

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 26, 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 March 26, 2021

Salt Waste Processing Facility (SWPF): While preparing to sample the Intermediate Storage Tank, an operator was supposed to open a valve, wait 60 seconds, and then close it. The operator found the valve to be “really tight” so he decided to open and close it several times. He did not close the valve. The next day, workers sampled the same tank using a different procedure, which did not manipulate this valve. However, because the valve was open, ~700 gallons of solution transferred to the Alpha Finishing Drain Tank in ~100 minutes. At that point, the control room received a high level alarm, identified the mistake, and closed the valve. This inadvertent transfer of solution did not cause any safety impacts. SWPF personnel discussed this event during a fact finding meeting and identified several areas for improvement with the procedure and performance. Additionally, SWPF management are developing a briefing on lessons learned regarding the inappropriate valve manipulation and stated that they do not believe the idea of this being an acceptable practice is widespread.

Tank Farms: SRR declared a positive Unreviewed Safety Question. The flammability analyses for the evaporators consider the evaporator pot and cells as discrete vapor spaces. SRR identified that flammable vapors generated in the evaporator pot can enter the cell via the non-condensable vent line during normal operations. The compensatory measure is to prohibit evaporator operations. SRR expects the evaporators to be down for about two months.

Initial Conditions: The staff’s review of the Building 235-F safety basis and a resident inspector (RI) review of initial conditions has raised questions on their use in the safety analyses (see 1/29/21 report). SRNS completed their Phase I review that evaluated all their initial conditions to see if they were appropriate. Most initial conditions are appropriate because they are inventory controls or passive design features that are protected. One common issue is whether it is appropriate to consider container venting to be an initial condition and whether the filters themselves need to be safety significant. Another item of interest is when an initial condition assumes items will meet a waste acceptance criteria or a required packaging configuration. In other cases, the initial condition would be more appropriate as a control derived from an unmitigated analysis and/or specified as a safety management program. SRNS is now examining how initial conditions are protected. DOE will also be discussing the need for additional guidance on some of the above topics.

Savannah River Tritium Enterprise (SRTE): After a several month delay for SRNS to develop and implement new guidance (see 1/22/21 report), SRTE completed their second of two training sessions for personnel on conducting and grading oral examinations (see 10/23/21 report). This session focused on questioning techniques and grading including the expectations for implementing the new guidance on Technical Safety Requirement violations. The training addressed the RIs’ concern regarding using the new guidance as justification for passing a candidate who clearly violated the safety basis and whose actions/inaction in a real event would have resulted in an accident.