

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 9, 2025

TO: Technical Director
FROM: Savannah River Site Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending May 9, 2025

Staff Activity: Members of the Board's staff were onsite for a review of the Savannah River National Laboratory safety basis implementation. They assessed the implementation of new specific administrative controls through tabletop discussions and field walkdowns. In addition, two members of the Board's staff conducted walkdowns at the Surplus Plutonium Disposition project and the Savannah River Plutonium Processing Facility.

Savannah River Tritium Enterprise (SRTE): When conducting functional checks on a safety significant tritium air monitor, SRTE personnel realized that the procedure did not guarantee alignment with the technical safety requirement (TSR) bases. During the functional check, operators purposely decrease the flow to the monitor to induce a low flow alarm and use a source to induce a high activity alarm. Operators are required to ensure that alarms for each are received both locally and remotely per the TSR. In the field, the audible and visual alarms for both conditions are the same, and the high activity alarm could also activate while performing the low flow check. The distributed control system in the control room indicates which condition is causing the alarm, but the procedure did not instruct operators to confirm with the control room that the low flow check set off only the low flow alarm. Upon realizing this, SRTE personnel reviewed recently completed functional checks on other safety significant tritium air monitors, placed similarly affected monitors out of service, and re-performed functional checks while including control room data to return them to service. SRTE personnel have modified the procedure to ensure the operators are aware of the need to continue low flow tests until only the low flow alarm is actuated.

Salt Waste Processing Facility (SWPF): The resident inspector (RI) attended a pre-job brief for removing three crossflow filters used to extract strontium-90 and actinides from radioactive salt solution. The facility is replacing ten-foot filters with sixteen-foot filters to improve SWPF processing rates. The work is done in an airborne radioactivity area and high contamination area. The pre-job briefing was thorough and two of the crossflow filters have been removed so far. After the removal of the second filter, maintenance personnel observed foreign material in the filter housing. They are determining how to retrieve the material.

Tank Farms: Personnel identified that the positioning of two mixing pumps at Tank 3 was higher than expected. Upon investigation, it was discovered that the work order instructed maintenance personnel to lower the pump by three rings. Maintenance personnel incorrectly assumed the first ring was at the flange rather than one up from the flange, and thus they only lowered the pump by two rings. From December 2024, each mixing pump was lowered in this way four times, resulting in the pumps being four rings (i.e., 40 inches) higher than intended. The pumps need to be submerged at a certain height for salt dissolution and to prevent aerosolization during mixing. Tank Farms engineering personnel verified that during pump operations, the required minimum submergence for aerosolization had been maintained at all times.