

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 3, 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 February 3, 2023

DNFSB Staff Activity: The resident inspectors (RIs) and associate technical director of field operations met with Ike White, Senior Advisor for the Office of Environment Management, and Frank Rose, Principal Deputy Administrator of NNSA, to discuss recent RI safety observations.

Savannah River National Laboratory (SRNL): SRNL entered the Potential Inadequacy of the Safety Analysis (PISA) process when a fire protection engineer questioned the adequacy of a Technical Safety Requirement (TSR) surveillance for the wet pipe sprinkler system. The monthly TSR surveillance requires verification of water pressure to be greater than 60 PSI, however the hydraulic calculation for the system requires 130 PSI to meet the design criteria for operability. The RI questioned why the draft PISA determination and operations shift orders only addressed the TSR surveillance for the wet pipe sprinkler system and didn't include the TSR surveillance for the dry pipe sprinkler system. SRNL engineering is working through the PISA process and the DOE has granted a one-week extension on final determination.

K-Area: During a recent emergency preparedness drill, the controller organization missed multiple opportunities to provide coaching during drill play. For example, the control room did not discuss or inquire about the status of the driver, radiological conditions, radiological monitoring and details on the firefighters until the scene was declared safe, stable and secure.

Liquid Waste: The Defense Waste Processing Facility completed changing over from using formic acid to glycolic acid for vitrification of radioactive liquid waste. Glycolic acid produces less hydrogen gas than formic acid and will allow the facility to process more waste.

Event Investigations: SRNS held the first of ten training sessions for Issue Investigation Directors that focused on the revised investigation procedure and improved process. Topics covered included investigative techniques, clarification of the responsibilities of the Responsible Manager, and types of biases that have the potential to negatively impact an investigation. The training included several exercises involving investigation team selection, reviewing personnel statements, and case studies from past events on site. Notably, the training also covered the use of the new Issue Investigation checklist, which should prove a valuable tool for investigators by guiding them step by step through the process. Investigators from SRNS and SRMC attended the first session.

Contrarily, BSRA has undertaken an effort to develop their own SRNL-specific procedure and process to govern investigations due to their unique missions and organization. Their efforts included reaching out to other laboratories in the DOE Complex for "best practices." BSRA plans to implement the new procedure and process by March 1 to coincide with SRNS's schedule. However, BSRA still has several tasks to complete prior to implementation, including approving the procedure, completing a Job Task Analysis for investigators, developing qualification cards and training materials, and conducting the requisite training.