

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 10, 2023

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** A.Z. Kline, L. Lin, Z.C. McCabe, and E.P. Richardson, Resident Inspectors  
**SUBJECT:** Savannah River Site Activity Report for Week Ending March 10, 2023

**DNFSB Staff Activity:** Member of the Board's staff D. Brown was onsite to observe operations at the Savannah River Tritium Enterprise (SRTE).

**Defense Waste Processing Facility (DWPF):** A resident inspector (RI) observed a control room manager final qualification board. Board conduct and candidate preparation showed noticeable improvement from previous qualification boards.

**Accelerated Basin Deinventory (ABD):** The ABD mission eliminates uranium recovery in H-Canyon and instead directly transfers dissolved spent nuclear fuel to the Tank Farms. H-Canyon completed the first few transfers of ABD material to H-Tank Farms this week.

**Savannah River Tritium Enterprise (SRTE):** After lockout restoration and a maintenance on an unloading line laser (used for cutting reservoir stems), SRTE personnel cut the incorrect reservoir (position 5 rather than position 1) on the unloading line. The laser remains in the position it was in when the lockout was installed until the post maintenance testing (PMT) is completed and the laser is reset. In this instance, SRTE personnel failed to complete the required PMT and reset the laser. Upon lockout restoration, the distributed control system (DCS) displays the unloading laser at the "home" position, which corresponds to position 1 on this unloading line. The DCS indications and camera view of the reservoir stem appeared to indicate that the laser was at position 1. The reservoir at position 5, which was the actual position of the laser, was not fully prepared for unloading (e.g., valved in and under a vacuum). Thus, when SRTE personnel cut the stem, tritium was released into the glovebox and alarmed the exhaust duct tritium air monitor. Upon radiological control inspection, they determined that there was no spread of contamination or sustained increased air activity in the process room.

During the issue investigation, SRTE personnel identified several shortcomings that contributed to the event. For instance, the maintenance work package included the PMT, which was signed off as complete, yet had not been performed. Typically, maintenance personnel merely request (per work instructions) operations personnel to perform the PMT. Further, the need to perform the PMT was not adequately documented or discussed during shift turnovers. The unloading procedure, a technical reference, does not include a step to verify the position of the laser in the field. It appears as if these same shortcomings occurred when SRTE personnel performed maintenance on the other unloading line as well. However, the home position on that line is position 8 and the typical unloading practice has operators begin unloading on position 1. Therefore, when they attempted to move the laser, the operator realized that the laser had not been reset and the PMT had not been performed. Upon discovering this issue, SRTE personnel did not recognize that this oversight could impact the other unloading line.