

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 17, 2021

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 December 17, 2021

Tritium Extraction Facility (TEF): Personnel placed continuous air monitors (CAMs) into service without performing the required Final Acceptance Inspection (FAI) after a design change for rewiring the power supply on each CAM. Investigation after the fact revealed that the shift operations manager (SOM) did not have any experience with FAIs and limited experience with design changes such as this. Additionally, the work instructions did not include a step to perform the FAI prior to energizing the CAM power supplies. A blank FAI (single page document) was included with the work package, but the need to complete it was not communicated with the operations team. Personnel in the issue investigation discussed the lack of knowledge of FAIs and the lack of a step in the work package to direct personnel to perform it. As new personnel are trained and qualified, emphasis must be placed on training and on developing technical work documents to avoid overreliance on personnel experience. The installation and post maintenance testing were all completed satisfactorily. Additionally, TEF personnel continued to perform alternative monitoring of the CAMS despite the units being returned to service.

H-Canyon: SRNS personnel are performing a root cause analysis for the contamination in the first level men's change room (see 10/29/21 report). The analysis is not yet finalized; however, personnel have begun developing corrective actions to prevent this from occurring in the future, including developing a compensatory measure to monitor canyon sumps with the liquid level measurement being out of service. Such compensatory measures are already required for some canyon sumps by the Double Contingency Analysis to prevent inadvertent criticalities.

Solid Waste Management Facility (SWMF): Last week, personnel were performing a monthly preventive maintenance on an exhaust fan for Cell 11 of the Low Activity Waste Vault. The expected sequence of events was to change out the HEPA filters and then change out the fan belts, which requires contacting operations prior to shutting down the ventilation fan. A mechanic de-energized the fan without notifying operations in accordance with the work package. Upon hearing the fan shut down, the second mechanic immediately notified the SOM and radiological control personnel responded and found no radiological issues. Personnel in the issue investigation noted that the informal pre-job brief did not cover the sequence of work, individual roles and responsibilities, and critical steps. Furthermore, there was a lack of communication between the SOM and maintenance personnel when performing the work. Several corrective actions were identified, including reinforcing expectations for pre-job briefs, conduct of operations training for personnel, and targeted management field observations.

Savannah River National Laboratory (SRNL): SWMF personnel were performing Real-Time-Radiography on a Transuranic Waste drum that originated at SRNL. The imaging revealed four sealed 15 milliliter vials containing an unknown liquid. This drum was filled in 2017 and sent to SWMF in January 2021. Per both the site manual and the SRNL procedures, sealed containers with liquid are prohibited inside TRU drums. SRNL personnel are in the process of developing a path forward and are planning to hold a fact-finding meeting next week.