

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 5, 2007

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** J. S. Contardi/M.T. Sautman, SRS Site Representatives  
**SUBJECT:** SRS Report for Week Ending January 5, 2007

**Savannah River National Laboratory:** In the 1970's, the six columns inside the Separations Equipment Development (SED) facility were used for processing plutonium in a gaseous form until the project was quickly shut down. Since then, the residual plutonium likely degraded to fluoride salt compounds and coated the Monel internals of the columns. In response to Site Rep concerns, the facility removed the old plastic bags off the column flanges, confirmed they were blanked, and covered them with new plastic since there was contamination present. Furthermore, the facility has begun monthly surveys of the lines that were used to transfer PuF<sub>6</sub> around SED and which are currently wrapped in very old plastic. A metal box is believed to contain a trap for a small furnace and several hundred grams of Pu. The contents of the wooden box are unknown, but a 1995 assay indicates it may contain less than one hundred grams of Pu. Considering that the equipment and boxes contain ~30 year old Pu, americium-241 ingrowth should be significant and is the likely cause for the elevated radiation readings of the boxes. The Site Rep has asked management to confirm that the source term inside the two boxes and the Am-241 ingrowth throughout the equipment holdup is accounted for in the Radionuclide Inventory - Administrative Control database. The glovebox that is partially covered with plastic was the location of an old glovebox fire. (Site Rep weekly 12/22/06)

**H-Canyon:** The Site Reps walked down the hot and warm canyon sample aisles and gang valve corridors. Recent work to reduce contamination levels and roll back the areas from airborne radioactivity areas was clearly evident. A few minor deficiencies were noted which included configuration management of radiological monitoring equipment, inadequate posting of low-level waste receptacles, and out-of-date signs. The Site Rep also recently walked down the outside facilities and will be walking down the outside contamination and high contamination areas with the Radiation Control Manager to better understand them.

**Liquid Waste Planning:** The Site Reps met with the contractor and representatives from the Department of Energy (DOE) to discuss future tank closure activities, salt processing, recovery of Tank 48, and evaporator operations. The contractor is currently revising planning documentation to address the delays in salt processing and other emerging issues related to the liquid waste system (e.g., increased sludge volume and the effects of higher aluminum content on canister production).

**Readiness Reviews:** The DOE provided direction to the contractor that readiness reviews will not start unless the authorization basis is approved. This addresses the Board's concern with the HB-Line Readiness Assessment. (See 9/15/06 and 10/13/06 reports).

**Saltstone:** During the last grout run, grout and waste apparently leaked out of the mixer during the final flush, overflowing the drip pan and spilling onto the floor. Contamination was up to 600,000 dpm  $\beta$ - $\gamma$  fixed. The area was decontaminated and the mixer packing will be replaced.