

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 3, 2025

TO: Todd Davis, Acting Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Lawrence Livermore National Laboratory (LLNL) Report for December 2024

Transportation Safety Document (TSD) Annual Update: On December 3, 2024, the Livermore Field Office (LFO) approved the annual update to the LLNL TSD. The TSD documents the safety analyses for transportation activities related to the onsite transfer of nuclear materials at the LLNL main site. TSD activity is categorized as Hazard Category-2. LFO noted that one of the major changes for this TSD revision was an increase in the material at risk (MAR) limits, which required updating Radioactive and Hazardous Waste Management (RHWM) accident analysis consequences. The increased MAR limits will allow RHWM to reduce the number of moves needed by moving higher MAR content waste containers from the facilities, which frees up space in those facilities. LFO noted that the transportation hazards and selection of safety controls remained unchanged. The accident analysis updated the RHWM scenarios to reflect the increased transfer MAR limits. LFO found the TSD to be sufficient and appropriate to serve as the basis for the safe operation of onsite nuclear transportation and approved the TSD without conditions. LFO required Lawrence Livermore National Security LLC (LLNS) to implement the TSD within 120 days.

Building 332 - Plutonium Facility Documented Safety Analyses (DSA) and Technical Safety Requirements (TSRs) Annual Update: On December 11, 2024, LFO approved the annual update to the Plutonium Facility DSA and TSRs with two Conditions of Approval (COAs). The first COA included updating inconsistent and out-of-date references in the calculations and references in Chapters 2 and 3 of the DSA with valid and appropriate references by the next annual update. The second COA cited DSA Chapter 4 sections on earthquakes that do not reference the most recent seismic evaluation for the building structure and refer to an incorrect section of Chapter 2 to provide details on the seismic design criteria levels. LFO directed LLNS to specify the most recent seismic requirements for safety class and safety significant structures, systems, and components and include the most recent building structure seismic evaluation (and any additional seismic evaluations that become available) in the system evaluation sections by the next annual update. LFO approved the resubmitted Plutonium Facility DSA and TSRs contingent upon completion of the COAs. LFO noted that the DSA and TSRs, together with the LFO Safety Evaluation Report, continue to serve as the basis for the safe operation of the Plutonium Facility.

Building 334 – Hardened Engineered Test Facility DSA and TSRs Annual Update: On December 11, 2024, LFO acknowledged receipt of the annual update of the Building 334 Hardened Engineering Test Building DSA and TSRs per the revised 10 Code of Federal Regulation Part 830.202(c)(2) that allows submitting to the Department of Energy (DOE) the latest copy of the safety basis documents or a letter stating that there have been no changes since the prior submittal. DOE approval of the safety basis is not required. LFO reviewed the submittal and applicable unreviewed safety question determinations and did not identify any changes that affect the approved Building 334 safety envelope. LFO agreed that there were no significant changes to the Building 334 safety basis. LFO concluded that the DSA and TSRs are acceptable for continued use and required LLNS to add the approval letter to the Building 334 safety basis within 90 days.