DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 16, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Z. C. McCabe Resident Inspector
SUBJECT: Savannah River Site Activity Report for Week Ending July 16, 2021

H-Area Tank Farms: Elevated levels of mercury vapor, notably below regulatory limits, released from the Tank 37 exhaust stack caused Tank Farms personnel to pause operations and barricade a significant portion of the west hill of H-Tank Farms. The affected areas include Tank 37, Tank 32, and the 3H Evaporator. Any activities inside the barricade require real-time mercury monitoring by Industrial Hygiene personnel or appropriately trained Radiological Protection Department (RPD) personnel. Tank Farms personnel have determined that the combination of mercury levels in the tank waste with elevated operating temperatures in Tank 37 resulted in the elevated mercury vapor release levels. The operating temperatures were higher than anticipated in part due to the fact that chromate cooling water was secured to support other work. Tank Farms management have developed and issued a briefing to Tank Farms personnel regarding the hazard and interim controls and are developing a path forward.

Savannah River Tritium Enterprise (SRTE): As previously reported (see 7/9/2021 report), SRTE personnel violated the Technical Safety Requirements by entering a room without an operable tritium air monitor (TAM) or alternate monitoring to perform a loop check calibration on a TAM. This week SRTE personnel convened a fact finding meeting to discuss the issue. Prior to the event, SRTE personnel including representatives from the RPD, the Tritium Maintenance Organization (TMO) and the shift operations manager (SOM) held a pre-job brief and discussed the requirement for alternate monitoring. Subsequently, RPD barricaded the process room with a radiological posting that read "Stop. Radiation Monitoring in this area is Out Of Service. [RPD] Approval Required For Entry." The SOM then entered the appropriate limiting condition for operation and conducted a walk down of the room with all personnel involved. After returning to the control room, the SOM released the work for the calibration. TMO personnel entered the room without RPD personnel and began performing the calibration. When the low flow alarm sounded (part of the calibration procedure) TMO personnel realized their error and exited the room. As a near-term compensatory measure, SRTE management have initiated a 24/7 senior supervisory oversight (SSO) where all work on safety significant components must be observed by the SSO.

H-Canyon: H-Canyon personnel intentionally cut an insulated cable they did not realize was energized as part of efforts to remove an abandoned instrument panel. The work package instruction specified removing and coiling a cable bundle, but did not specify cutting any cables. H-Canyon personnel were aware that one of the cable bundles was energized; however, they did not discuss this during the pre-job brief since cutting the cable was not part of the work scope. The construction workers determined during the task that they needed to cut a cable to perform the coiling, but failed to call a time out, which was identified as a contributing factor to the event during the fact finding by the DOE-SR facility representative. Additionally, H-Canyon personnel also concluded that cutting of the cable did not comply with the "test before touch" requirement to ensure components are not energized prior to working on them.