

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 9, 2023

TO: Katherine R. Herrera, Acting 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 June 9, 2023

H-Canyon Lockout: An Electrical and Instrumentation (E&I) mechanic signed onto a lockout and performed work on a canyon exhaust fan damper actuator and solenoid without being qualified in Hazardous Energy Control (HEC). The issue investigation team members identified numerous deficiencies that led to the issue. The maintenance first line manager failed to verify the E&I mechanic's HEC qualification prior to assigning work as required. Additionally, a less than adequate pre-job brief was conducted where neither the lockout nor required qualifications were discussed. Weaknesses in the E&I mechanic's initial training pipeline and the transition process to their assigned facility also contributed to this issue. SRNS management was engaged in the investigation and, along with the issue investigation director, drove the questioning to ensure the causes were clearly defined.

Savannah River Tritium Enterprise (SRTE): SRTE conducted an issue investigation for a 2.5 hour delay in performing a Limiting Condition for Operation (LCO) required fire patrol that resulted in a Technical Safety Requirements (TSR) violation (see 6/2/2023 report). The issue was discovered by the Shift Operations Manager while reviewing the LCO data sheets later in the shift. Personnel could not determine the exact cause but speculated that the LCO tracking tool was inadvertently updated and the timer reset for the fire patrol, and therefore it did not show the correct time remaining or alarm at the proper time. The electronic LCO tracker is a tool, but the log sheets are the formal tracking mechanism for fire patrols. Usually, a fire patrol can be performed by any qualified operator and is not assigned to a specific individual. SRTE has since implemented a shift order that requires one individual to be responsible for LCO or non-LCO required actions. The shift order requires them to don a badge card with the card and responsibility to be turned over between shifts. In addition, they are to provide a second person verification for the person entering data into the LCO or non-LCO tracking tool after completing the required actions.

SRTE personnel conducted an issue investigation on the positive Unreviewed Safety Question where the tritium air monitor (TAM) control for the mechanical tester was not implemented in the TSR (see 6/2/23 report). SRTE initiated development of a preliminary consolidated hazards analysis (CHA) in February 2021, but a decision was made to roll it up into a larger CHA revision. The Tritium Facilities safety basis documents were not submitted until September 2021. The safety basis was approved, and the mechanical tester was field implemented in August 2022 and used twice before the issue was discovered nine months later. Personnel discussed that rolling up the CHA changes and the number of other reviews at the same time contributed to this issue. They also pointed to the nuance in the control scheme in that there is already a safety significant TAM in the room, but it is not required by the TSR to be operable unless certain equipment in the room is operating, which in this case should have included the mechanical tester. The mechanical tester has been tagged out of service until an evaluation of the safety of the situation is submitted and approved by NNSA-SRFO.