DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 3, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Z. C. McCabe, Resident Inspector
SUBJECT: Savannah River Site Activity Report for Week Ending September 3, 2021

Staff Activity: L. Lin of the Board's technical staff was on site this week for resident inspector augmentation and to prepare for reporting to SRS as a resident inspector later this month.

H-Canyon: The resident inspector observed the pre-job brief and the initiation of the first uranium cycle solvent recovery process. This is currently the last planned operation of the first uranium cycle.

Savannah River Tritium Enterprise (SRTE): Following completion of a construction evolution, SRTE personnel planned to remove a lockout on a 13.8 keV system. However, prior to removal, they noticed that an engineer who had previously signed onto the lockout had not yet signed off; thus his signature was needed to remove the lockout. The engineer was unavailable and could not be reached, causing SRTE personnel to follow the site process for removing someone without their signature. In doing so, SRTE personnel realized that the engineer's hazardous energy control qualification had expired on August 1. The engineer had never entered the safe approach distance of the electrical system, which was only locked out as a conservative measure. During an issue review, SRTE personnel learned that the engineer did not know that the HEC training (received two years ago) required refresher training. Additionally, SRTE personnel noted that the engineer had used this qualification very infrequently.

Salt Waste Processing Facility (SWPF): During acid cleaning of a filter in the Alpha Strike Process, a sump high level alarm unexpectedly occurred. The control room operator entered the alarm response procedure and concluded that the back pulse valve, which had been opened per procedure as part of the manual back pulsing sequence, had not been closed as required. As a result, more solution than intended was flushed into the cleaning solution dump tank, which overflowed into a sump in the hot cell. The control room operator restored the system to the proper configuration, including shutting the back pulse valve, and made necessary notifications. The operator was following the Use Every Time procedure, tracking completion of individual steps, and believed he had shut the back pulse valve after the requisite 5-second open time. After the event, the fact-finding team concluded that several factors contributed to the inadvertent tank overflow, including procedure deficiencies, distractions in the control room related to other alarms not associated with the filter cleaning evolution, and system conditions not being as expected. On the latter point, residual fluid in the filter loop likely resulted in a higher starting level in the cleaning solution dump tank and a shorter time to overflow the tank than would otherwise occur if the back pulse valve was inadvertently left open longer than expected. Procedure corrections are in progress and other corrective actions are being evaluated, including automation of the back pulse process. Similar events have occurred over the past several months (see 3/26/2021 and 6/4/2021 reports).