

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 31, 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 July 31, 2020

Savannah River Tritium Enterprise (SRTE): Since the H-Area New Manufacturing start-up in 1992, condensation/accumulation of water has been an issue in various process rooms including the room that houses Thermal Cycling Absorption Process (TCAP). For the TCAP, product beds are heated and cooled with nitrogen. Last week SRTE personnel began warming a product bed that had been in “Full Cool” mode since November 2018 and thus had a significant amount of ice on its components. Shortly after starting the heating, an operator noticed a small puddle of water in the corridor outside of the process room and alerted the shift operations manager and radiological protection department (RPD) personnel. Workers halted the TCAP evolution. Although there was no air activity in the corridor, the count results of a wet smear were 2,300,000 dpm/100cm², which is above the lower limit for a high contamination area. RPD personnel appropriately posted the area.

Although SRTE personnel are well aware of (frequent) issues with standing water in this room due to condensation and ice melting during product bed heating, they believe that the long period since the last time this bed was heated was a contributing factor. Further, during the investigation after the event, SRTE personnel learned that the fire retardant absorbent material that recently replaced the (combustible) mop heads under components are not as absorbent and may not be in the appropriate locations. SRTE personnel discussed several short-term corrective actions; however, they are not planning on replacing the problematic equipment until 2025.

At the Tritium Extraction Facility, a work package was approved in April to repair a small leak in the breathing air system. After the troubleshooting was authorized in May, maintenance workers identified the cause of the leak, but decided to postpone the repair until after a major evolution. Meanwhile, the work package authorization expired at the end of May. Last weekend, a shift manager authorized the installation of a lockout that would support the repair, but the work package itself was not authorized. Due to some misunderstandings and other issues, a mechanic later replaced a pressure gauge although the work package was still waiting to be authorized. The mechanic also failed to sign onto the lockout/tagout permit.

Tank Farms: The Resident Inspector observed control room operators prepare and restart the 3H Evaporator, which had not run since March.

Covid-19 Update: The number of positive cases at SRS increased from 183 to 230. The site issued guidance for workers sharing government vehicles.

H-Canyon: Based on sampling and holdup calculations, engineers now believe the amount of solution that leaked to the cell floor was less than 75 liters, not 387 liters. (See 7/17/20 weekly report).