DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 21, 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 October 21, 2011

Savannah River National Laboratory (SRNL): This week SRNL personnel declared a positive Unreviewed Safety Question for tank 782-A. This tank supplies water to the safety significant fire protection system for building 773-A. This tank is a split tank with an inner tank and an annular tank. The annular tank supplies water to the fire protection system. A review of the calculations and construction of this tank revealed that, in some situations, this portion of the tank is unable to provide the necessary water flow. In addition, SRNL determined the structural integrity of the tank to be questionable. In accordance with the design specification, the thickness should be at least 0.29". An inspection of the tank revealed areas of thinning. In one location, the thickness of the shell base was determined to be no more than 0.18" while in two other cases the thickness of the base was approximately 0.22". In some areas, the outer fillet weld that joins the base to the tank wall has rusted away and the rust has begun undermining the base. The only joint remaining between the tank wall and base in these areas is a ¼" fillet weld on the inside of the tank. SRNL has implemented compensatory measures requiring the water level in the tank to be no less than 25 feet high, and to have personnel inspect the water height at least once every day, and to inspect for leaks at least three times a shift.

The site rep attended planning meetings for the replacement of the first of the hot cell windows. This hot cell is highly contaminated and contains radioactive material. SRNL must move this material to other cells before rigging and a subcontractor can replace the window. SRNL plans to replace the window during the next four months.

High-Level Waste: SRR submitted to DOE-SR a list of proposed cost savings initiatives (CSI) to allow as many contract deliverables as possible under tighter budget scenarios. DOE-SR approved many of the CSIs including changing the design of the Saltstone disposal vaults to a much larger "mega vault" design concept, eliminating several control rooms, automating procedures, and redesigning the melter bubblers. Under the reduced funding scenarios, SRR believes they can close six tanks by 2015 and a total of 10 tanks (with 2 more empty) by 2017, versus the currently planned 9 and 18. The start of enhanced chemical cleaning operations and small column ion exchange treatment would be deferred to 2018. The savings would be used to accelerate the closure of several tanks. DOE rejected proposals to freeze Standards/Requirements Identification Documents, reduce tank visual and photo inspections (unless already removed from service) and some of the methodology changes for the waste tank flammability program.

235-F: The site rep accompanied an operator on his rounds of 235-F. No concerns were identified with the conduct of the rounds or the handling of out-of-range items. The site rep also observed the progress SRNS has made in removing combustibles from the facility.

Fire Department: The site rep observed firefighters conduct live burn training at an offsite training facility. In addition, new Radiological Control Inspectors received hands-on practice on how to set up cold/warm/hot zones and remove contaminated bunker gear.