**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

June 6, 2025

**TO:** Technical Director
**FROM:** Sandia National Laboratories (SNL) Cognizant Engineer
**SUBJECT:** SNL Report for May 2025

**Defense Nuclear Facilities Safety Board (Board) Staff Interactions:** The Board's SNL cognizant engineer held weekly meetings with Sandia Field Office (SFO) and National Technology and Engineering Solutions of Sandia, LLC (NTESS) staff members to maintain awareness of site activities. The Board's staff conducted no on-site activities in May 2025.

**Annular Core Research Reactor (ACRR) Implementation Verification Review (IVR):** On May 6, 2025, NTESS staff conducted an IVR of the ACRR Safety Basis annual update. SFO staff shadowed the IVR as part of their safety oversight activities. The IVR team evaluated updated procedures, Unreviewed Safety Question Determinations, and training records for the annual update. The IVR team noted that no facility or equipment changes were required in the annual update. In addition, the IVR team noted that no engineering change notices or system design description documents required updates. The completion of the IVR is the final step in the implementation of the ACRR annual update.

**Biannual Criticality Safety Assessment:** On May 8, 2025, SFO staff completed the biannual criticality safety assessment of two Manzano Corporate Storage Bunkers. SFO staff members reviewed procedures, training records, and associated data for this assessment. The assessment identified no findings, no observations, and no noteworthy practices during the walkthrough of the storage bunkers. SFO staff members are currently finalizing the report for this assessment. This is SFO's final criticality safety assessment for fiscal year 2025.

**ACRR Unirradiated Fuel Element Gas Sampling:** As part of an effort to build replacement regulating rods for ACRR, NTESS is disassembling ACRR Fuel Element 217, an unirradiated fuel element previously stored in the Manzano Corporate Storage Bunkers. On May 15, 2025, NTESS staff successfully obtained a gas sample from the fuel element. When originally manufactured, the fuel element was backfilled with two atmospheres of helium gas to limit degradation of the fuel pellets and to promote heat transfer from the fuel pellets to the cladding material. NTESS is currently assessing the results of the gas sampling.

**ACRR Unirradiated Fuel Element Disassembly:** On May 20, 2025, NTESS staff completed cutting operations on ACRR Fuel Element 217 in the Auxiliary Hot Cell Facility processing area. After completing the cutting operations, NTESS staff successfully extracted the niobium cups containing the fuel pellets by sliding the cups into a clear plastic tube to allow for visual inspection. NTESS plans to convert the fuel element into a regulating element by adding neutron poison elements, replacing the gas fill tube, and welding new end fittings onto the element. NTESS is scheduled to complete the conversion of the fuel element into a regulating rod by December 2025.