

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 6, 2025

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

Defense Nuclear Facilities Safety Board (Board) Staff Interactions: From May 12-15, 2025, the Board's cognizant engineer visited LLNL to conduct routine safety oversight. The cognizant engineer completed walkdowns of the Tritium Facility (Building 331), Plutonium Facility (Building 332), and the Waste Storage Facilities, and met with Lawrence Livermore National Security, LLC (LLNS) and Livermore Field Office (LFO) managers and staff. The cognizant engineer also met with LLNS staff directing construction projects in Building 331 to receive a status report on infrastructure improvements and the installation of new gloveboxes to support programmatic activities.

Building 332 – Seismic Evaluation and Retrofit Quarterly Update: On May 15, 2025, LLNS provided a quarterly update to LFO on the seismic evaluation and retrofit project for Building 332. LLNS presented Carl J. Costantino and Associates (CJCA) results, confirming that prior evaluations of Building 332 and the Plenum Equipment Building (PEB) incorporated significant conservatism. By integrating soil-structure interaction effects and refining structural modeling, the CJCA results provided a more realistic estimate of seismic response, reducing demand estimates by up to 68% in some cases. The CJCA analysis confirmed that the PEB roof is not overstressed. LLNS concurred with these results and canceled the replacement of the PEB roof. CJCA will continue analysis of steel columns, diagonal braces, roof beams, and roof diaphragms in the Building 332 Increment 1 Loft and Mechanical Room, as well as analysis of the PEB steel columns, beams, braces, roof diaphragm, and metal siding. CJCA will use the results of these analyses to develop design drawings for seismic upgrade modifications.

LLNL Unreviewed Safety Question Procedure: On May 15, 2025, LLNS confirmed implementation of *LLNL Institutional Manual (MAN)-2384, Rev 0, Unreviewed Safety Question (USQ) Procedure*, including the changes required in the LFO condition of approval (COA) (see LLNL Monthly Report for [November 2024](#)). The COA directed LLNS to revise the manual to convey the urgency of declaring a potential inadequacy of the safety analysis and to reflect guidance from Department of Energy Guide 424.1-1C, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements*.

Approval of Justification for Continued Operations (JCO) for Building 332: On May 28, 2025, LFO approved a revised JCO pertaining to Building 332 indeterminate quality assurance issues for affected safety-class and safety-significant structures, systems, and components. The quality assurance issues resulted from LLNS's acquisition of Madruga Ironworks components and procurement from other vendors affecting safety class and safety significant components (see LLNL Monthly Reports for [June 2024](#) and [September 2024](#)). LFO concluded that the information provided in the revised JCO is sufficient to show that an acceptable level of safety will be maintained and that a path forward to resolve this issue has been developed. LFO stated that the JCO will expire in one year and noted that, prior to expiration, LLNS must complete all proposed actions to fully close the JCO.