

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 20, 2020

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 March 20, 2020

COVID-19 Response: DOE and the contractors are implementing their pandemic response procedures. Most DOE personnel are teleworking. NNSA is maintaining a minimum of six personnel onsite including a facility representative and a safety professional. DOE-SR personnel at SRS include a senior manager, an emergency management staffer, and one facility representative per facility on call or on site. The contractors are implementing social distancing protocols for meetings, the cafeteria, shift turnovers, and other interactions since most of their workforce continues to work at SRS. For example, SRR and others are separating rotating and day shift personnel in control rooms, breakrooms, entrances, etc. DOE accepted SRNS's proposal to postpone emergency preparedness drills and exercises through April 17. SRS continues to track employees at risk of being infected and is using subcontractors to deep clean certain offices as a precaution.

Recommendation 2012-1: The resident inspector (RI) visited 235-F to inspect areas where past leaks had been recently sealed/plugged. Past enclosure integrity inspections had identified leaks around two cell manipulators and the Actinide Billet Line pressure boundary. The RI also inspected locations where potentially combustible ceiling tiles and plastic light diffusers had been removed and/or replaced and discussed the impacts to the fire detection and alarms system. SRNS has removed all ceiling tiles except for a few tiles that were hung vertically that still need to be removed. The RI also examined areas where past migration of contamination has been detected. Facility personnel stated that they planned to address these in their Deactivation Plan.

Tank Farms: SRR declared a positive Unreviewed Safety Question because the current control set is not capable of preventing certain transfer jet aerosolization and overheating scenarios. In these cases, steam could either heat waste to boiling or steam/air impingement of waste could aerosolize waste. There are similar issues if the suction of the evaporator lift line would plug. SRR implemented compensatory measures to address the hazards.

Twelve minutes after the start of a waste transfer, operators identified an increase in sump level and shut down the transfer. Since the safety class jumper suspected of leaking was installed in 1994, SRR plans to remove this and two other similar jumpers and rebuild the jumper valves.

Defense Waste Processing Facility (DWPF): SRR continues to proceed with replacing formic acid with glycolic acid. Testing has indicated that thermolysis of glycolic acid is negligible so vessel purge rates will not change. SRR is planning to use sodium permanganate to destroy glycolate downstream. Longer term, the reduction of catalytic hydrogen generation by the use of glycolic acid will allow the functional classification of the Sludge Receipt and Adjustment Tank (SRAT) gas chromatographs (GCs) to be downgraded. These GCs have had reliability issues for years. In addition, the current antifoam used in the SRAT and another DWPF tank decomposes into two flammable gases. Testing has identified two antifoam agents that appear to provide satisfactory performance and which do not have flammable decomposition products.