

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 5, 2025

TO: Technical Director
FROM: Lawrence Livermore National Laboratory (LLNL) Cognizant Engineer
SUBJECT: LLNL Report for November 2025

Defense Nuclear Facilities Safety Board (Board) Staff Interactions: The Board's staff conducted no on-site activities at LLNL in November 2025.

Building 332 (Plutonium Facility) – Seismic Evaluation and Retrofit Quarterly Update: On November 20, 2025, Lawrence Livermore National Security LLC (LLNS) provided a quarterly update to the Livermore Field Office (LFO) on the seismic evaluation and retrofit project for Building 332. LLNS presented results from an interim report prepared by Carl J. Costantino and Associates (CJCA) evaluating seismic loads in the Building 332 Increment 1 loft and mechanical equipment room (MER). The CJCA results demonstrated portions of Increment 1 exceeded the structural capacity based on the limit state, even with a reduction to 80% of the Seismic Design Category 3 (SDC-3) input ground motion. The report concluded that structural modifications in Increment 1 and the MER are required to meet the full SDC-3 demand. LLNS will review the recommended modifications to the Increment 1 loft area and the MER, confirm the interim report calculations, and prepare a funding estimate for the required modifications, which are expected to be completed in Fiscal Year 2028. LLNS noted that the next full natural phenomena hazards analysis will be completed in 2026.

Fourth Quarter Fiscal Year 2025 Startup Notification Report (SNR): On November 19, 2025, LFO approved the fourth quarter fiscal year 2025 SNR in compliance with the Department of Energy Order 425.1D, *Verification of Readiness to Start Up or Restart Nuclear Facilities* requirements. LFO concurred with the LLNS plan to conduct a checklist contractor readiness assessment (CRA) for the startup of the Hazard Category 3 Tritium Delivery System in Building 331. In addition, LFO requested that the CRA plan of action, which will provide insight into the core requirements that will be part of this assessment, be submitted to LFO for review.

Building 331 (Tritium Facility) – Electrical Spark While Performing Maintenance on a Mass Spectrometer: On November 4, 2025, LLNS personnel performing maintenance on the inlet system of a mass spectrometer in Building 331 observed a spark and equipment charring while reconnecting electrical connectors to the system's heater/fan controller. The maintenance task involved replacing a leaking gasket, which required unplugging several electrical connectors to access the component. After the gasket was replaced, workers began reconnecting the electrical connectors to restore the equipment configuration, at which point a visible spark occurred at the connector interface. Workers immediately stopped work and notified the Facility Safety Office. The area was secured, and the controller panel was powered off. No injuries occurred, and there was no evidence of direct electrical contact with personnel. A fact-finding meeting was held with involved personnel, safety staff, and subject matter experts. The affected workstation was programmatically suspended to ensure that no additional work would proceed. Subsequent review by the electrical subject matter expert (SME) and Lockout/Tagout SME confirmed the system voltage exceeded 50 volts and the connectors were not finger-safe, resulting in potential exposure to uncontrolled hazardous energy. LLNS staff members are conducting a causal analysis of this event.