

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 20, 2015

**TO:** S. A. Stokes, Technical Director  
**FROM:** M. T. Sautman, D. L. Burnfield, and Z. C. McCabe, Site Representatives  
**SUBJECT:** Savannah River Site Weekly Report for Week Ending November 20, 2015

Chairman Connery, John Pasko, Todd Davis, and Monique Helfrich observed the annual site emergency preparedness (EP) evaluated exercise and visited several defense nuclear facilities to discuss safety issues. Zachary McCabe reported for duty as a site representative.

**H-Canyon:** DOE directed SRNS to take several actions to complete the work required of the Tunnel Sampling Plan. DOE discussed the following actions with the Chairman:

- Obtain core samples of the concrete from the tunnel, perform testing and analysis of these samples, and install permanent sampling ports
- Obtain sample of air tunnel atmosphere
- Perform soil testing and analysis
- Complete qualification methodology comparison
- Update any calculations determined to be impacted by any new results

**Annual Site EP Evaluated Exercise:** The exercise scenario involved a simulated microburst that downed power lines within the Savannah River National Laboratory. These power lines ignited two fires, one involving a radiological release from a damaged transuranic (TRU) waste drum that resulting in the declaration of a site area emergency. The scenario also involved three contaminated and injured workers, one uninjured and contaminated worker, a loss of normal power to the SRS Operations Center and several SRNL buildings, a minor chemical spill, the use of the Alternate Emergency Operations Center (AEOC), and a main computer server failure at the AEOC. A weakness in the scenario was that many elements did not drive the need to take mitigative actions with any sense of urgency. For example, the two fires involving the TRU waste drum and the Mobile Laboratory trailer ended up burning themselves out, the fallen power lines did not create any further hazards, and the chemical spill had no significant safety consequences. As far as the scenario was concerned, the fact that it took nearly an hour for the fire department to approach the TRU waste drum with a thermal imager and an additional hour to cover it with a tarp had no consequences. Furthermore, while there were three contaminated, injured workers, none of them really required urgent medical attention and so there were not any consequences when some of them had to stand around for nearly two hours waiting to be released to seek medical attention. While the fire department (FD) captain exhibited good command of FD resources, command and control by the Radiological Protection Department (RPD) was weak throughout the drill. RPD did a poor job of demarcating the hot, warm, and cold zones. Rather than laying down a large tarp and setting up ropes and stanchions to identify these, a single unmarked cone was the only indicator for the first hour. Although the FD had one patient ready to leave within 40 minutes and the other contaminated, injured workers were ready to leave shortly thereafter, RPD did not set out the hot, warm, and cold zone pads until an hour had passed and it was another 40 minutes before RPD started to process contaminated workers through the zones.