DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 12, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: L. Lin, Z.C. McCabe, and E.P. Richardson, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending April 12, 2024

Savannah River Tritium Enterprise (SRTE): While attempting to rotate supply fans in H-Area New Manufacturing (HANM), the building lost ventilation. The facility entered the appropriate Abnormal Operating Procedure and ventilation was restored. Before the restoration, the facility received smoke detector alarms likely due to particulate buildup from running auxiliary equipment without ventilation flow. The fire department responded and found no issues. Prior to the fan rotation, the shift manager did not communicate to the operator that one of the supply fans needed to be changed from manual to automatic mode, and the operator did not perform the section of the procedure to change fan modes. The section of the procedure for rotating fans, while expected to only be performed if both fans are in "auto" mode, does not contain a step to check the actual status of the fans. During the issue investigation, personnel discussed the inadequacy of the pre-job briefing and potential improvements to the procedure.

SRTE personnel convened an issue investigation meeting for an unexpected result during work on the Hot and Cold Nitrogen system in HANM. After removing insulation from a valve, SRTE personnel exited the room and control room personnel opened a valve remotely, which released pressurized air through an existing leak. This resulted in an elevated tritium activity. SRTE personnel discussed many contributors associated with the event, including a less than adequate technical work document, failure to understand system conditions, and failure to comply with expected work practices. However, the resident inspectors observed weaknesses in that the issue investigation did not identify an appropriate problem statement, nor did they have the appropriate personnel involved in the actual event available to participate in the discussions. A representative of the SRNS Independent Evaluation Board and NNSA-SRFO present at the meeting agreed with these concerns.

Tank Farms: During an above-ground radiological waste transfer, operators did not perform a Technical Safety Requirements (TSR) surveillance to check the area radiation monitors (ARM) along the transfer path to verify their operability. The surveillance is required every 24 hours during the transfer, but personnel later determined that the surveillance was only performed the first day out of the five days. The issue was first discovered on April 2 when personnel could not find the datasheets for the surveillance when attempting to close out the procedure for the transfer. After the transfer, the facility confirmed that the ARMs were operable and that there were no increase in dose rates during the transfer. However, the facility did not perform functional checks of the ARMs to confirm operability or make notifications to DOE until four days after the issue was first discovered. During the issue investigation, personnel discussed that while each shift knew about the transfer, the turnover between shifts did not discuss the surveillance requirement. Personnel do not check on the status of the surveillances between initiation and collection of the sheets at the end of the transfer, and there is no electronic tracking system for surveillances that are mode-dependent, as was the case here. Facility management have implemented a standing order to ensure there is communication between the control room and field operators for performance of these surveillances until procedural changes are made.