

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 7, 2025

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

Sandia Pulsed Reactor Facility Documented Safety Analysis (DSA) and Technical Safety Requirements (TSRs) Annual Update – Change Notice 7 (CN 7): On February 6, 2025, the Sandia Field Office (SFO) approved the Sandia Pulsed Reactor Facility DSA and TSRs CN 7. National Technology and Engineering Solutions of Sandia, LLC, (NTESS) provided proposed page changes to the Sandia Pulsed Reactor Facility DSA and TSRs and provided a summary of the corresponding Unreviewed Safety Question Determinations. SFO convened a Safety Basis Review Team to independently review the proposed changes and determine the adequacy of the revised safety basis. Based on the results of that review, SFO determined that the Annual Update provides reasonable assurance of adequate protection to the workers, public, and the environment from the identified hazards associated with Sandia Pulsed Reactor Facility operation, and meets the requirements specified in 10CFR830, Subpart B, *Safety Basis Requirements*. SFO approved the 2024 Annual Update with no Conditions of Approval and no directed changes. SFO also directed NTESS to perform an Implementation Verification Review to confirm implementation of the approved Sandia Pulsed Reactor Facility DSA and TSRs CN 7 2024 Annual Update within 120 calendar days.

Response to the Chief of Defense Nuclear Safety (CDNS) Correspondence Regarding the Annular Core Research Reactor (ACRR): On January 17, 2025, the National Nuclear Security Administration CDNS sent correspondence and a technical report to the SFO Manager suggesting additional measures to address safety concerns, compliance, and mission resilience for the ACRR. The CDNS letter recommended implementation of additional compensatory measures and surveillance requirements during operation, expedited conversion/creation of control elements from existing spare fuel elements, reevaluating the results of computer tomography (CT) scans of fuel elements for a Potential Inadequacy of the Safety Analysis (PISA), reassessment of safety limit settings and controls to provide a sustainable safety margin, and completion of additional CT scans of existing fuel elements as part of an extent-of-condition review.

On February 12, 2025, the SFO Manager provided an interim response to the CDNS correspondence stating that SFO is working with NTESS to ensure a consistent understanding of the memo, the actions SFO and NTESS have taken so far, and the plan for future actions. SFO noted that most of the CDNS recommendations are forward-looking with SFO and NTESS actively pursuing implementation. SFO cited operational limits for ACRR, regular periodic fuel element inspections, prioritization of the construction of a spare regulating rod, and progress on completing additional CT scans of the fuel elements. SFO also committed to respond to the remaining CDNS recommendations in future correspondence after further review. The Board's Technical Staff is currently conducting a review of the ACRR Fuel Health Program and will continue to monitor actions taken by SFO in response to the CDNS recommendations.