

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 11, 2025

TO: Technical Director
FROM: Savannah River Site Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending July 11, 2025

DNFSB Activity: Acting Chair, Mr. Thomas Summers, and Board Member, Dr. Patricia Lee, were onsite along with several members of the Board's staff to observe the site's annual emergency exercise and to discuss the current status, schedules, and challenges for the Savannah River Plutonium Processing Facility and the Surplus Plutonium Disposition projects at the Savannah River Site.

Site Annual Emergency Preparedness Exercise: Savannah River Tritium Enterprise (SRTE), H-Canyon, H-Tank Farms, Savannah River Site Operations Center, and local agencies participated in the annual emergency preparedness exercise. The emergency management organization conducted a complex, multi-event scenario that involved radiological releases from two facilities and multiple injuries. The contractor, SRFO and DOE-SR will develop an after-action report to document their evaluation of the exercise.

Updated Probabilistic Seismic Hazard Analysis (PSHA): DOE sites must review seismic hazard evaluations at least once every 10 years to determine whether updates are needed based on new information, as required by DOE Order 420.1C, *Facility Safety*. The Board previously issued a technical report in June 2021 (DNFSB/Tech-47), detailing several issues found with past executions of the seismic hazard assessment process during its review of DOE's implementation of the DOE Order 420.1C requirements. In 2021, Savannah River Nuclear Solutions initiated the site-specific seismic hazard evaluation update for SRS after the completion of the NGA-East (Next Generation Attenuation Relationships for Central and Eastern North America) Ground Motion model. The site issued the new PSHA report in 2025. The results of the PSHA indicate an increase in the low frequency content of the SRS design response spectra and non-conservatism in both the vertical and horizontal spectral accelerations compared to the currently evaluated criteria.

The nuclear facilities across the site, including SRTE, H-Canyon, HB-Line, K-Area, L-Area, F-Canyon, F/H Labs, Building 235-F, Solid Waste Management Facility, C-Reactor, Savannah River Laboratory, Saltstone, Salt Waste Processing Facility, Defense Waste Processing Facility, and Tank Farms, have entered the Unreviewed Safety Question (USQ) process for Potential Inadequacies in the Safety Analysis based on the new information in the recently issued PSHA report.

The NNSA and DOE-EM field offices issued letters of direction to the contractors to enter the USQ process after issuance of the updated PSHA, and to conduct facility condition assessments (FCA) to identify any structures, systems, and components (SSC) that are non-compliant with the updated PSHA spectra. The FCAs should be completed within 18 months of the updated PSHA report. The field offices expect the Evaluations of the Safety of the Situation to be submitted within 30 days from completing the FCAs, which should address all SSCs found to be deficient, and any compensatory measures that are warranted.