

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 21, 2005

**MEMORANDUM FOR:** J. K. Fortenberry, Technical Director  
**FROM:** Michael J. Merritt, DNFSB Site Representative  
**SUBJECT:** Lawrence Livermore National Laboratory  
Report for Week Ending January 21, 2005

**Plutonium Facility Operating Status:** On January 15, 2005, LLNL management directed a stand-down of programmatic work in the Plutonium Facility. As part of implementing the stand-down order, the facility mode was changed (on January 18, 2005) from "Operation" to "Standby" in accordance with the facility's Technical Safety Requirements (TSRs). The stand-down is a result of unresolved safety issues and the failure of LLNL to provide the Livermore Site Office (LSO) with compensatory measures that adequately address existing safety deficiencies. To date, LSO has rejected two LLNL plans of action; the first plan was dated December 20, 2004 (see weekly report dated January 14, 2005); and the second was dated January 13, 2005.

According to the TSRs, in Standby mode, all programmatic operations are suspended - by definition. However, transfer, handling, sampling, and storage of radioactive materials is allowed. Additionally, in-process materials may be placed in a safe configuration. Maintenance activities will also continue, including the performance of surveillance requirements and administrative controls procedures. Facility management has indicated that "limited programmatic activities" may be allowed to continue. The authorization of these programmatic activities would require approval by the Deputy for Programmatic Operations. A potential conflict may exist between the TSR requirements for Standby mode and the authorization of programmatic work.

**Plutonium Facility TSR Violations:** The TSRs for the Plutonium Facility require the implementation of ten safety management programs. Three of the ten programs have been declared by LLNL as being in a TSR violation condition. On January 11, 2005, LLNL declared that the configuration management program was deficient (ORPS report OAK-LLNL-LLNL-2005-0004). On January 13, 2005, LLNL also declared that the unreviewed safety question (USQ) process and a component of the radiation protection program were deficient (ORPS reports OAK-LLNL-LLNL-2005-0006 and OAK-LLNL-LLNL-2005-0007).

LSO is currently working with LLNL to define a corrective action plan for the configuration management of vital safety systems (see weekly report dated December 10, 2004) to respond to a Board letter. LSO has provided LLNL with comment on their USQ procedure in a letter dated January 13, 2005. The primary issue with the radiological control program deals with the implementation of the As Low As Reasonably Achievable (ALARA) principles. A requirement exists to perform and document formal ALARA reviews for any operation where individuals whole body dose are expected to exceed 100 mrem or collective doses are expected to exceed one rem. This requirement has not been satisfied for some work in the Plutonium Facility.

Despite the fact that corrective action plans are being developed to correct the conditions that resulted in TSR violations, it is not clear that compensatory measures have been identified and implemented to address the existing safety deficiencies. Compensatory measures may be necessary regardless of the facility's operational mode.