

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 4, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Lawrence Livermore National Laboratory (LLNL) Report for September 2024

Defense Nuclear Facilities Safety Board (Board) Staff Interactions: On September 3-5, 2024, the Board's cognizant engineer for LLNL and a Board subject matter expert (SME) in fire protection visited LLNL to conduct routine nuclear safety oversight and provide site familiarization for an upcoming review. The Board's staff team completed walkdowns of Building 332, Building 334, and the waste storage facilities (Buildings 625 and 696A) and met with Lawrence Livermore National Security, LLC, (LLNS) and Livermore Field Office (LFO) managers and staff. The staff team also met with LLNS and LFO fire protection SMEs, walked down the Building 332 Increment 1 loft area, and discussed the status of a Justification of Continued Operations (JCO) related to the glovebox exhaust fire suppression system fusible plug detectors. (See LLNL Monthly Report for March 2024).

Technical Evaluation of Madruga Ironworks: On September 19, 2024, LFO accepted the technical evaluation of Madruga Ironworks completed by LLNS and removed the components from the Addendum to the JCO for Building 332 pertaining to quality assurance issues with primary potential seismic performance ramifications. On June 19, 2024, LLNS requested the removal of Madruga components from the JCO. LFO convened a review team of SMEs to evaluate the request. The review team noted that the LLNS technical evaluation appropriately identified the components including location and end use, identified critical characteristics, analyzed failure modes and mechanisms, and subsequently determined acceptance criteria and methods. Based on the results of the review team analyses, LFO agreed that LLNL demonstrated that reasonable assurance exists for the installed Madruga integrated work components to perform the required safety functions for continued use. In addition, LFO required LLNS to update the Addendum reflecting the approval to remove Madruga components from the JCO within five working days.

Revised Waste Storage Facilities Documented Safety Analyses (DSA) and Technical Safety Requirements (TSRs) 2024 Annual Update: On September 5, 2024, LLNS provided the revised Waste Storage Facilities DSA and TSRs 2024 Annual Update to LFO. (See LLNL Monthly Report for August 2024). The Waste Storage Facilities consist of Area 625 and the Building 693 Yard Area portion of the Decontamination and Waste Treatment Facility complex. The Waste Storage Facilities DSA covers both areas because their functions—handling and storing radioactive and hazardous waste—are essentially identical. LLNS noted that the revised DSA and TSR documents incorporate resolution of the Review Comment Record comments. LFO is currently reviewing the revised submittal.

Transuranic (TRU) Waste Shipment to the Waste Isolation Pilot Plant (WIPP): During the week of September 9-13, 2024, LLNS and WIPP Central Characterization Project staff completed loading operations for Transuranic Package Transporter - Model 2 (TRUPACT-II) containers for transfer of TRU waste to WIPP. The shipment of three TRUPACT-II containers, which included 35 drums of TRU waste, departed the LLNL site on September 12, 2024.