

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 2, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Z. C. McCabe Resident Inspector
SUBJECT: Savannah River Site Activity Report for Week Ending July 2, 2021

Staff Activity: Leigh Lin of the Board's technical staff was on site this week for familiarization and resident inspector augmentation. Ms. Lin walked down the Savannah River National Laboratory (SRNL), L-Area, H-Canyon, Tritium Extraction Facility, and H-Area New Manufacturing.

SRNL: Last week, an operator in a powered air purifying respirator (PAPR) working in a Airborne Radioactivity Area/High Contamination Area noticed that his breathing tube detached from the hood. No contamination was found on the operator or his personal protective equipment. This type of PAPR had been in use since 2014 and besides this issue, there was one other case of the breathing tube disconnecting from the hood in December 2019. SRNL has suspended the use of these PAPRs until the failure mechanism is understood. The suspected cause was that the breathing tube was not properly tightened to the hood fitting and loosened as the operator was working. The issue investigation discussed several corrective actions, including training on how to check that the tube is properly secured and potential modifications to the connection (e.g., adding a gasket).

L-Area: An issue was identified with a modification to tritium monitors at L-Area. The previous equipment had the signal conditioner mounted on the outside of the skid with a guard. Starting in December 2019, more than 10 of these were replaced but without a guard. When the first of these modifications were made at another facility, the maintenance manager questioned the voltage on the unit's terminals and how the electrical hazard was mitigated. This led to the issue identification at L-Area with the exposed terminals. The units in use have been barricaded until guards are installed. Several issues were discussed during the investigation, including inadequate planning during the design process and the final acceptance process.

C-Area: The resident inspector observed a portion of the quarterly and semi-annual facility rounds at 105-C. This included a walkdown of the heat exchanger bay and inspection of the main reactor process room. The resident inspector noted two unofficial operator aids which are hand-written on piping above sumps directing the operator from where to take the water level measurement. Additionally, the resident inspector observed an area posting near the reactor shield wall that listed 200 mrem/hr as the maximum recorded dose rate, but this area was not posted nor controlled as a High Radiation Area. The resident inspector provided these observations to SRNS.

Savannah River Pit Production Facility: DOE has approved the Critical Decision 1 package.

K-Area: The K-Area Complex called an operational timeout at the Criticality Control Overpack (CCO) Pad on June 23 and entered a Limiting Condition of Operation due to a forklift clamp damaging one of the CCO's during movement. The facility is in the process of finalizing the engineering evaluation to confirm that the CCO can be accepted in the damaged condition.