

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 18, 2019

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 October 18, 2019

H-Canyon: Inaccurate labeling led Process Control Systems (PCS) staff to unplug the incorrect process control module (PCM). This resulted in a partial loss of the input for the distributed control system (DCS) for Outside Facilities (OF). They realized the mistake immediately, informed the OF control room personnel of the PCM issue, and restarted the DCS. However, the PCS personnel failed to adequately explain that the issue resulted in a partial loss of the DCS. During the restoration, two PCS staff working in parallel performed two steps out of sequence. Specifically, the first individual input a value for the specific gravity of a tank containing highly enriched uranium solution per an existing DCS temporary modification. Shortly thereafter, the second individual overwrote that value with a value from the materials balance graphic as if there was no temporary modification. This resulted in an inaccurate reading the tank's liquid level (LL) which is a credited criticality safety control. Additionally, upon DCS restoration, the control room received several alarms; however, the PCS staff informed the control room personnel that the alarms were a result of the maintenance activity and could be ignored despite the fact that these were not discussed as expected alarms previously. Thus, operations personnel did not respond or investigate further which allowed the DCS issue to go unnoticed.

During operator rounds the following shift, an operator noted that the LL reading was 2.5 inches greater than the previous shift and informed operations and engineering, who were able to identify the cause and correct the erroneous DCS input within the next several hours. During an issue review, H-Canyon personnel discussed several issues and contributing causes including the inaccurate labeling, the PCS staff failing to take a timeout when they lost part of the DCS and imprecise communications between operations and the PCS staff. H-Canyon personnel did not discuss operations personnel not questioning the PCS staff regarding the alarms despite the fact that they were not discussed as expected alarms during the pre-job brief.

235-F: DOE approved the removal of the fire detection and alarm system as defense-in-depth/important-to-safety. DOE stated that it was their expectation that the system be maintained operational while impaired until the facility is put into a cold and dark configuration.

As part of the safety basis, SRNS performs an enclosure integrity inspection using radiological surveys, visual inspections, and smoke testing every 3 years. The 2019 inspection identified leaks in the manipulator seals for three cells that were not present in 2016 along with several leaks in the Actinide Billet Laboratory pressure boundary. Leaks identified in 2016 were not sealed to allow for the potential future use of those manipulators. The repair date is uncertain.

Salt Waste Processing Facility: The resident inspector observed an emergency preparedness drill. The scenario included a deflagration and a single contaminated worker, but the fire department did not participate. Although there was a delay in the worker evacuating the contaminated incident scene, the control of the contaminated room, contamination control techniques, and personnel decontamination were satisfactory.