

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 12, 2016

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending August 12, 2016

H-Canyon: The Target Residue Material (TRM) project contractor and DOE Readiness Assessments (RA) continued this week. The site representatives and staff member Ms. Lin observed level of knowledge interviews with TRM and facility support personnel as well as the movement of the cask into the truckwell. While attempting to attach the lifting yoke suspended by the truck well jib crane (TWJC) to the cask lid, the TWJC operator noticed that the crane would not raise or lower the lifting yoke. TRM personnel suspended the procedure and, with the lifting yoke still hanging, began to troubleshoot and identified that the crane could still move horizontally. Later in the week, SRNS transferred the load to the warm canyon monorail crane although there was confusion and delays with the establishment of a single point lockout. When SRNS then tried to move the TWJC over the cell covers for inspection, they were not able to trolley the TWJC along the I-beam and avoid obstacles in the path. The new plan is for SRNS to remove the cask (TRM containers filled with process water) from the truckwell and install scaffolding so that the TWJC can be inspected and repaired. This failure revealed that there currently is no safety basis coverage for removing a cask whose TRM containers have fissile solutions from the truckwell and SRNS is trying to identify how to address this. Meanwhile, the SRNS RA team is finishing up the rest of the RA scope that does not involve the dry runs. Several days of dry runs still remain to be performed once the TWJC is fixed.

K-Area: The site representative and staff member Ms. Lin observed a cold run of the plutonium down blending operation in the mock up glovebox that will be used for the upcoming RA. The Down Blend Project will stage and ship the down blended plutonium inside cans that will be placed inside Criticality Control Overpacks (CCO), a Type A shipping container. SRNS personnel recently identified an issue with the gaskets on the outer container of the CCO. The way the outer container is assembled allows for the gasket to become folded on itself and permanently deformed if the container is sealed without ensuring the gasket is positioned correctly. A preliminary investigation revealed only roughly 16% of the CCOs inspected do not have the issue. The outer container for the CCOs is the same outer container as the more widely used Pipe Overpack Container. SRNS has contacted the WIPP cognizant engineer for these shipping containers because this issue may affect other sites.

Solid Waste Management Facility: SRNL investigated the spent mercury gold trap cylinder that failed in May and resulted in a small spill of tritium-containing liquid. Their analysis concluded that the failure is primarily attributed to corrosion induced by acid chlorides (i.e., HCl) resulting from degradation of plasticized polyvinyl chloride (PVC) packaging by thermal and radiolytic mechanisms. An evaluation recommended putting this container inside a second PVC bag along with 50 pounds of soda ash. The other three similar containers do not have any liquids and do not contain plastic packaging. The evaluation recommended removing the outer PVC bags from them.

A-Fire Water Tank: DOE and SRNS concluded that this leaking tank will never be fully operable even after the leak is repaired. A Documented Safety Analysis page change is being developed to reflect the current condition of the tank until the replacement tank is fabricated and installed.

Tank Farms: Radiation measurements show significant source term in the 3H Evaporator cone. SRR is preparing to remove the lagging and insulation from the cone to help pinpoint the leak site.