

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 1, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: A. Z. Kline, L. Lin, Z. C. McCabe, and E. P. Richardson, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending July 1, 2022

Savannah River Tritium Enterprise (SRTE): While performing corrective maintenance on Tritium Extraction Facility (TEF) supply fans, a mechanic inadvertently removed a 24 volt fuse for the running supply fan flow instrument loop causing the facility to enter reduced ventilation. After realizing the error, the team at the panel, including the Tritium Process Controls (TPC) subject matter expert, decided to re-install the fuse prior to taking a time out or contacting the control room. The operations team responded appropriately and restored ventilation promptly. The resident inspectors attended the issue investigation on 6/23/22, which demonstrated a noticeable improvement from recent performance (see 6/3/22 report). The SRTE leadership team has held multiple training sessions with their management focused on improving the quality of issue investigations and it was evident last week. Multiple causes were identified, including the shift operations manager releasing two work packages concurrently that needed to be performed sequentially, an undue sense of urgency by the field team to re-install the fuse due to an inadequate level of knowledge about ventilation upsets, and an inadequate peer check.

Salt Waste Processing Facility (SWPF): An overly complicated and difficult-to-navigate portion of the Technical Safety Requirements (TSR) resulted in SWPF personnel failing to enter a specific limiting condition for operation (LCO) condition and failing to perform a required surveillance regarding the clarified salt solution (CSS) turbidity. A safety significant interlock prevents CSS greater than 160 nephelometric turbidity unit (NTU) from reaching CSSX. In addition, SWPF personnel perform a weekly manual surveillance of the turbidity of the CSS. This surveillance can be performed in one of two ways: using two turbidity monitors or through sample analysis. Due to outage work activities, the two turbidity monitors and sample pumps were out of service. SWPF personnel entered the applicable LCO condition for the two turbidity monitors being out of service and performed the required actions (Condition B). However, SWPF personnel overlooked a one-sentence paragraph in the bases that says that if the manual surveillance cannot be performed, SWPF personnel should consider the surveillance failed and enter Condition C for the CSS Turbidity being greater than 160 NTU. SWPF personnel recognized this oversight nearly a month after initially entering Condition B when they were reviewing the necessary steps for returning the equipment back to service. They promptly entered Condition C and informed management. Until a revision to the TSR can be implemented to improve this LCO's clarity, SWPF are planning to revise the rounds procedure to explicitly state the requirement to enter Condition C if the surveillance cannot be performed.

Savannah River National Laboratory (SRNL): The resident inspectors identified a tool used for cutting zip ties a few inches away from a plastic chain (secured with zip ties) that is used to prevent unauthorized access to a High Radiation Area with a posted dose rate of 1 rem/hour. The resident inspectors believe this does not meet the intent of preventing unauthorized access based on the guidance provided in DOE Guide 441.1-1C, *Radiation Protection Programs Guide for Use with Title 10, Code of Federal Regulations, Part 835, Occupational Radiation Protection*. The tool was brought to the attention of SRNL management who corrected the issue.