

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 12, 2010

**MEMORANDUM FOR:** Timothy Dwyer, Technical Director  
**FROM:** Jonathan Plaue, DNFSB Site Representative  
**SUBJECT:** LLNL Activity Report for Week Ending March 12, 2010

**Radioactive and Hazardous Waste Management:** On March 8, 2010, the laboratory submitted to the Livermore Site Office (LSO) a plan to convert the Decontamination and Waste Treatment Facility (DWTF) Segment from a hazard category 3 nuclear facility into two separate radiological facilities (see weekly report dated February 12, 2010). The DWTF Segment includes two structures; Building 695 and a segment of Building 696 (the other segment is part of the hazard category 2 Waste Storage Facilities). The plan asserts that no current or anticipated waste items exceed the radiological facility limit. The facility radioactive material inventory will be protected by waste acceptance criteria and implemented using the HazTrack software for radiological inventory monitoring. Under laboratory policy, operations of each facility will be governed by a separate Tier 2 non-nuclear safety basis and an associated facility safety plan. LSO's comments on the previous hazards analysis table submission (see above referenced weekly report) will likely be considered in development of the Tier 2 documents. The plan proposes a schedule for implementation of the radiological facility posture by June 11, 2010, assuming LSO approval of the plan by April 2.

**Emergency Management:** On March 9, 2010, the laboratory executed the Emergency Planning Hazards Assessment (EPHA) exercise for the Building 625 yard. Building 625 and its yard area constitute one of the physical structures encompassed by the hazard category 2 nuclear facility known as the Waste Storage Facilities. This year's scenario involved the breach of two transuranic waste drums and an injured employee. The response included full participation of the Alameda County Fire Department and the laboratory's Environment, Safety and Health team. The exercise program at the laboratory is evolving, as this scenario attempted to increase realism with the use of sound and some theatrical effects. The EPHA exercises at the nuclear facilities continue to demonstrate value as the evaluation team discussed a number of issues involving communications, exercise control, contamination control, and dispatcher familiarity with laboratory terminology. The formal after action report is expected within a month.

**Hardened Engineering Test Building:** On March 8, 2010, the laboratory submitted to LSO a safety basis amendment requesting the ability to perform experiments involving up to 20 grams of plutonium oxide in the facility. The experiments support the Diagnostic System Support Program intrinsic radiation measurements, which require a lower radiation background than is available in the Plutonium Facility. The plutonium oxide will be packaged in a bolt can and overpacked into a copper sealed conflat container. The amendment identifies unmitigated consequences to the public and worker respectively as negligible and low. As a result, no safety significant controls were identified. However, the Site Representative notes that the requested quantities of nuclear material do exceed the threshold for applicability of Department of Energy Manual 441.1-1, *Nuclear Material Packaging Manual*. The proposed packaging configuration is robust and can likely be demonstrated to meet the requirements of the manual. Development of a technical basis for the conflat container would benefit the laboratory, the eventual receiver site for this material, and the rest of the complex.