

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 30, 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 April 30, 2021

**Defense Waste Processing Facility (DWPF):** Future sludge batches and feed from the Salt Waste Processing Facility will increase the calculated radiological dose consequences at the DWPF significantly. SRR personnel have determined that additional safety class controls are warranted for specific accident scenarios in a future safety basis revision. SRR engineering presented a proposed safety class control set to SRR management to prevent an explosion in the Melter Off-Gas system in addition to the existing safety significant mitigator, Zone 1 Ventilation. The proposed controls include a suite of engineered controls including flow meters, transmitters, and interlocks as well as a new specific administrative control to ensure the total organic carbon concentration and the density of the melter feed contents are within limits.

**Savannah River Tritium Enterprise (SRTE):** SRTE responded to NNSA-SRFO's letter of concern this week. In the letter SRTE agreed with NNSA-SRFO's concern and the need for improvement in the area of Conduct of Operations. SRTE specifically listed three focus areas for improvement: review, approval, and scheduling of work; execution of work; and training.

When a Tritium Extraction Facility control room operator (CRO) attempted to conduct a Technical Safety Requirement monthly functional surveillance on a tritium air monitor (TAM), they inadvertently opened an automatic valve for a different TAM, which rendered this latter TAM out-of-service and which required an immediate entry into a Limiting Condition for Operations. The procedure that the auxiliary operator was using did not specify a specific valve number since opening any of the four TAM valves would test it when opened. In this case, the CRO had opened the correct graphic during the earlier task preview, but the CRO later opened up a second graphic to determine affected rooms and forgot the wrong graphic was up when they later went to open the valve. The CRO did not verify graphic number and they look similar.

**Tank Farms:** SRR has approved the Evaluation of the Safety of the Situation (ESS) for the positive Unreviewed Safety Question regarding contribution of flammable gasses from the evaporator pot into the cell via the non-condensable vent line. The set of proposed compensatory measures includes designating two portable ventilation units for use in the evaporators in case normal ventilation is lost. Additionally, the ESS proposes requiring an engineering evaluation prior to performing specific transfers and prohibiting some other transfers in order to protect certain assumptions. DOE-SR is currently reviewing the ESS.

**Building 235-F:** Last year, a team evaluated the impact that future ventilation modifications could have on the facility. Without preventive controls, unconditioned air can result in condensation that could lead to deterioration of gypsum board walls in process areas, flow of water in contaminated areas, corrosion of overhead components, and deterioration of air filters. The resident inspector has asked DOE for an update on the recommendations the team made to prevent these hazards. The recommendations included fixing contamination, sealing a door and process enclosures, choking air flow to enclosures, and performing structural inspections.