

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 18, 2018

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending May 18, 2018

Emergency Preparedness (EP): The resident inspectors, Mr. Cleaves, and Ms. Lin observed the 2018 SRS EP evaluated exercise involving a simulated seismic event which impacted multiple facilities. At H-Area Old Manufacturing, a roof collapse breached reservoirs that resulted in a deflagration of the contents. This was a Site Area Emergency. At H-Canyon, the simulated seismic event caused a spill of 64% nitric acid and a subsequent partial power outage. This was an Alert. At tank farms, the impacts included a partial power loss to three tanks and a diversion box, a high level alarm in a diversion box sump, and a contaminated worker. Six injured workers also needed to be transported from three different facilities. The above events stretched available resources and required control rooms to prioritize their actions as they were also dealing with multiple Limiting Condition for Operations entries, contamination surveys, and seismic damage inspections. The evaluation of the performance is ongoing.

Savannah River National Laboratory (SRNL): SRNL has exited their safety pause (see 4/27/18, 5/4/18, and 5/11/18 reports) on May 15. SRNL management have documented their transition from the safety pause in a Management Control Plan (MCP), which will be in place until permanent corrective actions are implemented. The MCP requires a task preview and a formal pre-job brief for all work in the facility. Additionally, SRNL personnel will categorize all work as low, medium, or high hazards activities based on the screening criteria in the MCP. All work deemed medium or high hazard work will require a supervisor/manager to be present. SRNL management are planning to resume work in phases beginning with low hazard work which typically includes routine laboratory operations not involving special materials or hazards. They have also solicited radiological control coaches to observe advance radiological workers to help identify possible areas of improvement. The formal corrective action plan is scheduled to be issued on May 25, which will include input from several recent assessment and evaluations performed both during the events leading up to and during the pause.

Potential Inadequacy in the Safety Analysis (PISA): F/H Laboratory and H-Canyon each declared a PISA due to not including catalytic generation of hydrogen (in addition to the hydrogen generated through radiolysis) in their analysis of organic bearing solutions. After an inquiry from DOE as to why the hydrogen data that led to the three SRR PISAs last year (see 3/3/17 report) did not apply to SRNS facilities, SRNS re-evaluated their safety bases for impacts and determined that two PISAs exist. The compensatory measures for H-Canyon prohibit transferring the laboratory solution already in the facility into another vessel and the receipt of additional laboratory solution. F/H Laboratory is prohibited from loading their trailer with high activity waste drain effluent.

235-F: Mr. Grover, Ms. Wu, Mr. Cleaves, Ms. Lin, and the resident inspector conducted a review of the ventilation systems and associated controls and met with representatives from DOE-SR and SRNS to discuss previously submitted lines of inquiry.