

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 25, 2018

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman, Resident Inspector
SUBJECT: Savannah River Site Activity Report for Week Ending May 25, 2018

Mr. Cleaves was at SRS to augment resident inspector activities.

Nuclear Safety: DOE directed SRR to implement the upgraded dispersion modeling factors at the Defense Waste Processing Facility and Tank Farms as follows (see 3/16/18 report):

- Use the new dispersion modeling factors to support new/revised offsite and onsite consequence calculations necessary for individual accidents associated with new activities like recent Potential Inadequacies in the Safety Analysis, Tank Closure Cesium Removal and Salt Waste Processing Facility integration.
- Use the new factors to support new/revised offsite dose calculations for natural phenomena hazard (NPH) roll-up events associated with new activities.
- Continue to use old factors to support new/revised onsite dose calculations for NPH rollup events associated with new activities. DOE-SR, however, will consider the implications of using the new factors in preparing their Safety Evaluation Report.

Tank Farms: The South Carolina Department of Health and Environmental Control approved the continued usage of the 3H Evaporator Pot because “it is essential for the closure of future high-level radioactive waste tanks.” DOE must notify them of any new leak sites. SRR has received and evaluated bids to repair the leak. In addition, procurement of long-lead materials for a new evaporator pot is ongoing in support of future fabrication. DOE and SRR will hold off making any decisions to repair the existing pot or install a new one until they see the performance of operating the current one as is. (See 3/23/18 report).

Salt Waste Processing Facility: During fire system testing, workers inadvertently activated the deluge system. Lack of detail in the work package and lack of rigor in execution were factors.

Defense Waste Processing Facility (DWPF): DWPF personnel performed a training drill to demonstrate their ability to respond to a seismic event. The scenario involved DWPF processing material with the Slurry Mix Evaporator, the Sludge Receipt and Adjustment Tank, the Melter, and the 512-S Facility operating when an earthquake occurs in the coastal South Carolina region. Additional complications included a radiological release, a Continuous Air Monitor (CAM) alarm, and an injured individual. The drill effectively utilized the DWPF training simulator, which presented the operators with real time simulation and response presentations at their workstations that utilized dynamic modeling of the DWPF process.

Contamination Control: Workers experienced unexpectedly high contamination levels during a magnesium bed swap at H-Area New Manufacturing and while removing a shielded cell manipulator at F/H Laboratory. In both cases, workers quickly responded after an air monitor alarmed or the radiation work permit suspension guideline was exceeded.