

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 26, 2024

TO: Katherine R. Herrera, Acting Technical Director
FROM: L. Lin, Z.C. McCabe, and E.P. Richardson, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending January 26, 2024

Fast Critical Assembly (FCA): SRNS initiated their readiness assessment of H-Canyon's preparedness to successfully execute the FCA campaign. The FCA campaign required the installation of an electrolytic dissolver to dissolve the stainless-steel clad components in addition to developing new procedures to control receipt, unpackaging, and dissolution of the FCA material. The resident inspectors observed several portions of the FCA evolution demonstration and interviews. The readiness assessment team will out-brief the facility on their findings and opportunities for improvement next week. Once pre-start findings are resolved, DOE-SR will commence their federal readiness assessment of the FCA campaign.

L-Area: L-Area personnel identified two separate procedure compliance issues associated with the unpackaging of two casks (of the same design) that occurred on two different shifts. On one shift, the operations personnel were tasked with venting the cask when they failed to remove and inspect a gasket per the procedure. The other issue involved using the incorrect rigging assembly to lift the cask lid. The cask handling procedure implements credited criticality safety controls to prevent a lid from falling and impacting the fuel assemblies inside the cask, resulting in an unanalyzed configuration. The criticality safety controls specifically require that the rigging be installed and then verified correct (by the Person-in-Charge of the lift) as specified in the cask handling procedure. However, operations personnel failed to recognize that they did not have the appropriate keeper hooks on hand for lifting the lid. Instead, they used shackles, which was consistent with the previous procedure revision. According to SRNS personnel, due to this specific cask's geometry, a drop of the lid could not impact the fuel inside the cask, thus there was no credible criticality event that could be initiated by a dropped lid for this cask design.

Savannah River National Laboratory (SRNL): Control room personnel received a low-level alarm for the fire water storage tank water level indicator during a cold evening last weekend. Based on experience and system knowledge, the shift operations manager (SOM) began entering the appropriate limiting condition for operation (LCO) for the safety significant low-low level alarm. Shortly thereafter, the low-low level alarm came in and SRNL personnel took the appropriate actions. An investigation revealed that cold temperatures caused this failure, similar to the event that occurred on 12/23/2022 (see 1/13/2023 report). As part of the corrective actions from the failure in 2022, site services performed an inspection of the heat trace on the level indicator equipment as part of their annual preventative maintenance. In addition, site services inspected the heat trace days before the cold weather, found no issues, and installed additional insulation. After the recent failure, inspection revealed that the heat trace was attached and functioning properly. SRNL and site services personnel are evaluating additional actions they can take to prevent further freeze issues prior to the next anticipated cold weather. In addition, they are evaluating more robust, permanent solutions.