

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 1, 2016

**TO:** S. A. Stokes, Technical Director  
**FROM:** M. T. Sautman and Z. C. McCabe, Site Representatives  
**SUBJECT:** Savannah River Site Weekly Report for Week Ending July 1, 2016

**Emergency Preparedness (EP):** The 2016 SRS Site Evaluated Exercise (see 5/20/16 report) was graded Satisfactory. The Public Information major objective was partially met. Evaluators noted weaknesses related to the public address system and the use of position vests without a procedure.

The staff observed an evaluated EP exercise at H-Tank Farms involving a simulated earthquake – induced siphon of Tank 30 that causes waste to spill at the West Pump House. The staff's observations differed significantly from those of the controllers. While the Radiological Protection personnel initially surveyed their way to the incident scene/injured victim from an upwind direction and later established firm control of radiological boundaries once they relocated to a lower dose area, they provided little control during the initial response to the injured victim. For example, two first aid responders drove through the plume in a golf cart, then the incident scene coordinator walked to where they park (an unsurveyed area), and then the three of them walked back to the injured victim and walked freely amongst other responders without being surveyed, and finally the victim was placed in the back of the unsurveyed golf cart to be transported to a low dose rate area. Although the exercise scenario guide stated that contamination levels in these downwind areas was supposed to be up to 400 dpm/100 cm<sup>2</sup>  $\alpha$  and 20,000 – 80,000 dpm/100 cm<sup>2</sup>  $\beta\gamma$ , the controllers did not cause these personnel in street clothes to receive any contamination when they were later surveyed. Conducting this exercise at a cooler time of year would have also reduced the amount of simulation.

**H-Canyon:** The site reps observed dry runs and interviews associated with the DOE-SR Readiness Assessment of the Head End and 1<sup>st</sup> Uranium Cycle Solvent Extraction (1<sup>st</sup> U) processes. While no equipment issues were encountered with the variable frequency drives, operators had to manually start the simulated feed when the automatic start function did not work.

**Technical Safety Requirement (TSR):** Upon further review of the five recent TSR violations, SRNS personnel, with concurrence from DOE-SR, decided that two events at Savannah River National Laboratory and K-Area (see 4/22/16 report) were not actually TSR violations. In both events, SRNS personnel failed to enter the appropriate limiting condition for operation, but performed the required actions. Both events were combined in a management concern occurrence report along with a similar administrative breakdown that did not leave the facility in an actual unsafe condition at L-Area (see 5/27/16 report). SRNS staff also presented the results of their Common Cause Analysis of these TSR violations and other recent events to SRNS senior management. The team identified two common causes: 1) less than adequate knowledge of TSR controls and their bases and 2) less than adequate rigor with implementation of TSR controls.

**Tank Farms Training:** SRR has enough qualified simulator instructors to support simulator training for control room staff going through their initial qualifications or their requalification process. However, the lack of a fifth shift and contract prohibitions against conducting training on overtime mean the simulator is rarely used for continuing training of entire shift crews. SRR is trying to staff up the equivalent of 4.5 shifts and/or modify the contract to facilitate more simulator training. Some of the simulator software is ancient. For example, the simulator for the only operating evaporator uses DOS-based software which is becoming increasingly difficult to support.