

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 2, 2024

TO: Katherine R. Herrera, Acting Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Sandia National Laboratories (SNL) Report for January 2024

Defense Nuclear Facilities Safety Board (Board) Staff Interactions: On January 22–24, 2024, four members of the Board’s staff were on site to attend the WR 708 course, “Survey of Weapon Development and Technology.” On January 22–25, 2024, the Board’s cognizant engineer for SNL was on site to conduct routine oversight and attend Readiness Review Training (SMP-205) at the Sandia Field Office (SFO). 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 SNL Center 1300 Director, the TA-V Senior Manager, and the TA-V Nuclear Facility Operations Manager and received status updates on current activities. In addition, the Board’s cognizant engineer met with the SFO Manager, Deputy Manager, and the Senior Technical Safety Advisor.

Implementation Verification Review (IVR) of AHCF Basis for Interim Operation (BIO) and AHCF Technical Safety Requirements (TSR) Change Notice 16 (CN16): On January 17, 2024, National Technology & Engineering Solutions of Sandia, LLC (NTESS) managers and staff completed an IVR of the AHCF BIO and TSRs. The purpose of the IVR was to review documents associated with the AHCF Safety Basis to verify that DOE-approved changes to the AHCF BIO and TSR CN 16 have been adequately implemented. The scope of changes included AHCF CN16 and other required changes identified in the Safety Evaluation Report (SER) Addendum for CN 16. The IVR report concluded that the safety basis changes were verified to be implemented within the facility’s safety envelope. In addition, the IVR report noted that any deficiencies were properly described including the action taken to resolve the deficiency and the date of resolution.

Mixed Waste Landfill Second Five-Year Report: SNL submitted the “Mixed Waste Landfill – Second Five-Year Report” to the New Mexico Environment Department (NMED) as required by the May 2005 *Final Order, State of New Mexico Before the Secretary of the Environment in the Matter of Request for a Class 3 Permit Modification for Corrective Measures for the Mixed Waste Landfill, Sandia National Laboratories, Bernalillo County, New Mexico*. The evaluation period for this report was January 2018 through December 2022. The primary purpose of the five-year report was to analyze the effectiveness of the selected remedy (i.e., the evapotranspirative cover and remedy controls) through review of multi-media monitoring, inspection, and maintenance results collected over the five-year evaluation period. The measure of effectiveness was the protection of human health and the environment. The report included an evaluation of the likelihood of contaminants reaching groundwater and a reevaluation of the feasibility of the excavation remedial alternative. Multi-media monitoring, inspection, and maintenance results presented in this report established site conditions and provided the empirical data to determine the effectiveness of the evapotranspirative cover and all remedy controls. Based upon nine years of monitoring, inspection, and maintenance under the *Long-Term Monitoring and Maintenance Plan for the Mixed Waste Landfill*, site conditions have improved and are protective of human health and the environment. The evapotranspirative cover and all remedy controls are in good condition and are performing as designed. The report concluded that, “The regulatory requirements associated with this report have been met. No changes to the remedy or controls are needed for the protection of human health and the environment.”