

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 4, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Sandia National Laboratories (SNL) Report for February 2022

Defense Nuclear Facilities Safety Board (Board) Staff Interactions: On February 14–18, 2022, a National Nuclear Security Administration (NNSA) readiness assessment team completed a Federal Readiness Assessment (FRA) of Annular Core Research Reactor Facility (ACRRF) Fuel-Ringed External Cavity, Version II (FREC-II) operations. A Board’s staff team observed FRA demonstrations and interviews supporting this activity. During this time period, the Board’s cognizant engineer for SNL also completed routine walkdowns at Technical Area V (TA-V) and held meetings with National Technology and Engineering Solutions of Sandia, LLC (NTESS) and Sandia Field Office (SFO) managers and staff as part of his routine oversight activities.

FREC-II Contractor Readiness Assessment (CRA) Corrective Action Plan (CAP): On January 27, 2022, the FREC-II CRA team issued their *Final Report for Restart of Fuel-Ringed External Cavity, Version II (FREC-II) Operations in the Annular Core Research Reactor Facility (ACRRF) at Sandia National Laboratories Technical Area V*. On February 4, 2022, NTESS issued their CAP in response to the FREC-II CRA report. Since the CRA report identified no pre-start or post-start findings, the CAP was not required per NTESS processes. NTESS noted that some of the issues identified in the CRA final report included opportunities for improvement that should be implemented prior to restart of the activity. NTESS issued the CAP as a best practice to document the intent, actions, and timeline for closure of the seventeen issues in the CRA report related to opportunities for improvement. While these issues were not pre-start findings, NTESS chose to address the issues prior to declaring readiness to proceed to the FRA. NTESS closed nine of these issues prior to the FRA.

FREC-II FRA: On February 14–18, 2022, an NNSA readiness assessment team completed the FRA for ACRR FREC-II operations. As part of the FRA, the ACRRF staff completed demonstrations of FREC-II coupling and decoupling, and conducted an operational drill. The FRA team also conducted interviews on a wide range of topics including conduct of operations, configuration management, industrial safety, radiation protection, maintenance management, procedures, reactor operations, training, and the start-up plan. The FRA team determined that all objectives and criteria had been met and identified no findings. The FRA team concluded that FREC-II operations are ready to safely resume. The Board’s staff will review the Final FRA Report, when available.

TA-V Nuclear Safety Culture - Repeat Survey: On January 25, 2022, NTESS issued a report summarizing the results of their follow-up survey of safety culture at TA-V. NTESS conducted the initial Nuclear Safety Culture self-assessment in the first quarter of Fiscal Year 2019. When the final report was issued for the initial assessment, NTESS management determined that a follow-on assessment would be conducted in Fiscal Year 2021 to measure change in the nuclear safety culture for all TA-V departments after the completion of the Continuous Improvement Plan. The survey questions employed in 2021 were identical to those used in 2019. NTESS concluded that the 2021 survey results showed that TA-V continues to have a solid nuclear safety culture foundation with four areas of improvement to be considered due to slight declines in the responses related to the following prompts: *openly challenging decisions made by my management chain; management ensures any safety concerns raised are addressed; helpful criticism regarding safety programs and practices is encouraged; and hazards are effectively identified and controlled in my workplace.*