

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 10, 2024

**TO:** Timothy J. Dwyer, Technical Director  
**FROM:** L. Lin, Z.C. McCabe, and E.P. Richardson, Resident Inspectors  
**SUBJECT:** Savannah River Site Activity Report for Week Ending May 10, 2024

**Defense Waste Processing Facility (DWPF):** DWPF declared a Potential Inadequacy in the Safety Analysis (PISA) on 5/7/24 related to the solid basis for the Off-Gas Condensate Tank (OGCT). The following day, DWPF determined that the PISA resulted in a positive unreviewed safety question. The OGCT was excluded from the retained hydrogen program based on using an unagitated sample result that showed a much lower weight percent solids than was obtained during a recent agitated sample taken as part of a flushing evolution. Allowing solids accumulation in the OGCT could impact the retained hydrogen calculation and the curie balance calculation, ultimately affecting the melter condensate steam hydrogen generation rate and inhalation dose potential in a non-conservative direction. Increased hydrogen retention in the solids could lead to a flammability condition in the OGCT and a potential explosion that would prohibit the safety class tank from performing its credited function of containing its contents following a seismic event. As a result, facility management has prohibited operation of the OGCT agitator and limited liquid level to less than or equal to 8,000 gallons to ensure the hydrogen concentration in tank vapor space tank remains well below the lower flammability level.

**L-Area:** During an audit of completed watchbills, the facility found that the radiological protection department (RPD) technical surveillance requirement (TSR) minimum staff position was left blank on 5/3/24. The shift operations manager (SOM) and first line manager (FLM) approved the watchbill prior to the shift and subsequently validated it at the end of the shift without noticing the omission. Qualified watchstanders were present in the facility for the duration of the shift which facility management has deemed acceptable to fulfill TSR requirements. During the issue investigation meeting, the team identified multiple causes, including not ensuring that TSR watchstanders are aware that they are on the watchbill and not reading the watchbill during turnover meetings. Site leadership in attendance directed meaningful corrective actions, including mandating that the full watchbill be discussed with all shift personnel at all facilities prior to starting each shift.

**Savannah River National Laboratory (SRNL):** SRNL personnel completed supplemental briefings to employees to address the level of knowledge gaps identified during the implementation process for Documented Safety Analysis and TSR revision 3. The training broadly covered the new specific administrative controls (SACs) and provided some what-if scenarios. BSRA followed-up the training with a knowledge check via interviews and found improvements since the conduct of the implementation verification review (IVR) (see 4/5/24 report). However, over twelve of the thirty-six personnel interviewed do not perform safety basis impacting tasks (e.g., they work in non-nuclear facilities). BSRA continues to work through addressing the pre-start findings prior to implementing the updated safety basis. Notably, DOE-SR's finding regarding the lack of field demonstrations and observations associated with the IVR remains open without documented corrective actions.