DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 27, 2018

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending April 27, 2018

Savannah River National Laboratory (SRNL): SRNL management has initiated a safety pause effective Thursday at close of business as a result of multiple recent events and short comings (see below, and weekly report dated 4/13/18). The pause halts all discretionary research and development (R&D) and research operations division (ROD) activities. SRNL management are still determining the compensatory measures needed to reverse this negative trend.

SRNL personnel evacuated all of the 773-A facility due to a partial loss of ventilation caused by an improper valve alignment when ROD personnel restored the instrument air (IA) system from a lockout (L/O). The L/O order includes a note that requires the operator to ensure the IA bypass valve is closed after the other valves are positioned correctly. The note also cautions that a loss of the IA system will result in the closing of the multiple dampers associated with the various 773-A ventilation systems. The shift operations manager (SOM) incorrectly determined the valve alignment when filling in the restoration portion of the L/O order. Rather than ensuring the isolation valves were open before closing the bypass valve, the SOM incorrectly determined that the isolation and bypass valves should be closed. Before releasing work, the SOM failed to review the relevant drawing that was attached to the L/O order, walkdown the system, or discuss the system with the relevant design authority. An operator, tasked with physically manipulating the valves completed restoration as the L/O order prescribed, which resulted in the complete loss of ventilation. Further, it was evident that neither the operator nor the SOM fully understood the potential impacts of incorrectly restoring the IA system or read the note in the L/O order. The operator also did not notice the caution signs on the isolation valves.

The resident inspector attended several other event investigations at SRNL this week. The topics included improper shipment of hazardous material, failure to remove material-at-risk from the tracking database after shipment, and identification of spilled legacy depleted uranium from a cracked container.

Saltstone: After a 7-week processing gap, Saltstone resumed processing for a period of approximately 5 hours before personnel noted problems with the grout pump and executed manual shut down. Troubleshooting determined that the hopper agitator was not running through the entire grout run, although the remote indication showed the agitator speed was operating properly. The lack of agitation apparently allowed grout in the hopper to slowly build up and cure. SRR identified that the electrical connection to the agitator motor was disconnected for an unknown reason and is evaluating if there is a need to monitor additional parameters.

Emergency Preparedness (EP): The resident inspectors observed the annual evaluated EP exercise at the Solid Waste Management Facility. The scenario simulated a lift truck transporting four transuranic waste drums between two pads that crashes after the driver has a medical emergency resulting in a breach of two of the drums.