

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 5, 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 August 5, 2011

**Nuclear Safety:** H-Canyon upgraded their Potential Inadequacy in the Safety Analysis (PISA) to a positive Unreviewed Safety Question. The Technical Safety Requirements includes a Chemical Inventory Program that is required to establish maximum inventory limits for specified chemicals based on the Documented Safety Analysis. A facility representative identified that there was not a program to track chemical inventories and that H-Canyon had exceeded the maximum quantity for both mercury and manganous nitrate. As a compensatory action, SRNS will continue to use up their manganous nitrate inventory while restricting receipts of mercury.

SRNS declared a PISA at HB-Line and restricted receipts of nuclear material because they might not be able to maintain the credited room exhaust flow path during large fires. One of the two room exhaust fan dampers fails to the closed position. This could lead to a blocked flow path if the other damper had blast gates installed for a fan lockout.

**F-Tank Farm:** F-Tank farm uses a subcontractor to hydro-lance clogged gravity drain lines (GDL) from the evaporator. This process requires taking very high-pressure plastic-coated wire-wrapped tubing and inserting it into the GDL. During the removal of the tubing, the sub-contractor and an F-Tank Farm operator cut the tubing to reduce the amount of radioactive waste generated. The F-Tank Farm operator received a small puncture wound to his right hand while covering the cut end of the tubing. SRR is generating a lessons learned for personnel who may perform similar operations based upon a recurring site wide problem with similar occurrences. Until they generate the lessons learned, SRR put a hold on cutting any similar hose.

**Savannah River National Laboratory (SRNL):** Two SRNL employees contaminated their personal clothing while verifying serial numbers of bottles of Hanford Tank Farm waste. The maximum amount of contamination received on their clothing appears to be 20,000 dpm  $\beta/\gamma$  by direct probe on the pant leg cuff. However, during the investigation for the source of the contamination, they found area contamination to be as high as 800,000 dpm  $\beta/\gamma$  by direct probe and 400,000 dpm/100cm<sup>2</sup>  $\beta/\gamma$  by smear. SRNL has yet to determine the source of this contamination, which is not representative of Hanford tank waste. They are performing the isotopic analyses to determine that during the next few days.

**SWPF Crane Failure:** While using a 225-ton Mobile Crane (Manitowoc 888) to lift a piece of concrete form material weighing less than a ton, the crane experienced significant damage to the lower main boom. When the operator restarted the crane, he observed that the crane's computer display was in German. The operator attempted to place the crane in the appropriate mode for the lift and picked up the form. The Crane Operator raised the main boom to 85° (limit is 88° from horizontal) and then started to use the luff boom to continue to raise the load. Nearby workers then heard a very loud noise and saw the damage to the boom. The crane did not collapse, and no one was hurt because of the boom failure. Parsons crane operators had successfully used the crane during the earlier shift and the night crew had performed the crane daily inspections with no problems. The crane was placed in a temporarily safe mode and Parsons secured all crane activities. A 550-ton crane is required to place the damaged boom in a completely safe condition with the boom lowered. Parsons suspended work in the area of the crane until this can be accomplished.