

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 7, 2017

**TO:** Steven A. Stokes, Technical Director  
**FROM:** Daniel B. Bullen, Cognizant Engineer  
**SUBJECT:** Lawrence Livermore National Laboratory (LLNL) Report for June 2017

**Defense Nuclear Facilities Safety Board (Board) Staff Activity:** Board's staff member J.D. Anderson was on site June 5–9, 2017, to participate in the software quality assurance review of the CASTLE-PX program. On June 5–7, 2017, Board's staff members D.B. Bullen, T.L. Hunt, and C.P. Scheider were on site to review LLNL's operational drill program, abnormal operating procedures, and alarm response procedures, and to complete a follow-up review of LLNL's conduct of operations/maintenance programs. Board's staff members D.B. Bullen, B.K. Caleca, R.L. Jackson, and Y. Li were on site June 12–14, 2017, to conduct a structural review of Building 332.

**Building 332:** The Livermore Field Office (LFO) approved the annual update of the 2016 Documented Safety Analyses (DSA) and Technical Safety Requirements (TSR) for Building 332 on June 1, 2017. LFO's approval letter stated that the implementation of the updated DSA and TSRs must be completed within 90 days.

**Work Planning and Control (WP&C) Assessment at LLNL:** The Department of Energy's Office of Enterprise Assessments (EA) conducted assessments of WP&C and selected elements of the feedback and improvement program at LLNL in early 2017. The results of these assessments were published in an EA report entitled, *Assessment of Work Planning and Control at the Lawrence Livermore National Laboratory*, dated June 2017. These assessments focused on the potential effectiveness of the new LLNL WP&C program currently being instituted within three LLNL Directorates: Environment, Safety, and Health; National Ignition Facility & Photon Science; and Weapons and Complex Integration. The EA report noted that

*“The new WP&C system is a complete rebuild of the existing hazard based process to a new task based process, including implementation of a new computer-based WP&C tool.”*

The EA report also noted that all LLNL directorates are developing detailed multi-year transition plans that will convert all existing WP&C documents to this new process.

**Superblock Facility Protective Action Drill:** On June 6, 2017, the Board's cognizant engineer for LLNL observed a criticality drill including facility protective actions in the Superblock. The drill was initiated with a simulated criticality accident in Building 332 resulting in simulated injuries to two workers and the evacuation of Building 332. The fire department, emergency response, and Superblock personnel actions included triage for the simulated injured worker who successfully evacuated the building and the development of a re-entry plan to recover the other worker with a simulated injury, which had occurred during the evaluation. The re-entry was successful and the simulated injured worker was recovered. During a critique following the drill, a few opportunities for improvement were identified for both fire department and Superblock personnel. This was a credited drill in the LLNL Facility Protective Action Drill Program.