DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 3, 2021

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

Defense Nuclear Facilities Safety Board (Board) Staff Interactions with SNL: On August 5, 2021, members of the Board's staff conducted a follow-up teleconference to discuss critical lifts as part of the conduct of operations review at Technical Area V (TA-V). On August 23–26, 2021, the Board's staff visited SNL to observe the 2021 Full-Scale Emergency Management Exercise and discuss recent developments in the Sandia Emergency Management Program including the transition to the new Base Support Agreement.

New Sandia Field Office (SFO) Manager: Dr. Daryl Hauck began his tenure as the Sandia Field Office Manager on August 15, 2021. Prior to becoming SFO Manager, Dr. Hauck served as the Program Executive Officer for Stockpile Modernization in the National Nuclear Security Administration's Office of Defense Programs.

In-Service Fuel Cladding Inspections: On August 12, 2021, TA-V staff completed in-service fuel element cladding inspections at the Annular Core Research Reactor Facility (ACRRF). (See SNL Reports for May 2021, June 2021, and July 2021). ACRRF staff inspected the remaining 168 ACRR fuel elements in the ACRRF reactor pool using the fuel element inspection jig (FEIJ). The data obtained from these inspections provides a benchmark for the condition of the fuel elements and serves as a basis for comparison for any future cladding degradation. ACRRF staff will continue to conduct periodic inspections of ACRR fuel element cladding as part of the in-service inspection program.

Full-Scale Emergency Management Exercise: On August 25, 2021, National Technology and Engineering Solutions of Sandia, LLC (NTESS) conducted its annual full-scale emergency management exercise in accordance with SNL's Full-Scale Exercise 2021-2 Plan submitted to SFO on July 29, 2021. The purpose of this full-scale exercise was to test and evaluate the ability of SNL's Emergency Management team and Kirtland Fire and Emergency Services (KFES) to respond to and mitigate an emergency incident with injury at an Emergency Planning Hazards Assessment facility. The exercise scenario included NTESS workers performing a cylinder exchange of an arsine gas cylinder in Building 858EF when one worker suffers a medical emergency and drops the cylinder, causing the cylinder valve to be damaged and leak. The exercise included participation from the SNL Emergency Response Organization, SFO, KFES, and University of New Mexico Hospital Emergency Department. Members of the Board's staff observed the exercise. NTESS will prepare an After-Action Report assessing the effectiveness of the exercise. The Board's staff will review the report, when available.

Evaluation of the Safety of the Situation (ESS) Approval: On August 2, 2021, SFO approved the ESS for Core Inlet Temperature Impact on Existing Analyses, which was initiated by a potential inadequacy of the safety analysis issued on February 17, 2021. While the subsequent unreviewed safety question determination was found to be positive, the ESS identified that the Transient Rod Withdrawal pulse sub-mode in the ACRRF is not functional and cannot be operated until the successful completion of a readiness review process. SFO concluded that no compensatory measures are required to establish adequate facility safety.