

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 16, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Z. C. McCabe, Resident Inspector
SUBJECT: Savannah River Site Activity Report for Week Ending October 16, 2020

Staff Activity: Mr. Cleaves of the Board's technical staff was onsite this week.

Defense Waste Processing Facility (DWPF): In order to perform a semi-annual surveillance of the Low Point Pump Pit (LPPP) Safety Grade Nitrogen (SGN) system, DWPF personnel took a pressure indicator for the SGN system out of service, which required entry into Condition F of a limiting condition for operation (LCO). The subsequent required action is to verify that the SGN system is not operating, which cannot be performed while they were completing the surveillance. As such, DWPF personnel entered Condition A that has several entry conditions, including situations in which Condition F cannot be met. Among the other entry conditions for Condition A are minimum flow rates for the primary purge system into three LPPP vessels, including the Recycle Pump Tank (RPT). In order to perform the SGN system calibration, DWPF personnel took the primary purge offline, thus, they entered Condition A three additional times for the primary purge flow rate being below the Technical Safety Requirement (TSR) minimum. After the calibration, DWPF personnel were able to restore the primary purge to the RPT and exited Condition A for that instance; however, they remained in Condition A for not meeting the required actions of Condition F. The control room manager, with authorization from the Shift Operations Manager (SOM), performed a transfer into the RPT believing that exiting Condition A for the RPT was sufficient to allow the transfer, which is a TSR violation.

During a fact finding meeting the following day, DWPF personnel identified several shortcomings that contributed to this event. They specifically cited the lack of Shift Technical Engineer involvement in the pre-job brief prior to initiating the transfer. The SOM was also not included in the pre-job brief. Additionally, they noted the inadequate administration of the TSRs. DWPF personnel are performing a root cause analysis of the issue to identify further causes and corrective actions.

Salt Waste Processing Facility (SWPF): A member of the Board's technical staff observed the third transfer to date of ~4,000 gallons of salt waste solution from Tank 49 in H-Tank Farms to Tank 101 at SWPF. The transfer was performed per the procedure without any issue. At SWPF, salt waste solution has gone through the first major step in the process by performing an alpha strike with monosodium titanate to remove actinides from the waste stream. The second major step, which is to remove cesium-137 by caustic side-solvent extraction (CSSX), has yet to be performed due to mechanical issues with pump P-109-A, which pumps from the salt solution feed tank to the solvent extraction contactor bank. Examination of the pump once it was removed identified the need to conduct a rebuild of the pump internals. Maintenance is ongoing.

Savannah River National Laboratory (SRNL): While removing a contaminated table by crane from Cell 9 of room E079, the table rotated and exposed a hot spot that caused a worker's electronic personal dosimeter (EPD) to alarm on high dose rate. A time out was quickly called, and a plan was developed to place the scene in a safe condition before exiting the area.