DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 29, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: L. Lin, Z. C. McCabe, E. P. Richardson Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending April 29, 2022

Savannah River Tritium Enterprise (SRTE): The resident inspectors (RI) observed a full scope drill in H-Area New Manufacturing (HANM) on 4/26/2022. The scenario involved an operator turning over a transfer cart containing reservoirs and damaging one of them, causing a radiological release. The Technical Support Room (TSR) was pre-staged for the drill but had very limited involvement in drill play besides gathering information from the Shift Technical Engineer. For instance, the incident scene had stabilized and did not require immediate intervention. However, facility personnel initiated recovery actions without involving the TSR. During the pre-job brief for the recovery actions, the incident scene coordinator asked for engineer assistance, which could have been provided by the TSR. The drill was scheduled for two hours but was terminated prior to field response after only 45 minutes. Additionally, drill simulation and props have opportunities for improvement in a few areas: Tritium Air Monitor alarms which were paper signs that said "flashing light" instead of using an actual flashing light, the sign was not updated to simulate alarm acknowledgement, reservoir props were not accurate for the type indicated in the scenario and required verbal intervention, and alarms in the control room were made by the controller organization verbally.

Sludge Samples: Tank Farms was preparing to perform a mock-up for sample returns from the Savannah River National Laboratory (SRNL) that would be released into a tank at H-Tank Farms, an evolution that had not been done in several years. An 8-ton cask is used to ship radioactive sludge samples between facilities onsite. SRNL had surveyed the cask interior in the shielded cells and found 10,000 dpm/100cm^2 alpha removable contamination at the bottom of the cask, which is above contamination area (CA) levels. Tank Farms personnel received the cask and, upon reviewing the survey results, determined that they could not open the cask as intended since it would only be in a CA. The RI noted that there was a shortfall in communications between SRNL and Tank Farms. The SRNL procedure had only required sampling and decontaminating the first 12 inches of the interior of the cask. When the RI discussed this with facility personnel, Tank Farms personnel had not expected the level of contamination in the cask that was found, and SRNL personnel were unaware that the Tank Farms were opening the cask in a CA. The cask was shipped back to SRNL to be decontaminated. The SRNL procedure has been revised to add a section for surveying and decontaminating the entire interior of the cask, if needed. Tank Farms personnel are evaluating a procedure change, which currently does not prescribe surveying the interior of the cask or require the respiratory protection.

Emergency Management: The RIs observed a training and development session for a site evacuation and relocation guide. Participants discussed the logistics of relocating a large number of people from the affected area, survey and segregation of contaminated personnel, and performing personnel accountability. The drill scenario that was posed was limited and did not consider an ongoing event or an event that impacts multiple facilities, which would increase the complexity of emergency response actions. The emergency management team plans to develop drill packages to verify the guide once it is developed.