

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 15, 2021

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 January 15, 2021

Defense Waste Processing Facility: The switch from a formic acid to a glycolic acid flowsheet significantly reduces the hazard from flammable gases. As a result, SRR is proposing to prevent vessel explosions and identify new controls to address spills and fires involving design basis waste streams. Spills that involve organic solvents would result in an organic layer that is then involved in a pool fire. SRR is proposing that the vitrification building vessels and oil drain catch tanks be credited as safety class to retain their contents.

Tank Farms: Engineers prepare annual system health reports (SHR) for 20 vital safety system and balance-of-plant systems. At this time, the annual SHRs for 15 of the 20 systems are late since only five SHRs were written in 2020. For six systems, the last annual SHR was written between 2 and 3 years ago. The resident inspector (RI) is following up on this topic with SRR.

Tritium: The RI observed workers prepare to unload reservoirs at H-Area New Manufacturing. The procedure included two steps to perform actions that satisfied the requirements of a specific administrative control. It was not clear that the workers understood what those requirements were.

Receiving and Warehouse operations personnel incorrectly identified argon gas intended for the Tritium Facilities as “service” rather than “goods.” This error resulted in the Tritium Facilities receiving argon gas that did not go through the necessary quality assurance check prior to delivery. The error was identified the following day. Tritium personnel developed a non-conformance report for the gas received without a quality inspection, which determined that the gas could be used as is without any negative impacts to the facility.

Savannah River National Laboratory (SRNL): The south sand filter exhaust fan caught fire last week (see report dated 1/8/21). Following the extinguishing of the fire, SRNL personnel installed a lockout on the fan, removed the debris from the damaged and burned belts, inspected the rest of the fan and identified no additional issues. The next day they removed the lockout and then turned the fan on in maintenance mode. The fan ran normally, thus, SRNL management directed (via shift order) to rotate the south fan online. When the following shift rotated the south fan online, they noted a vibration and sound emitting from it and then decided to rotate the fan offline again. SRNL personnel then locked out the fan again to re-verify the belt and sheave alignment before placing it back into maintenance mode and then eventually back online again. Less than 24 hours later, the facility noticed that the belt was rubbing the belt guard again and rotated it offline in order to continue to troubleshoot. SRNL personnel decided to swap out the belts again with a matching set, ran the fan for one day in maintenance mode, and then re-tensioned and inspected the belts. Since SRNL personnel placed it back online the first time after the fire, operations personnel have been periodically monitoring the south fan to ensure it was working properly. Prior to the fire, the belts on the south fan were last changed in September 2020.