

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 5, 2023

TO: Christopher J. Roscetti, Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Sandia National Laboratories (SNL) Report for April 2023

Technical Area V (TA-V) Emergency Management (EM) Functional Exercise: On March 29, 2023, National Technology and Engineering Solutions of Sandia, LLC (NTESS) staff conducted an EM functional exercise in TA-V. The purpose of the exercise was to test and validate the effectiveness of the Emergency Response Organization (ERO) through implementation of the site's emergency plan and procedures as required by Department of Energy Order 151.1D, *Comprehensive Emergency Management System*. In addition, this functional exercise evaluated the ability of the SNL ERO to respond to and mitigate an operational emergency incident that included a radiological-contaminated patient with a non-life-threatening injury in TA-V. Numerous Sandia organizations fully participated in the exercise including Sandia Pulsed Reactor/Critical Experiment (SPR/CX) staff, the SNL TA-V Facility Emergency Coordinator, the SNL TA-V Building Emergency Team, the SNL Emergency Management Communications Center and Emergency Operations Center (EOC), the Sandia Agency Representative, SNL Radiation Protection Program personnel, and Sandia Emergency Medical Services and Employee Health Services medical clinic, as well as Kirtland Fire and Emergency Services (KFES). The scenario involved a forklift at SPR/CX damaging a drum containing radioactive materials resulting in laceration injuries with radiological contamination of the forklift spotter. The Board's staff will review the after-action report for this exercise when available.

Transient Rod Withdrawal (TRW) Federal Readiness Assessment (FRA) Final Report: On April 13, 2023, the Sandia Field Office (SFO) transmitted the *Final Report for the Federal Readiness Assessment for Transient Rod Withdrawal Submode Operations at the Annular Core Research Reactor Facility* to NTESS. The FRA report identified two pre-start findings, six post-start findings, and eighteen observations, three of which were noteworthy practices. While the FRA report noted several issues requiring corrective actions prior to a declaration of readiness to restart, the report concluded that the equipment, procedures, and personnel are adequate to support restart of TRW sub-mode operations. Since there are no immediate operational or programmatic drivers for start of TRW operations, SFO requested that NTESS provide the SFO Startup Authorization Authority a Corrective Action Plan (CAP) for approval within 90 days. As a part of the CAP, SFO requested that NTESS also adjudicate all observations identified, excluding those observations for the SFO federal oversight function.

Third Quarter Fiscal Year (FY) 2023 Startup Notification Report (SNR): On April 25, 2023, SFO approved the third quarter FY 2023 SNR, which NTESS submitted on April 5, 2023. In the submittal, NTESS determined that three activities in the next twelve months require readiness reviews. SFO agreed with the Readiness Level Determination (RLD) for the three activities and approved the submitted SNR for the third quarter of FY 2023. SFO noted that the Hazard Category 3 material-at-risk handling and storage at SPR/CX included packaging material from experiments at the ACRRF that NTESS evaluated during a previous Contractor Readiness Assessment at the ACRRF. SFO reviewed the RLD and agreed with the justification to perform a checklist review, with NTESS as the Startup Authorization Authority to verify that SPR/CX processes, procedures, personnel, and the facility are adequate to ensure the repackaging can be performed safely at SPR/CX. SFO requested that NTESS inform them when the checklist review and repackaging activity are being performed so SFO can perform federal oversight.