

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 2, 2018

**TO:** Steven A. Stokes, Technical Director

**FROM:** Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer

**SUBJECT:** Lawrence Livermore National Laboratory (LLNL) Report for February 2018

**Defense Nuclear Facilities Safety Board (Board) Staff Activity:** The Board's staff provided four person-weeks of on-site oversight at LLNL during February 2018. During the week of February 5–9, 2018, the Board's cognizant engineer and Board's staff members A. Gwal, P.J. Foster, and J. Parham completed a review of the electrical system in Building 332. In addition, the Board's cognizant engineer met with the Manager of the Livermore Field Office (LFO), the LLNL Associate Director for Nuclear Operations, and the Superblock Facility Manager to discuss routine nuclear safety oversight items.

**Building 332:** On February 5–7, 2018, members of the Board's technical staff completed a review of the Plutonium Facility (Building 332) electrical system. The Board's staff team evaluated the following:

- The design of the Building 332 electrical distribution system.
- The installation, physical condition, and maintenance of installed components of the Building 332 electrical distribution system.
- The progress and status of upgrades completed by LLNL to address electrical system design issues previously identified by the Board in 1999 and 2002.
- The Building 332 Electrical Safety Program.

The Board's staff team also completed walk-downs of Building 332 electrical system components and a 13.8 kV utility substation providing power to Building 332. The Board's staff team noted that LLNL has procured all of the equipment required to complete modifications to address the previously-identified single point failures in the Building 332 electrical system. The final modification, the MCC-410 motor control center installation, is currently scheduled to be completed by the end of fiscal year 2018. The Board's staff team also noted that the emergency lighting system in Building 332 is installed in accordance with National Fire Protection Association Standard 101, *Life Safety Code*, but may not function during and following a seismic event since there is no evidence of seismic qualification of the lights.

**Periodic Issue Report (PIR):** On February 27, 2018, LFO transmitted the PIR to LLNL. The PIR summarizes the strengths, deficiencies, and observations identified during recent assessments conducted by LFO. The PIR identified no nuclear safety deficiencies but included an observation that the LLNL Lockout/Tagout Program could be improved to properly account for thermal energy as a hazard.