

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 1, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Lawrence Livermore National Laboratory (LLNL) Report for February 2019

Defense Nuclear Facilities Safety Board (Board) Staff Activity: The Board's staff provided zero person-weeks of on-site safety oversight at LLNL during February 2019.

Department of Energy (DOE) Order 140.1: On February 12, 2019, the Livermore Field Office (LFO) issued a protocol for documents to be shared with the Board in accordance with DOE Order 140.1, *Interface with the Defense Nuclear Facilities Safety Board*. LFO noted the Board's current concerns with the Order but directed Lawrence Livermore National Security, LLC (LLNS) to proceed with the implementation of the Order as originally scheduled (effective date December 15, 2018). In addition, LFO directed LLNS to copy the Board's staff on the documents cited below without further LFO direction.

- Documented Safety Analyses (DSA) and Technical Safety Requirements (TSR) including associated correspondence such as annual update submittals;
- Safety Basis Amendment requests;
- Approved Scope and Key Issues Statement documents associated with safety basis submittals;
- Startup Notification Reports;
- Environment, Safety and Health Manual Document 51.3, *Unreviewed Safety Question Procedure (USQ)*, currently approved version and revision requests;
- Documentation associated with Potential Inadequacies in the Safety Analyses (PISA) – e.g., initial declarations of the PISA, associated USQ determinations, Facility Manager's Evaluation of the Safety of the Situations and Justifications for Continued Operations; and
- LLNL Criticality Safety Performance Metrics.

Plutonium Facility (Building 332) Emergency Diesel Generator (GDE04): On February 12, 2019, LFO approved a request by LLNS to remove GDE04 from service for up to 120 days to facilitate its replacement. The new generator setup is much larger than the current generator, because it is designed to be more environmentally friendly, e.g., it is contained within a sound absorbing enclosure designed to reduce sound volume during operation. As a consequence, the pad to which the generator is secured must be expanded, and the fuel reservoir must be relocated. These modifications will require considerably longer installation time than a like-for-like replacement. In its initial request, LLNS noted that the Building 332 TSRs require only one of the two Safety Class emergency diesel generators to be operable in the building's Operation Mode. However, LLNS considered it appropriate to request approval from LFO. Based on its evaluation, LFO concluded that Building 332 could continue to operate safely in Operation Mode while emergency generator GDE04 is removed from service for up to 120 days during its replacement and that the increase in risk during this period is low.

Hardened Engineering Test Building (Building 334) Safety Bases Update: On February 22, 2019, LLNS submitted the annual update of the Hardened Engineering Test Building DSA and TSRs to LFO. LLNS noted that this annual update incorporates USQ Determinations issued from October 1, 2016, through September 30, 2018.