

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 3, 2022

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

Follow-up Correspondence Regarding the Dropped Handrail Event at the Annular Core Research Reactor Facility (ACRRF): On May 4, 2022, the SNL Deputy Laboratories Director provided an update to the Sandia Field Office (SFO) Manager summarizing the SNL responses to the dropped handrail event at the ACRRF. The SNL update noted efforts to identify areas for improving rigor when performing infrequent maintenance tasks, such as the disassembly, and removal of the handrails around the ACRRF in support of Fuel-Ringed External Cavity, Version II (FREC-II) operations. The SNL response also highlighted the formation of an ACRRF Maintenance Working Group, which performed a facility walkdown and identified nearly 70 potential improvements to the facility. ACRRF staff will prioritize the improvements based on impacts to conduct of operations and safety. The SNL Deputy Laboratories Director also noted the ACRRF staff plans to evaluate best practices from other Department of Energy (DOE) sites through channels such as the Energy Facility Contractors Group, the DOE Conduct of Operations working group, the DOE Human Performance Improvement working group, and DOE safety culture working groups.

Causal Analysis for a Handrail Dropped into the ACRRF FREC-II Cavity: On May 18, 2022, National Technology and Engineering Solutions of Sandia, LLC, (NTESS) Environment, Safety, and Health staff members issued a causal analysis report entitled, *Moderate-Complexity Event: Occurrence Causal Analysis Report Handrail Dropped into an ACRR FREC II in Shutdown Mode*. This event occurred on March 15, 2022 (see SNL Monthly Reports for March and April 2022). The causal analysis identified two issues and four causes. The issues included: 1) “The ACRR risk assessment did not fully consider or analyze key factors that could result in the handrail subassemblies falling into the FREC II as part of removing the handrail;” and 2) “Other than pre-use visual and fall protection anchor point inspections, there were no inspection and maintenance requirements identified to ensure that the handrails provided adequate worker protection from a fall hazard.” The causal analysis report tabulated the facts, issues, causes, and corrective actions based on fact-finding and causal analysis meetings. The Board’s staff will review the causal analysis report and the corrective actions taken to address this event.

Approval of the Revised 2021 Enterprise Assessment (EA-33) Corrective Action Plan (CAP): On May 3, 2022, SFO approved a revised CAP submitted by NTESS to address the actions and evidence required to resolve legacy findings from EA-33 reviews of 2015 and 2018 SNL emergency exercises. The CAP addresses five issues from the Fiscal Year (FY) 2021 EA-33 Assessment Report, four findings from the FY 2018 EA-33 Assessment Report, and three findings from the FY 2015 EA-33 Assessment Report. NTESS plans to complete all corrective actions by January 2023.

SNL Functional Exercise 2022-1 After Action Report (AAR): On May 5, 2022, NTESS issued the AAR for the Functional Exercise completed at Technical Area V on March 29, 2022. NTESS selected sixty objectives for evaluation during the exercise; however, only 55 objectives were evaluated since NTESS determined that five objectives were not applicable. NTESS identified eleven deficiencies, eleven improvement items, and five noteworthy practices. The Board’s staff will evaluate the AAR corrective actions as part of an ongoing review of the SNL Emergency Management safety management program.