**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

March 26, 2010

**MEMORANDUM FOR**: Timothy Dwyer, Technical Director
**FROM**: Jonathan Plaue, DNFSB Site Representative
**SUBJECT**: LLNL Activity Report for Week Ending March 26, 2010

**Integrated Safety Management:** On March 15, 2010, the team lead issued the final report for the Integrated Safety Management (ISM) System Phase I and II verification. The report concluded that ISM systems meeting Department of Energy expectations were implemented by the Laboratory and the Livermore Site Office (LSO). A final determination by the LSO Manager is expected in a few weeks.

**Plutonium Facility:** On March 23, 2010, two fissile material handlers were in the process of bagging an item into a glovebox when their initial inspection indicated features of the item were inconsistent with the nuclear criticality safety posting for the workstation. The handlers stopped work and made the appropriate notifications for the suspected static criticality safety violation. Upon further evaluation, the features were not as suspected and the item was determined to be in compliance with the applicable criticality posting.

Also on March 23, 2010, operations of the hydride/dehydride/casting unit successfully resumed. Previously, operations had been authorized prior to formal closure of all design review comments (see weekly report dated February 26, 2010). The critique report for this premature authorization was also released this week and identified issues with: (1) lack of awareness that a design review comment closure signature was outstanding, (2) incomplete execution and verification of the change request process, and (3) confusion in terminology between "conduct" and "completion" of the design review process. The critique's human factors discussion further identified error-precursors associated with aggressive schedule pressure, unavailability of key personnel during decision-making, and lack of formality in authorization and approval actions via telephone discussions. Overall, the human factors analysis determined that the situation was a system-induced error. Corrective actions resulting from the critique are focused on improving the change request process in the Superblock Work Control Manual. The manual is to be revised by May 31, 2010.

**Tritium Facility:** On March 19, 2010, Laboratory personnel discovered legacy components potentially containing small quantities of explosive materials in an infrequently utilized room. Explosives are prohibited in the Tritium Facility. Explosive experts removed the components from the facility and transferred them to the High Explosives Applications Facility for further analysis; results are pending. While following up on the explosives concern, facility management and the LSO Facility Representative identified a number of work control issues associated with the activity performed in this particular room. The work place copy of the Operational Safety Plan (OSP) governing the activity was expired, several of the OSP controls were not implemented, and the long-term, unattended nature of the gamma ray tomography activity that was underway in this particular room was not clearly recognized in the OSP. Further study revealed that the OSP implementation processes used at the Tritium Facility differ from the formal checklist approach utilized in the Plutonium Facility. Facility management suspended the activity and is following up on the work control items.