

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 22, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending February 22, 2019

Solid Waste Management Facility (SWMF): Last week SWMF personnel were conducting a monthly walkdown of the Hazardous/Mixed Waste Storage Building and found a 15 gallon poly drum laying on its side. The personnel immediately notified the shift operations manager (SOM) and relocated approximately 100 meters upwind. The SOM then notified the SRS Operations Center and requested SRS Fire Department (SRSFD) support. Once the SRSFD arrived at SWMF, the SOM briefed them on the potential contents of the container. SRSFD then entered the facility and inspected the overturned drum. They did not notice any spills or leaks and then up-righted the drum and placed it back on the spill pallet. The Radiological Protection Department (RPD) did not identify any contamination on SRSFD personnel or at the scene. Several hours later, SWMF personnel banded this and other similar drums to their respective pallets. SRNS personnel suspect that the high winds during the thunderstorm the night before blew the drum (approximately 21 pounds gross weight) over. SRNS personnel are evaluating options to prevent recurrence.

Savannah River National Laboratory (SRNL): In February 2018, a SRNL researcher bagged out a paint can containing 15 tritium-exposed stainless steel samples in four vials with screwcap lids from a hood. With RPD support, the researcher placed the container in the cabinet under the hood (outside of confinement). Neither the researcher nor the RPD inspector recognized that the off-gassing tritium from the samples would eventually diffuse through the vials, bags, and can. In an attempt to disposition the samples earlier this week, the researcher requested RPD survey the container. The inspector identified approximately 40,000 dpm/100 cm² tritium on the outside of the container and an airborne radioactivity reading of 60E-5 µCi/cc at the container location. The inspector exited the room and made the proper notifications. SRNL personnel immediately barricaded the laboratory and posted it as an airborne radioactivity area. Discussions after the event revealed that the hazards analysis for the activity involving these samples did not cover tritium and its associated hazards. In the near term, SRNL personnel are planning to place the samples inside confinement again. They are still developing additional corrective actions.

Salt Waste Processing Facility: During a transfer of waste simulant between two tanks in the temporary tank farm (TTF), approximately 3000 gallons was inadvertently transferred to a third tank. This transfer involved manual valves and the TTF is not controlled by the Basic Process Control System since it is a temporary modification to support testing. A shift technical engineer in the field noticed the inadvertent transfer within 15 minutes and two valves that were not part of the valve lineup, were found in the open position. A review of the ongoing and previous transfers and nearby lockouts did not identify why the valves were in the unexpected position.

L-Area: Due to imprecise communications and confusion over roles, a late change to a work package criticality step was approved without the nuclear criticality safety engineer's concurrence. The mistake was identified after the pre-job briefing, but prior to the work being authorized. The SOM called a time out until the personnel resolved the issue.