

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 31, 2023

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 March 31, 2023

Staff Activity: Members of the Board's staff S. Seprish, P. Migliorini, S. Sircar, and M. Dunlevy were on site as part of a review of the Savannah River Plutonium Processing Facility's (SRPPF) safety approach for protection of facility workers. The Associate Technical Director for Nuclear Facilities Infrastructure and Projects, J. Plaue, was also on site to support the visit at SRPPF and walk down K-Area and the tritium facilities. Member of the Board's staff Q. Boney was on site for radiological worker training and site familiarization.

Savannah River Tritium Enterprise (SRTE): Although the planned combined facilities safety basis will no longer credit emergency preparedness, SRTE currently credits a robust emergency preparedness (EP) program to provide worker protection during emergency events (such as spills and tritium releases) in lieu of crediting additional safety systems, structures, and components. In the five months since the resident inspectors discussed issues with the EP program (see 10/28/22 report), SRTE has taken some action to improve performance. As part of these planned upgrades, SRTE intends to migrate all drill and exercise scenarios into a proprietary emergency management software prior to conducting the evolution in the facility. To date, they have one drill scenario under review in the new system involving a low-level spill of radioactive material, which they have performed multiple times as they rebuild their EP program. The Board's staff continues to have a strong interest in SRTE's capability to respond to mass casualty events that involve multiple personnel being contaminated or receiving an uptake of tritium. Based on conversations with SRTE management, they do not have any drills or exercises going through the approval process that involve more than three casualties. SRTE's only mass casualty drill or exercise was the site exercise in May 2022, which involved five personnel exposed to tritium.

SRMC Emergency Management: The resident inspectors previously noted EP drills at Tank Farms where the controllers focused on ensuring categorization of an operational event occurring within 30 minutes from discovery rather than encouraging players to promptly categorize and classify the event with the information they had (see 1/20/23 report). This led to delays in issuing protective actions to personnel during the drill. SRMC management discussed their expectations for prompt categorization following the drills and issued an interoffice memorandum to Tank Farms and emergency management staff last week. The memo re-emphasized the DOE Order 151.1D requirements that operational emergency categorization be performed as promptly as possible, no later than 15 minutes after recognition of an incident and no more than 30 minutes from initial discovery. The resident inspectors have not seen issues with categorization and classification of events and timely protective action announcements in recent drills at Tank Farms.