

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 18, 2011

**TO:** T. J. Dwyer, Technical Director  
**FROM:** M. T. Sautman and D. L. Burnfield, Site Representatives  
**SUBJECT:** Savannah River Site Weekly Report for Week Ending February 18, 2011

**Defense Waste Processing Facility (DWPF):** Increasing demands at DWPF have increased the amount of maintenance performed causing a similar increase in worker extremity radiation exposure. The SRR procedure for tracking extremity dose reflected the previous lower exposure levels. SRR did not initially realize that the increased maintenance volume in January 2011 had resulted in doses to the extremities significantly higher than expected. While the DOE extremity limit (50 rem) was not exceeded, several workers had elevated doses and one worker received more than 16 rem to his hand. SRR corrective actions include reading extremity dosimetry daily, working with vendors to procure larger shielded gloves (currently only two sizes exist), and developing better decontamination techniques prior to maintenance.

**Fire Department:** The site rep inspected the two new fire trucks that arrived at SRS. These trucks replaced ones that were 21 and 32 years old. The site's ladder truck and another first-line fire engine still exceed the normal 15-year life expectancy for fire equipment (1/20/10 Board letter). DOE also informed SRNS that any changes to the current Fire Department staffing levels need to be technically justified in a revised Baseline Needs Assessment that is approved by DOE-SR.

**Tank Farms:** SRR is reevaluating the assumption that mixing devices will release 100% of the trapped gas in tank solids. In light of test and actual tank data showing a correlation between the effective cleaning radius (ECR) of a pump with the shear strength of the tank waste, the site rep questioned whether it was appropriate to use a simple correlation to calculate the ECR that only considered pump parameters. The site rep also questioned how the new approach was validated.

A SRR investigation into last week's contamination event surmised that roughly transporting the sample on a tilted cart up a makeshift ramp may have broken the sample vial lid and allowed liquid to leak out. Corrective actions include new equipment, revised handling techniques, and increased monitoring.

**SRNS Workforce Restructuring:** Because of the potential for distractions, SRNS is limiting operations at several nuclear facilities next week while the restructuring is implemented.

**Integrated Facility Aging Management:** In light of budget constraints and potential mission changes, SRNS is significantly reducing the resources allotted to these reviews. The site rep questioned whether these should really be eliminated at K and L-Areas, which still have extended missions.

**H-Canyon:** Steam piping between the gang valve corridor (GVC) and the hot canyon is leaking. In order to stop the leak, SRNS personnel are planning to insert a corrosion-resistant flexible liner assembly from the canyon through the wall and down into the GVC. H-Canyon personnel have not performed this type of repair for 20 years. To accomplish this task, they will insert a flexible tape into the piping from the GVC, run the tape up the piping to the canyon, connect the tape onto the liner assembly, pull the liner assembly back into the GVC, and weld a flange onto the liner assembly. Workers will perform this work inside a tent while wearing plastic suits because of the potential for transferring high levels of contamination.

**Saltstone:** SRR briefed the site rep on the results of their follow-up corporate review of Saltstone operations. The team recommended monitoring and trending of dry feeds behavior, improving the understanding of mixer throughput, assessing the overall control logic, and conducting a quantitative reliability assessment.