

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 10, 2010

**MEMORANDUM FOR:** Timothy Dwyer, Technical Director  
**FROM:** Jonathan Plaue, DNFSB Site Representative  
**SUBJECT:** LLNL Activity Report for Week Ending December 10, 2010

**Emergency Management:** Department of Energy (DOE) Order 151.1C, *Comprehensive Emergency Management System*, requires contractors to have a coordinated program of training and hands-on drills for all personnel expected to respond to emergencies. Similar requirements exist in DOE Order 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*. The Board's staff recently identified that the Laboratory's program was not in full compliance with these requirements. In response, the Livermore Site Office (LSO) determined that the Laboratory should be driven to achieve compliance through an existing corrective action taken in response to the November 2008 inspection by the DOE's Office of Emergency Management Oversight (HS-63).

The corrective action involves revision of the Laboratory's *Environment, Safety & Health (ES&H) Manual* to define expectations for internal facility exercise/drill programs to address facility-specific events. In a letter dated November 23, 2010, LSO approved the Laboratory's request to extend the due date for several HS-63 corrective actions. The action to revise the ES&H Manual was extended from November 30, 2010, to March 31, 2011. Once revised, the Laboratory will require additional time to implement the drill program requirements.

**Waste Storage Facilities:** On December 2, 2010, the Nuclear Operations Directorate released the report on the Independent Verification Review (IVR) for the Waste Storage Facilities. The IVR was conducted by a four person team from October 27 to November 9, 2010. The IVR examined the adequacy of documentation and records for implementation of the Technical Safety Requirements (TSRs) and included interviews of personnel with responsibilities to implement the TSRs. There were no opportunities for the team to observe waste transfers. Overall, the team concluded that the safety basis requirements were adequately met. The report included eight observations and one strength. Two observations of note include:

- The waste acceptance procedure is relied upon for fissile material inventory control, but Criticality Safety is not required to review changes to the procedure [Observation 1.2-3]
- The combustible loading determination procedure, which implements a Specific Administrative Control, is required to be read, but warrants additional training and documentation on the walk through and use of the spreadsheet [Observation 2.1-1]

**Plutonium Facility:** This week, fissile material handlers began operations to stabilize the uranium lithium compound involved in the exothermic event (see weekly report dated July 16, 2010). The work permit and associated peer review recovery plan for this activity specified an initial test using a 50 g aliquot of the material. The handlers calcined the aliquot in air at 900 °C for six hours, confirmed a less than one percent weight change, and then tested for potential adverse reaction with water. The testing involved the addition of about 200 mg of powder into a liter of water, which was monitored for pH and temperature. No adverse reaction was observed. During the next two weeks, handlers plan to stabilize the remaining material in small batches using this method.