

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 7, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Sandia National Laboratories (SNL) Report for December 2021

Defense Nuclear Facilities Safety Board (Board) Staff Interactions: On December 9, 2021, a Board's staff review team held a teleconference with National Technology and Engineering Solutions of Sandia, LLC (NTESS) and Sandia Field Office (SFO) managers and staff members to complete a factual accuracy discussion of potential safety items from the team's conduct of operations review. The review team evaluated conduct of operations in Technical Area (TA-V) at the Annular Core Research Reactor Facility (ACRRF) and the Auxiliary Hot Cell Facility (AHCF) related to the in-service inspection of reactor fuel elements at ACRRF and the inspection of unirradiated fuel elements at AHCF. While some elements of conduct of operations at TA-V have improved since the Board staff's last review in 2016, the review team noted that challenges remain with respect to pre-job briefs, procedure development, formality and rigor of operations, hoisting and rigging, and organization and administration documents.

Sandia Pulsed Reactor Facility (SPRF) Safety Basis 2021 Annual Update: On December 15, 2021, SFO approved the SPRF Safety Basis 2021 Annual Update. After NTESS provided proposed page changes to the SPRF Safety Basis documents, SFO performed an independent review of the proposed page changes and the supporting Unreviewed Safety Question Determinations. SFO determined that the SPRF Safety Basis continues to provide reasonable assurance of adequate protection to the workers, the public, and the environment from the identified hazards and meets the requirements specified in 10 CFR 830, Subpart B, *Safety Basis Requirements*.

Fuel-Ringed External Cavity, Version II (FREC-II) Management Self-Assessment (MSA) Final Report: On December 10, 2021, NTESS issued the MSA Final Report for the re-start of FREC-II operations at the ACRRF. NTESS noted that the scope of the assessment focused on hoisting and rigging activities associated with FREC-II operations, tilting FREC-II forward and back, personnel performance, and documentation to initiate and complete FREC-II operations. The MSA also included review of processes, procedures, and training required to perform FREC-II operations. The scope of the MSA also included verification of the implementation of corrective actions identified from the In-Service Fuel Element Inspection readiness reviews. The MSA team identified one pre-start finding, no post-start findings, eleven observations, three noteworthy practices, and four opportunities for improvement. NTESS will develop two condition reports to document the results of the MSA report (one for the pre-start finding and one for all other observations) and complete pre-start corrective actions prior to commencing the contractor readiness assessment.

Declaration of American Society of Mechanical Engineers (ASME) Nuclear Quality Assurance (NQA-1) as the TA-V Quality Standard: On December 9, 2021, the TA-V Senior Manager declared that the 2017 version of the ASME NQA-1, *Quality Assurance Requirements for Nuclear Facility Applications*, was selected as the TA-V quality assurance program standard. NTESS is in the process of updating the TA-V Management System to identify NQA-1 as the selected standard and to indicate how TA-V conducts work in accordance with NQA-1. In his correspondence, the TA-V Senior Manager noted that a self-assessment will occur after the documentation update is complete. The self-assessment will provide an opportunity for TA-V to evaluate the new processes created, revise procedures, and evaluate new documents to verify compliance with the new standard.