

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 4, 2025

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

Defense Nuclear Facilities Safety Board (Board) Staff Interactions: From March 24 through 27, 2025, the Board's cognizant engineer for SNL and a member of the Board's technical staff were on site to observe a radiological functional exercise in Technical Area V (TA-V) and conduct routine nuclear safety oversight activities. As part of routine oversight, the Board's staff team walked down TA-V accompanied by two TA-V Facility Representatives, the Sandia Field Office (SFO) Deputy Assistant Manager for Engineering, and the TA-V Senior Manager. The walkdown included the Annular Core Research Reactor Facility, Auxiliary Hot Cell Facility (AHCF), Sandia Pulsed Reactor/Critical Experiment Facility, and the Gamma Irradiation Facility. The staff team also met with SFO and National Technology and Engineering Solutions of Sandia, LLC (NTESS) managers and staff.

Additional Operational Restrictions to the Justification for Continued Operations (JCO) for the Annular Core Research Reactor (ACRR): On March 3, 2025, the Sandia Field Office (SFO) Manager approved additional operational restrictions to the JCO for the ACRR Potential Inadequacy of the Safety Analysis (PISA) for the fuel cladding temperature safety limit (See SNL Monthly Reports for [June 2024](#), [July 2024](#), [November 2024](#), and [February 2025](#)). SFO completed a review of the updated JCO for the ACRR PISA for fuel cladding temperature in accordance with Department of Energy Standard 1104-2016, *Review & Approval of Nuclear Facility Safety Basis Documents*. NTESS implemented additional operational restrictions to further mitigate the consequences to the facility worker if a release occurred from a fuel element by requiring that the ACRR pool radiation area monitor, and continuous air monitor are operational during Pulse Mode Operations. The current operational restriction limits reactivity insertion levels and Transient Rod Withdrawal (TRW) operations under procedure ACRR-OP-003, *TRW Operations*, which requires written authorization from TA-V management before proceeding. SFO concluded that the preventative and mitigative operational restrictions will maintain peak cladding temperatures below the safety limit in the Documented Safety Analysis for pulse and steady-state operations. SFO stated that continued operations under the current restrictions allow reasonable assurance of safe operations of the ACRR with minimal immediate risk to the integrity of the fuel cladding from operations during the one-year JCO approval time period.

Fiscal Year (FY) 2025 Radiological Functional Exercise in TA-V: On March 25, 2025, the Board's staff team observed the FY 2025 radiological functional exercise in TA-V. The exercise occurred in the AHCF as a worker was removing a 55-gallon overpack drum that contained a 30-gallon high-activity waste drum from a storage silo to obtain radiation measurements in preparation for shipping the drum to the Waste Isolation Pilot Plant. The lifting hardware slipped off the drum, causing it to strike the worker and fall to the floor. The 30-gallon drum was expelled from the 55-gallon drum. The worker injured their arm and had radioactive contamination near their ankle. The radiation area monitors alarmed and workers, including the injured worker, evacuated to the designated assembly area. Kirtland Fire and Emergency Services, SNL emergency management staff, TA-V staff, and local area hospital representatives participated in the exercise. SNL emergency management staff are completing an after-action report and developing any necessary corrective actions.