

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 6, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending July 6, 2018

Tritium: Following the replacement of 17 relief valves on the Hot and Cold Nitrogen system, workers began to restore pressure in the system when tritium air monitors alarmed, causing workers to evacuate the room. The system engineer turned off the nitrogen supply to stop the pressurization and further release. None of the workers were contaminated or received a dose from the elevated tritium air concentrations. An investigation later identified that a fitting from a transmitter that was recently calibrated was loose. This allowed tritium to escape from the system as pressure increased. The cause for this fitting being loose is still under investigation. An investigation of the event identified several issues. Although seven workers from operations, radiological protection, and maintenance were involved in this non-routine activity (which was also being performed for the first time by the operator), facility personnel did not conduct a formal pre-job briefing, but instead relied on an informal discussion between the shift manager and the operator. Although tritium contamination was encountered earlier in the valve replacement activity and problems had occurred during previous system pressure restorations, many workers involved in the job were unaware of the potential for a leak nor were all the proper radiological controls in place in case a leak occurred. SRNS will require plastic suits when this work resumes and is reevaluating the hazards analysis, procedure, and controls for adequacy.

H-Tank Farms: SRR transferred ~219,000 gallons from Tank 15 to Tank 13. This reduced the tank level below the recent leak site and stopped the active leak. SRR also backfilled the sink hole near the 2H Evaporator. (See 6/15, 6/22, and 6/29/18 reports).

Defense Waste Processing Facility: SRR declared a positive Unreviewed Safety Question. The analysis of a potential pool fire due to a 512-S cell cover becoming dislodged by a seismic event and the resulting spill of the Late Wash Precipitate Tank contents and the oil from the agitator oil drain catch tank and gear box with a subsequent pool fire is non-conservative.

K-Area: The resident inspector observed K-Area personnel perform repackaging activities in the K-Area Interim Surveillance Vault. The evolution involved removing a 3013 container containing plutonium from a shipping package K-Area uses for storage and placing it into a newly inspected shipping package approved for offsite transportation.

Savannah River National Laboratory (SRNL): Last week, Radiological Protection Department personnel performed surveys of a room behind the SRNL shielded cells. The individual performing the surveys identified a small crack in the surface coating that exposed legacy contamination on the wall near one of the airlocks used to pass material into the cells that probed greater than 1,000,000 dpm alpha non-transferrable (instrument pegged). SRNL personnel barricaded the immediate area surrounding the crack.

235-F: The resident inspector provided observations to DOE and SRNS on the defined remediation scope and strategy, level of detail, and approved techniques in the procedures.