

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 3, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Sandia National Laboratories (SNL) Report for October 2023

Defense Nuclear Facilities Safety Board (Board) Staff Interactions: On October 17–19, 2023, the Board’s cognizant engineer for SNL was on site to conduct routine oversight. The cognizant engineer walked down Technical Area V (TA-V) including the Annular Core Research Reactor Facility (ACRRF), Auxiliary Hot Cell Facility (AHCF), Sandia Pulsed Reactor/Critical Experiment (SPR/CX) Facility, and the Gamma Irradiation Facility (GIF). The cognizant engineer met with the new SNL Division 1000 Associate Laboratories Director and the SNL Center 1300 Director. The cognizant engineer also met with the TA-V Senior Manager, the TA-V Nuclear Facility Operations Manager, the TA-V Safety Basis Manager, the TA-V Quality Assurance Manager, the TA-V Engineering Manager, and the AHCF/GIF Manager and received status updates on current activities. In addition, the Board’s cognizant engineer met with the Sandia Field Office (SFO) Manager, Deputy Manager, and Senior Technical Safety Advisor.

Independent Assessment of Safety System Management at ACRRF: On October 6, 2023, SFO transmitted the *Independent Assessment of Safety System Management at the Sandia National Laboratories – New Mexico Annular Core Research Reactor Facility*, conducted by the Department of Energy (DOE) Office of Enterprise Assessment (EA), to National Technology and Engineering Solutions of Sandia, LLC (NTESS). The report documents the results of an assessment of safety significant structures, systems, and components at ACRRF conducted by EA in May and June 2023. (See SNL Monthly Report for September 2023.) The assessment identified four strengths, one finding, six deficiencies, and three opportunities for improvement, one of which is assigned to SFO. SFO analyzed the results of the report and did not find any duplicative or contradictory findings or deficiencies with any other NTESS corrective actions that are currently underway. SFO requested a corrective action plan within 120 days that addresses the finding and deficiencies in accordance with established issues management processes in DOE Order 226.1, *Implementation of DOE Oversight Policy*, and quality assurance programs required by DOE Order 414.1, *Quality Assurance*.

ACRRF Experiment Material at Risk (MAR) Technical Safety Requirement (TSR)

Administrative Limit: On September 26, 2023, NTESS requested permission to temporarily exceed the ACRRF experiment MAR TSR administrative limit (as noted in an acknowledgement included in Change Notice 12 of the ACRRF TSRs). NTESS requested this increased limit to fulfill essential mission requirements at the ACRRF. NTESS also noted that before any relevant experiment series are conducted, necessary operational changes (e.g., procedures), emergency management documentation, any associated readiness activities, etc. will be completed. In addition, NTESS will notify SFO any time exceeding the administrative MAR limits is expected for any experiment series. On October 4, 2023, SFO approved the request for the ACRRF to temporarily exceed the experiment MAR administrative limit during setup, execution, and disposition of the Hazard Category 3 (HC-3) and less than HC-3 experiment series activities in Fiscal Year 2024 (FY24). SFO noted that this approval is specific to experiment series of activities outlined in the NTESS request, which are expected to be completed by the end of FY24, and does not include any other programmatic operations. SFO required NTESS to notify SFO when the higher MAR limits are in effect and when MAR limits are restored to the administrative limiting values during and after any experiment series.