

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 1, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Sandia National Laboratories (SNL) Report for February 2024

Restart of Transient Rod Withdrawal (TRW) Submode Operations at the Annular Core Research Reactor Facility (ACRRF): On January 31, 2024, the National Nuclear Security Administration (NNSA) Sandia Field Office (SFO) approved the restart of TRW operations at the ACRRF as required by Department of Energy (DOE) Order 425.1 D, *Verification of Readiness to Start Up or Restart Nuclear Facilities*. SFO verified satisfactory closure of the two prestart findings from the *Final Report for the Federal Readiness Assessment for Transient Rod Withdrawal Submode Operations at the Annular Core Research Reactor Facility*. In addition, SFO noted that there were no prestart findings from the management self-assessment and the contractor readiness assessment. Based on the satisfactory closure of the two prestart findings from the approved corrective action plan, SFO authorized National Technology & Engineering Solutions of Sandia, LLC (NTESS) to restart the TRW Submode Operations at the ACRRF. SFO will continue to monitor the progress of the six post-start findings from the federal readiness assessment. NTESS resumed TRW operations at ACRRF on February 5, 2024.

ACRRF Documented Safety Analysis (DSA) and Technical Safety Requirements (TSR): On February 14, 2024, SFO approved the 2023 Annual Update, Change Notice 17 (CN 17) to the ACRRF DSA and TSRs. NTESS transmitted the proposed page changes to the ACRRF DSA and TSRs and associated unreviewed safety question determinations (USQD) on May 10, 2023. SFO noted that the CN 17 submittal included an unusually large number of changes, therefore SFO completed the review in two parts undertaken by different review teams. SFO then convened a safety basis review team (SBRT) to independently review the proposed changes to determine the adequacy of the ACRRF safety basis. The SBRT reviewed a sampling of the 68 USQDs and all six potential inadequacy of the safety analysis entry forms NTESS submitted with CN 17. Based on the results of the SBRT review along with the comment resolutions provided by NTESS, SFO approved CN 17 with no conditions of approval and no directed changes. SFO noted that the 2023 Annual Update provides reasonable assurance of adequate protection of the workers, public, and the environment from the identified hazards associated with its operation and meets the requirements specified in 10 CFR 830, Subpart B, *Safety Basis Requirements*. SFO directed NTESS to perform an implementation verification review to confirm implementation of the approved 2023 Annual Update within 120 calendar days.

Readiness Review Training: The DOE National Training Center (NTC) recently conducted *Readiness Review Training* (SMP-205) at the Sandia Field Office for SFO and NTESS managers and staff. The course reviewed the requirements in DOE Order 425.1D, *Verification of Readiness to Startup or Restart Nuclear Facilities*, and discussed DOE Standard 3006-2010, *Planning and Conducting Readiness Reviews*, from the perspective of DOE federal and contractor personnel involved in the readiness review process. The course included training on readiness review team leader roles and responsibilities and provided specific techniques for performing those responsibilities. SFO requested this training from the NTC in anticipation of future activities associated with the construction and startup of the Combined Radiation Environments for Survivability Testing facility being designed to replace the ACRRF.