

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 6, 2026

TO: Technical Director
FROM: Sandia National Laboratories (SNL) Cognizant Engineer
SUBJECT: SNL Report for February 2026

Defense Nuclear Facilities Safety Board (DNFSB) Staff Interactions: The DNFSB's cognizant engineer visited SNL during the week of February 2 and met with key personnel from both the Sandia Field Office (SFO) and National Technology and Engineering Solutions of Sandia, LLC (NTESS). The cognizant engineer received updates on future initiatives, including the Combined Radiation Environments for Survivability Testing project, and conducted walkdowns of defense nuclear facilities, including the Annular Core Research Reactor Facility (ACRR), the Auxiliary Hot Cell Facility, and the Sandia Pulsed Reactor Facility.

On February 10, a DNFSB staff team held a discussion with site personnel related to electrical testers used for nuclear explosive operations at the Pantex Plant. SNL is the design agency responsible for the electrical tester design and the development of requirements related to electrical tester safety and performance.

ACRR Safety Basis: Earlier this month, the SFO Manager approved a request from NTESS to temporarily exceed certain administrative material-at-risk limits at ACRR. The currently implemented safety basis administratively limits all experiments (i.e., the components and systems intentionally subjected to irradiation in one of ACRR's cavities or other locations) to 5 g total of plutonium-239 or equivalent; however, NTESS personnel are planning to execute a series of experiments with up to 400 g of material. The approval letter stated that NTESS must notify SFO when: 1) the higher material limits are in effect, 2) the facility restores the normal administrative limits, and 3) the relevant series of experiments is complete. This approval does not affect the current requirements for safety-class containment if experiments exceed other relevant thresholds (i.e., these planned experiments will still use safety-class containment if required).

Also, earlier this month, the SFO manager approved revisions to a justification for continued operations (JCO) and evaluation of the safety of the situation (ESS) related to pulse operations at ACRR. These revisions ensure fuel elements are protected from failure due to high temperatures, in tandem with recently modified administrative power limits for steady-state power operations (see SNL report for December 2025). The compensatory measures in the revised JCO/ESS restrict the amount of reactivity that can be inserted using the transient rods; prohibit "double pulse" reactivity insertions; modify the language associated with operational modes; restrict high bay access during pulse operations; and update aspects of the fuel health program plan. The SFO manager approved this set of compensatory measures for up to one year, by which point NTESS personnel must either submit an addendum or new analysis related to fuel cladding temperature.