DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 7, 2017

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Resident Inspector Report for Week Ending July 7, 2017

Savannah River National Laboratory: When facility personnel found water leaking from a ceiling near Shielded Cell Block B last week, they assumed it was due to another roof leak, placed a 55-gallon drum underneath it to collect the water, and wrote a work request. Last Friday, an operator performing rounds found the drum to be overflowing. The source of the water was soon determined to be water spraying from a fire water header located above the ceiling tiles. A 1.5" crack is visible on the inside bend of a 90°elbow of the safety significant fire suppression system. By the time the Fire Department had closed the system riser control valve and opened the main drain valve, several hundreds of gallons of fire water had drained past Cell Block B, much of it collecting in a trench. Throughout the event, the fire water jockey pump was able to maintain sufficient pressure without having to start the electric fire water pump. On Saturday, workers pumped out ~850 gallons of water from the trench. The area's posting was upgraded from a contamination area to a high contamination area/airborne radioactivity area when samples from the trench indicated rising alpha and beta contamination levels. Workers are preparing to replace the cracked elbow and remove additional water that has collected behind the cells and in a nearby separator pit. SRNS has been conducting fire patrols of the area affected by the impaired sprinkler system. On Tuesday, the Justification for Continued Operation required SRNL to stop all hot work, valve off the flammable gas distribution system, and stop work involving Class 1 flammable liquids in the affected area.

H-Canyon: H-Canyon personnel approved an Evaluation of the Safety of the Situation (ESS) which would allow the addition of TRM (Target Residue Material) into the facility, which was previously prohibited by the compensatory measures associated with the H-Canyon Exhaust Tunnel degradation (see 6/30/17 report). H-Canyon personnel have determined that additional TRM in the facility would not result in significant additional risk to the collocated worker or the public. The ESS additionally prohibits relocating other radiological material currently in an adjacent section of the facility in order to prevent a potential TRM project initiated fire from impacting the other material. Therefore, the TRM campaign can continue, pending DOE-SR's approval of the ESS.

F-Area: In May 2016 F-Area personnel identified legacy segregated solvent recovery filters with hold up of a significant amount of fissile material that was not considered in the F-Canyon safety basis (see 5/6/16 report). SRNS personnel determined that the filters could potentially become pressurized and could pose a hazard to a worker in the immediate vicinity (see 11/18/17 report). This week F-Area personnel successfully vented each of the filters which eliminated the hazard associated with a pressurized release of material.

Fire Protection Program: For the first time since they started tracking long-term impairments, SRS does not have any unplanned fire impairments over 180 days old. Only two impairments were over 90 days old.