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/100cm² 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.