

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 31, 2008

**TO:** T. J. Dwyer, Technical Director  
**FROM:** M. P. Duncan and M. T. Sautman, Site Representatives  
**SUBJECT:** Savannah River Site Weekly Report for Week Ending October 31, 2008

**H-Canyon:** Savannah River Nuclear Solutions believes they can accelerate the submittal of the upgraded Documented Safety Analysis (DSA), Technical Safety Requirements, and Double Contingency Analysis from 12/28/09 to 3/6/09. They believe they can accomplish this acceleration by using a dedicated, co-located team; doing more work in parallel; conducting independent reviews of the draft; and reducing the number of Safety Integrity Level calculations.

The senior Safety Inputs Review Committee (SIRC) acknowledged that they were not the proper forum for making funding decisions for new controls and will instead focus on reviewing the technical adequacy of the proposed controls and any alternative approaches. When the SIRC revisited evaporator controls for red oil explosions, they decided to recommend an interlock for the evaporator that poses the most risk during unirradiated material processing. A Specific Administrative Control would prohibit irradiated fuel reprocessing, which reduces the red oil risk posed by the other evaporators. Separate from the DSA, the steam valves for all the evaporators would be modified to prevent them from failing open. Similar to the Tank Farms DSA, the new DSA is expected to have a list of controls that were not funded or could not be installed in time to support DSA implementation. In those cases, the DSA will require compensatory measures or state that the risk is accepted. Many of the other proposed controls will likely be on this list. (10/17/08 report)

**Integrated Facility Aging Management (IFAM):** The IFAM Program Plan was approved by Savannah River Nuclear Solutions. The plan covers H-Canyon, HB-Line, K and L Areas, F/H Analytical Laboratories, Savannah River National Laboratory, and site infrastructure. The Site Rep observed the training that was provided to H-Canyon systems engineers who will perform the first review on the cooling water system. The streamlined process will be guided by a series of flowcharts and a spreadsheet. H-Canyon systems are to be completed by August 2009 with the rest of the facilities by the end of 2009. The big uncertainty is whether there will be any funds available to address any degradation that is identified by these reviews. (8/8/08 report)

**Salt Waste Processing Facility:** The Site Rep observed a portion of the reinforced concrete placement for the Waste Transfer Enclosure. This was the first time for this project that concrete was placed that will perform a safety-significant, performance category 3 function for natural phenomena hazards resistance. DOE had a significant field presence providing oversight. The concrete from the first truck failed to meet the specification for slump and had to be rejected.

**F-Canyon:** A recent non-destructive assay of the plutonium holdup still in the Transuranic Waste Repackaging Enclosure identified higher than expected fissile gram equivalents (FGE). When an engineer reviewed the inventory logs for the last month, he identified a transcription error that caused the cumulative FGE holdup to be undercounted by 89 grams, but still below criticality safety limits. While the cumulative inventory values on a page undergo second person verification (SPV), there was no SPV required when transferring the total from one page to the next. In this case, the value actually written was for a different column. An extent of condition review identified a second similar, but very minor error.