

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 3, 2018

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 August 3, 2018

L-Area: L-Area has more than thirty credited mechanical criticality safety blocking devices that are placed on the monorail system (used to move fuel) at multiple locations to prevent unwanted interactions between fuel and other material that could lead to an inadvertent criticality. The safety basis identifies these blocks as safety significant (SS) passive design features controlled by the Configuration Control Program (CCP) to ensure no unreviewed changes occur. The placement of a large portion of the blocks is controlled per fuel handling procedures that are reviewed by several groups, including criticality safety. However, the “Fuel Criticality Rules” procedure, required to be performed every time L-Area personnel handle fuel, allows the installation and removal of most of the blocks at the discretion of the basin first line manager (BFLM), and the remaining blocks (ones moved less frequently) with approval from the shift operations manager (SOM). Removal and installation of the blocks that are not procedure driven are logged in the “Fuel Criticality Rules” procedure; however, there is no review to ensure the configuration of the blocking devices is still providing the intended safety function. The resident inspector (RI) questioned SRNS personnel on the appropriateness of allowing the BFLM to circumvent a SS passive design feature at their discretion, and how the CCP is used to ensure that any changes to the placement of the blocking devices were appropriately reviewed as stated in the safety basis. SRNS personnel determined that this procedure allowance represented a flaw in the blocking devices control and that the CCP is not used to control configuration despite what the safety basis says. SRNS personnel have since called a time-out for fuel handling until they can determine the appropriate path forward.

Limiting Conditions for Operation (LCO): The RI reviewed the Safety System Impact Statements/System Impact Sheets for Lockouts for 27 work package from 5 SRS facilities. In general, the engineers identified LCOs that could be impacted from the work scope. The quality of the impacts discussion was mixed; some explained how the system would be impacted or conditions which could change the answers, whereas others provided little explanation. Several of the impact statements were inconsistent with site guidance.

Specific Administrative Controls (SAC): SRR’s draft directive action SACs for the Tank Closure Cesium Removal (TCCR) project included recovery actions which, if implemented in a timely manner, could prevent a Technical Safety Requirement (TSR) violation from being declared. The RI questioned if this was consistent with the SAC standard, DOE-STD-1186. SRR decided to remove recovery actions from the draft TCCR SACs. The future use of recovery actions with SACs and provisions in the SRS TSR Methodology Manual will be discussed later.

Tank Farms: SRR ran the 3H Evaporator for ~6 days before shutting it down because of the drop tank’s waste level. The main leak site became active again and a few cups worth of salt accumulated on the pot exterior. The leak was more of a wet spot and not a liquid stream. No waste accumulated on the cell floor. The safety basis allows 700 gallons of salt accumulation.