

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 18, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: L. Lin, Z. C. McCabe, E. P. Richardson, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending February 18, 2022

H-Canyon: H-Canyon personnel were performing waste cleanup activities in the railroad tunnel section of H-Canyon that involved removing plastic bags from jumpers and disposing of them in bags as radiological waste. They followed all Radiological Work Permit guidelines and were wearing two sets of protective clothing along with a powered air purifying respirator (PAPR). During post job monitoring, one of the individuals identified contamination ($1000 \text{ dpm}/100\text{cm}^2 \beta/\gamma$ and $200 \text{ dpm}/100\text{cm}^2 \alpha$) on their modesty clothing at the chest. After removing the shirt, they cleared the Personnel Contamination Monitor (PCM) twice, then donned a clean shirt and subsequently cleared the ARGOS contamination monitor twice. No portable instruments were used at this time. The individual was sent to internal dosimetry as a precaution. The whole-body count facility personnel found skin contamination the individual's upper left chest with levels of $2000 \text{ dpm}/100\text{cm}^2 \beta/\gamma$ and $200 \text{ dpm}/100\text{cm}^2 \alpha$. The whole-body count facility does not have decontamination capabilities, so the individual was then sent back to H-Canyon for decontamination. They were successfully decontaminated to non-detectable levels. An additional whole-body count was then conducted, which confirmed that the contamination had been removed. The source of the contamination is believed to be the PAPR cord, which read $20,000 \text{ dpm}/100\text{cm}^2 \alpha$ upon exiting after decontamination. H-Canyon personnel suspect that the cord contacted the inner coveralls during doffing and the contamination traveled through the inner coveralls and the individual's shirt due to it being saturated with sweat. The PCM did not detect the skin contamination due the levels being below its alarm setpoints.

K-Area: The resident inspector observed the Criticality Control Overpack (CCO) Pad TRUPACT-II loading evolution and formal pre-job brief as part of the contractor readiness assessment (RA) on 2/15/2022. The resident inspector noted several good practices including procedural compliance, three-way communication, and coordination between the site and the Mobile Loading Unit. The process improvements identified during previous dry runs of the procedure were incorporated and made the evolution more efficient. A time out was called when an equipment issue with the Adjustable Center of Gravity Lifting Fixture (ACGLF) occurred while reinstalling the inner lid on the TRUPACT-II. The issue was corrected, and the remainder of the RA field activities were completed successfully on 2/17/2022.

Savannah River Tritium Enterprise (SRTE): NNSA-SRFO transmitted a letter of direction to SRTE directing them to enter the Potential Inadequacy of the Safety Analysis (PISA) process regarding the recently demonstrated phenomenon of inadvertently released tritium being drawn back into the facility at H-Area New Manufacturing (see 2/4/2022 and 2/11/2022 reports). PI-2022-0001, Evaluation of Potential Safety Analysis Impacts Due to Inadvertent Tritium Stack Release, was entered into the New Information/PISA Database on 2/17/2022.

An operator at H-Area New Manufacturing was evacuating gas in preparation for transducer loop checks when a rupture disc burst and the gas entered a relief tank. There was no approved procedure for this operation, and the operator did not develop or use a procedure.