

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 4, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Lawrence Livermore National Laboratory (LLNL) Report for November 2020

LLNL Operating Status in Response to COVID-19: On November 11, 2020, the California Department of Public Health issued a limited stay-at-home order that included three counties where a majority of LLNL's employees reside (Alameda, Contra Costa, and San Joaquin). While on-site work at LLNL is exempted from the order, LLNL remains in Phase 2 of their "Phased Recovery and Re-entry Plan" with a moderate number of personnel working on-site and a majority of the workforce continuing to telework.

Building 332 – Glovebox Argon Supply System (GASS): On October 30, 2020, Lawrence Livermore National Security, LLC, (LLNS) submitted a request to the Livermore Field Office (LFO) to operate the Building 332 GASS on a temporary tank while in Operation Mode. LLNS noted that this request is a pre-planned contingency to mitigate any disruption should the existing Safety Significant GASS argon tank or related components fail during the installation of a new replacement tank. LLNS stated that the existing argon tank will maintain the argon gas supply to Building 332 and be plumbed independently from the new argon tank until the final cutover takes place. LLNS noted that the configuration with the temporary argon tank would only be used if a major component on the argon supply side failed. LLNS stated that the hazards associated with the facility are unchanged by this request and the overall risks to the public and the worker are unchanged.

Building 332 – Revised Plutonium Facility Documented Safety Analyses (DSA) and Technical Safety Requirements (TSR) Approval: On November 20, 2020, LFO approved the 2019 annual update to the Building 332 DSA and TSR. In their letter of approval, LFO noted that 14 of 60 comments provided to LLNS remained open and were required to be addressed as outlined in the Safety Evaluation Report (SER). LFO approved the DSA and TSR with six conditions of approval. The conditions of approval addressed issues related to; Room Ventilation System components; new thermal analysis supporting a fire protection strategy; compensatory measures to reduce combustible loading; alarms associated with Safety Class and Safety Significant systems; the designation of Room Ventilation System primary room exhaust points and associated exhaust ducting as defense-in-depth/equipment important to safety; and designating Building 332 roof support structures as Safety Class. LFO concluded that the resubmitted Building 332 DSA and TSRs with updated page changes, together with the SER, are sufficient and appropriate to serve as the basis for the safe operation of Building 332. LFO required LLNS to add the revised DSA and TSRs to the Building 332 Safety Basis effective November 20, 2020, and to accomplish implementation of the updated DSA and TSRs within 180 days.

Plan of Action (POA) for the Contactor Readiness Assessment for Building 332 Hydrogen Operations: On November 18, 2020, LFO approved the POA for the readiness assessment for hydrogen operations in Building 332. LFO noted that the POA contained appropriate breadth, criteria, and prerequisites and was sufficient to assess the readiness of facility personnel, programs, and equipment to conduct work safely. LFO further noted that the proposed Team Leader has sufficient independence, expertise, and technical experience for the role.