a Record of Decision (ROD) stating that DOE decided to develop and demonstrate the melt and dilute technology to manage aluminum-clad SNF. On March 29, DOE amended that ROD to say that ~3.3 metric tons of heavy metal (MTHM) of the currently projected inventory of 22 MTHM at SRS will be managed with conventional processing at H-Canyon. Processing 3.3 MTHM would allow DOE to avoid making costly modifications to L-Basin to accommodate expected receipts of SNF. The 3.3 MTHM would include ~200 High Flux Isotope Reactor cores and ~1000 bundles of aluminum-clad SNF currently stored at SRS plus target residue materials from Canada. The latter consists of highly-enriched uranium (HEU) solutions that were left over after recovering Mo-99 from the targets. DOE anticipates that the processing of the SNF and residue materials would begin as early as 2014 and last approximately four years. The rest of the Al-clad SNF inventory would continue to be stored in L-Basin pending future analysis and DOE decisions.

Despite the issuance of this amended ROD, DOE is not currently providing any additional funds to help alleviate the budget woes at H-Canyon. That relief could come from a reprogramming request that requires Congressional approval. However, the ROD does mean that the Atomic Energy of Canada Ltd. will be providing funds for the down-blending of the HEU. This activity would require modifying the H-Canyon truck well to accommodate liquid unloading and venting and flushing of the shipping container. The amended ROD also discusses the installation of a third dissolver in H-Canyon in addition to the existing ones currently being used for plutonium metal and Sodium Reactor Experiment SNF. However, DOE is already pursuing a replacement for the Pu dissolver because of a suspected cooling coil leak (see Feb 1 – 15, 2013 reports).

**Tank Farms:** The following occurred at tank farms this week:

- Since SRR has shut down the 2F evaporator for the foreseeable future, the remaining two evaporators must maintain a high level of availability. Both H-Tank Farm evaporators are currently down. SRR shut down the 3H evaporator for a scheduled outage, and then SRR was forced to shut down the 2H evaporator because the gravity drain line (GDL) and the back flush valve (BFV) are plugged. SRR is preparing to hydrolance the GDL and BFV.
- SRR continues to prepare for the control room consolidation outage. Before SRR can begin the outage, they will need to empty the F-Tank Farm pump pit tanks (FPT) to allow for inter-area transfers should they become necessary. SRR intends to transfer waste from FPT-1 to Tank 26; however there is a potential to inadvertently transfer this waste to Tank 25. In order to mitigate the risk from an inadvertent transfer, SRR must now complete the replacement of the Tank 25 ventilation ducting they had previously scheduled for May. (See 3/29/13 report.)
- SRR began the readiness assessment (RA) for Tank 12 Bulk Oxalic Acid Cleaning this week.
- SRR postponed the RA for Tank 10 dissolution an additional week because of the need to repair the Tank 10 salt dissolution rig and complete the associated post-maintenance testing (PMT).
- SRR pumped the liquid from the Tank 11 annulus to the primary tank and restored heated ventilation. Rain water in-leakage continues to be a problem.
- SRR replaced the Tank 48 composite lower flammability limit (CLFL) analyzer transmitter that they had found in a degraded condition and completed the necessary PMT. (See 3/29/13 report.)