

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 25, 2024

**TO:** Timothy J. Dwyer, Technical Director  
**FROM:** L. Lin and E.P. Richardson, Resident Inspectors  
**SUBJECT:** Savannah River Site Activity Report for Week Ending October 25, 2024

**SRS Environmental Management (EM):** The resident inspectors (RIs) met with SRNS personnel to discuss updates to the EM uranium system plan and the upcoming plutonium system plan. The SRNS employees provided insight into how these two plans relate to the SRMC Liquid Waste Plan and the overall accelerated basin de-inventory mission. Both contractors are evaluating further process improvements to increase the likelihood of achieving liquid waste facility closure by 2037, which requires decoupling H-Canyon from the Tank Farms in 2034. The RIs are concerned with the lack of disposition path for the nuclear material remaining in H-Canyon and L-Area following decoupling, along with post-2034 plans for H-Canyon operations.

**Savannah River Tritium Enterprise (SRTE):** During calibration of the reservoir automatic leak detection (ALD) system, Savannah River National Laboratory (SRNL) personnel adjusted the single channel analyzer setpoints to match newly installed hardware and successfully completed the evolution in May 2024. Later, someone adjusted the setpoints back to the pre-calibration settings and did not record or report the change. SRTE personnel used the ALD equipment numerous times to verify the integrity of reservoirs with no issues noted. While comparing setpoint values during calibration of the redundant automatic leak detector, SRNL personnel discovered the discrepancy in setpoints between the first unit and the redundant unit and notified SRTE personnel. SRTE personnel re-verified all reservoirs processed since the original calibration and confirmed that no design agency limits were exceeded for any reservoirs during that time period. SRTE identified poor configuration management between work groups and a lack of knowledge amongst responsible parties (both SRNL engineers and the SRTE system engineer had no prior knowledge of ALD calibration) as the causes of this event.

**Salt Waste Processing Facility (SWPF):** SWPF had two personnel contamination events less than two weeks apart. After replacing a pump in a high radiation area/high contamination area, a maintenance mechanic alarmed the personnel contamination monitor when exiting. A radiological protection department (RPD) inspector found 10,000 dpm/100cm<sup>2</sup> β/γ on their skin by their left knee. They had been wearing the designated protective clothing per the radiological work permit. However, SWPF personnel believe the contamination was able to migrate through the porous layers due to hot working conditions and sweat-through. Due to coupling damage on the pump, more work was performed on the same pump a week and a half later. The second maintenance mechanic alarmed the personnel contamination monitor and the RPD inspector found 16,000 dpm/100cm<sup>2</sup> β/γ on the skin of their right elbow. SWPF management decided to pause work in that room until corrective actions are in place. RPD performed surveys, and no contamination spread was found in either case. The maintenance mechanics were successfully decontaminated and cleared the monitor. A post-job review was performed after each incident. The pump replacements involved work in a very tight space with mechanics needing to reach around other equipment or work on the floor. SWPF personnel are evaluating corrective actions, including placing an epoxy coating on the floor to facilitate decontamination and washing of the floor, as well as the use of different personnel protective equipment.