

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 23, 2006

**MEMORANDUM FOR:** J. K. Fortenberry, Technical Director  
**FROM:** M. J. Merritt, DNFSB Site Representative  
**SUBJECT:** Lawrence Livermore National Laboratory (LLNL)  
Report for Week Ending June 23, 2006

**Nuclear Material Inspection and Packaging:** On April 19, 2006, the Livermore Site Office (LSO) authorized LLNL to inspect and repackage the 34 containers of nuclear material. The first items were unpackaged in late April. As of this week, 50 percent of the items have been opened, inspected and repackaged. Thus far, the inspection of the items has not revealed any immediate safety concerns (e.g., degraded packaging). However, some additional criticality safety analyses were required for certain items to determine which Standard Criticality Control Conditions (SCCCs) should be specified for the items. The items had been stored in a "limited use" work station that was specifically analyzed for those items and accounted for uncertainty in criticality parameters. Many of the remaining items are expected to be problematic from a radiological controls stand point due to high radiation dose rates and expected degradation of material packaging. Additional work planning will likely be required to define the necessary radiological controls and radiation shielding for handling a few of the remaining items.

LLNL originally requested Livermore Site Office (LSO) approval on March 28, 2006, to inspect and repackage the 34 containers of nuclear material stored in the Plutonium Facility. The 34 items did not have Environmental, Safety and Health (ES&H) labels that provided the Fissile Material Handlers (FMHs) with information necessary to determine whether criticality safety limits could be met for the receiving workstation. The absence of the ES&H label indicated that the internal packaging configuration was uncertain and the presence of beryllium, plastic, or other moderating or reflecting materials could not be determined. The ES&H labeling process was initially instituted in 1998 when approximately 1900 stored items lacked the information necessary to complete the labels. LLNL was able to work off all but 34 items prior to the facility stand-down in January 2005.

**LSO Senior Nuclear Safety Advisor:** This week, the National Nuclear Security Administration (NNSA) completed initial interviews in an effort to fill a Senior Nuclear Safety Advisor vacancy at LSO. The creation and filling of this position is consistent with advice provided to NNSA by the Board in 2005. The role of the incumbent will be to provide expert technical counsel to the LSO Manager on matters such as criticality safety, safety analyses and documentation, and systems engineering. The incumbent will also be expected to provide oversight of nuclear operations at LLNL nuclear facilities to ensure that the operations are carried out safely and in accordance with established procedures. Followup interviews and the final selection are expected within three weeks.

**Plutonium Facility Resumption Status:** Approximately 75 percent of the work stations (see weekly report dated December 9, 2005) in the Plutonium Facility are either in operation or in trial operational periods. The work stations are controlled by Operational Safety Plans (OSPs) that are unique to the work station(s). The current status is, 37 OSPs in operation or trial operation, and approximately 12 OSPs in various stages of the resumption process. Included in the 37 operational OSPs are six OSPs that continued to be used through the stand-down. These six OSPs are currently going through a graded review as part of the resumption process.