

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 24, 2004

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
J. J. McConnell, Deputy Technical Director  
**FROM:** J. S. Contardi SRS Site Representative  
**SUBJECT:** SRS Report for Week Ending September 24, 2004

Staff member Robert Rosen was onsite for radiological worker training and various site related activities. Staff members Al Jordan, Randy Robinson, and Bill Von Holle, were onsite for a review of integrated safety management implementation relating to research and development activities at the Savannah River National Laboratory.

**Solid Waste Management Facility:** Nineteen transuranic waste drums have been identified that contain head space atmospheres that may exceed the lower flammability limit (LFL). The majority of the drums were generated in Building 235-F in the early 1980's. Two of the drums were previously determined to contain head space gases that exceed the LFL (site rep weekly 8/6/04). The flammable gases in the TRU drums result from residual isopropanol, toluene, and various organic compounds. Some of these volatile organic compounds generate vapors that are heavier than air, which may accumulate in vented drums. The safety basis assumes only 28 drums would be identified with head space gases above the LFL during the characterization of the remaining 16,000 drums. The identification of an additional 17 drums may challenge the assumed drum deflagration frequency and the current justification for continuing operations. Processing and characterization of drums originating from Building 235-F have been suspended.

**H-Canyon Hoist Failure:** To support the low enriched uranium blend down project, unirradiated Mark 22 assemblies are being processed in H-Canyon. Following the introduction of a Mark 22 assembly into H-Canyon on Tuesday, the south monorail hoist of the New Hot Crane failed while attempting to charge the 6.4D Dissolver with a Mark 22 assembly. The failure of the south monorail hoist resulted in the assembly being suspended above the canyon floor. The failure only affected the vertical movement of the load, but did not affect transverse movement of the New Hot Crane. Due to the height of the suspended assembly, the crane could not be moved to the crane maintenance area. The assembly has been transferred to the north monorail hoist and the dissolver was successfully charged. The New Hot Crane has been moved to the crane maintenance area so that the south monorail may be repaired. A root cause analysis will be performed to identify the failure mechanism of the hoist.

**Neptunium Processing:** Neptunium processing in HB-Line Phase II began in mid-August. Thus far, three 9975 Type B shipping containers have been loaded for interim storage in K-Area. Operations have been affected by a planned site-wide steam outage and contamination issues. The 9975 SARP requires alpha contamination to be less than 20 dpm/100cm<sup>2</sup>. Contamination has been found on the interior of the primary containment vessel lid of the 9975 that measured approximately 80 dpm/100cm<sup>2</sup> (alpha). Analytical determination of the contamination was not successful. Further counts of the contamination indicated a drastic reduction in the contamination levels that are consistent with radon. The likely source of the contamination is from the attachment of radon progeny on the plastic bag used during bag-out procedures.