

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 27, 2017

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman, Site Representative
SUBJECT: Savannah River Site Weekly Report for Week Ending January 27, 2017

Tritium Facilities: The hydroburst system is used to burst test reservoirs. SRNS is setting up the system in a new location with a mix of new and relocated equipment. SRNS began a Readiness Assessment (RA) of the new equipment and the site representative observed the dry run. In general, the demonstration went well. A trainee, however, was used to do a second person verification.

The site representative observed readiness preparations for the upcoming RA for resuming furnace extraction operations in the Tritium Extraction Facility (TEF). Extraction operations have not been conducted for more than a year. The site representative observed a satisfactory drill involving a process chilled water leak that requires operators to 1) switch to service water to cool the furnace and 2) isolate the leak. (This shift crew's performance was unsatisfactory the previous time this drill was conducted). The site representative also asked NNSA how NNSA line management intends to review the adequacy of the contractor's RA and the closure of the contractor's pre-start findings before determining they are ready to start the NNSA RA when their plans are to have the NNSA RA team observe the valve lineups and simulator run during the contractor's RA for convenience.

The site representative attended a post-job review because a TEF worker manipulated the wrong valve during a tritium air monitor (TAM) functional check and ended up causing an alarm for the wrong TAM. The person reading the procedure step only read the description of the valve, but did not read the valve number nor did she highlight the color of the valve tag. SRNS used color coding of the tags of the two TAMs in the cabinet to reduce the chance of manipulating the wrong one.

SRR Emergency Preparedness: SRR is steadily addressing past feedback with their drill program (see 7/1/16, 5/14/15, 10/24/14, 10/10/14 weekly reports). Scenarios for regularly scheduled drills are more demanding than past annual site exercise scenarios and challenge players because they simulate events they have not encountered before. This week's tank farms scenario involved explosions/large fire at the Modular Caustic Side Solvent Extraction Unit that caused a loss of ventilation and blew out the high efficiency particulate air filters. This led to dose rates up to 66 rem/hr and very high contamination rates (complicated by the fact that high background readings made it hard to get an accurate reading) as well as two medical injuries — a heart attack victim who dies if not addressed within X minutes and a contaminated victim with a head injury. While not every aspect of the drill conduct and player performance met expectations, running these harder drill scenarios helps identify weaknesses that might not be revealed by conducting a simple drill scenario for the umpteenth time. Controllers are also getting better recognizing when players would get contaminated by their actions and then playing this out. By running these large radiological release scenarios in the cooler months, tank farms and fire department personnel can also wear all of their personnel protective equipment without overheating, which reduces the amount of simulation. These types of drills require a significant management commitment to provide the resources to develop the scenario, control the drill, and have enough players to respond to it.

Salt Waste Processing Facility: The site representative reviewed the training program procedures and plans for operations, maintenance, and radiation protection personnel. Qualification cards, class materials, and other training materials were requested for further review.