DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 30, 2010

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 December 30, 2010

Solid Waste Management Facility (SWMF): SRNS conducted their Readiness Assessment (RA) for Cell 11 TRU waste box repackaging. The facility conducted dry runs and drills to demonstrate their proficiency. The RA team was experienced and conducted a thorough review using well-prepared lines of inquiry. The RA reviewed all aspects of the operation except for the fact that a fire suppression system will be installed later on. DOE is allowing the facility to operate for 30 days before requiring the system to be installed. A separate Functional Area Management Assessment will review the new fire suppression system as well as any items affected by it. Facility personnel were still determining the impacted scope. This scope needs to ensure that the revised procedures and training ensure that an inadvertent activation of the nitrogen-assisted fire suppression system does not lead to suffocation of operations personnel.

An RA team observation noted that the SRS activity level hazard analysis tool had not been correctly used to analyze the hazards. The way hazards were ultimately addressed by the procedures and work practices was driven more by mock-ups, management attention, and other factors than by the quality of the hazards analysis. In response to this weak hazards analysis, the site rep observed the preparation of an unrelated hazards analysis at SWMF. The conduct of this hazards analysis did not adequately demonstrate several aspects of integrated safety management. For example, the scope of the job was not well defined. Key personnel had not walked down the job site nor were they familiar with the tasks to be performed. The facilitator dominated the discussion and advised the facility to not include a full description of the job or to address upset conditions. As a result of this advice, the team did not evaluate "what if" scenarios. The team decided that most controls were to be developed later by Radiological Protection personnel in the radiological work permit, by the procedure writers, or by operations personnel during the pre-job brief.

2010 Year in Review Part Two: SRR's accomplishments this year included the following:

- Poured ~240 canisters at the Defense Waste Processing Facility (DWPF).
- Increased DWPF's canister fill rate by more than 40% by installing melter bubblers.
- Processed ~475,000 gallons of salt solution through the Actinide Removal Process (ARP) and Modular Caustic Side Solvent Extraction Unit (MCU).
- Completed salt removal campaign in Tank 37.
- Since contract award, completed ~1250 transfers involving ~35 million gallons of waste in support of evaporators, Saltstone, ARP/MCU, DWPF, etc.
- Processed ~1.2 million gallons of salt waste through Saltstone.
- Tanks 5, 6, 18, and 19 are in final sampling and isolation.
- Completed bulk waste removal of Tanks 8 and 12 and are preparing them for mechanical heel removal and chemical cleaning.
- Completed conceptual design for Small Column Ion Exchange.
- Completed 35% design for Tank 48 Fluidized Bed Steam Reformer. DOE approved CD 2A/3A for procurement of long lead materials.
- Submitted CD 2/3 for Saltstone Disposal Units 2, 3, and 5.
- Completed organic modifications for Saltstone Vault 4.
- Pursuing ARP/MCU life extension with the next generation solvent and currently developing enhancements to Saltstone.
- Initiated the third round of Enhanced Chemical Cleaning (ECC) simulant testing, completed fabrication of the real waste test rig, and initiated preliminary design of ECC.