

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 12, 2020

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** M. T. Sautman and Z. C. McCabe, Resident Inspectors  
**SUBJECT:** Savannah River Site Activity Report for Week Ending November 12, 2020

**Staff Activity:** Donald Owen of the Board's technical staff was on site this week to observe activities at the Salt Waste Processing Facility.

**Savannah River Tritium Enterprise (SRTE):** SRTE personnel held a facility radiological action team (FRAT) meeting to discuss the planned upcoming evolution to remove and replace the uranium beds (U-Bed) in the Tritium Extraction Facility. Although this evolution is similar to replacing magnesium beds, which is done somewhat routinely, SRTE personnel determined that they would hold a FRAT due to the possibility of zinc-65 contamination. However, SRTE personnel believe an upstream filter has prevented zinc-65 from getting to the U-Bed.

At an unloading line in H-Area New Manufacturing, SRTE personnel noticed that a sacrificial window on one of the positions was not in place as it normally is. An extent of condition identified two additional locations with the sacrificial window missing. Further investigation revealed steps in a procedure that directed the cleaning and replacement of windows that were difficult to complete as written. An additional contributor to the event was the lack of questioning attitude when procedure steps were confusing or couldn't be performed as written.

**Salt Waste Processing Facility (SWPF):** The Board staff member observed the initial transfer of sludge solids from SWPF to the Defense Waste Processing Facility. The sludge solids result from operation of the alpha strike process. Approximately 2300 gallons were successfully transferred with no equipment or procedural problems. Caustic side solvent extraction (CSSX) operations were delayed this week due to continued problems with one of two process pumps for feeding the solvent extraction contactors.

As nominal salt waste feed concentration has been increased with Startup Review Board approval (see 11/3/2020 report), Parsons continues to monitor radiation levels in normally accessible areas of SWPF. Most areas that are normally transited have little to no elevated radiation levels. However, one corridor in the CSSX processing area has elevated levels. The area is controlled as a radiation area, and Parsons is evaluating actions to reduce the levels (e.g., use of component shielding).

**Defense Waste Processing Facility (DWPF):** SRR is evaluating a new antifoam agent to replace the current agent used in the Sludge Receipt and Adjustment Tank and the Slurry Mix Evaporator. The purpose of this effort is to increase the processing rate at DWPF in order to keep up with the planned SWPF throughput and to address undesired antifoam agent degradation and other operational issues. Testing has shown the proposed agent to be more stable as well as substantially improve operational effectiveness. SRR plans to complete safety documentation, including an unreviewed safety question evaluation, and implement use of the new agent in early 2021.