

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 15, 2007

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 15, 2007

Hardened Engineering Test Building Activity: A radiation measurement activity was conducted in the Hardened Engineering Test Building this week. The activity consisted of removal of a plutonium item from nested containers, handling of encapsulated plutonium, and passive radiation measurements. The fissile material handlers and hazard controls technician performed the handling activity in a manner consistent with that required in the Plutonium Facility. The requirements of the work permit – including radiation survey, personal protective equipment, and dosimetry requirements – were adhered to during performance of the work. Previous activities observed by the Site Representative indicated weaknesses in the implementation of criticality safety requirements (see weekly report dated March 30, 2007). The implementation of criticality safety requirements for this activity were significantly improved, in fact, based on the Site Representative's observations, the work permit for the activity introduced a new control that required the criticality safety engineer to verify that all experimental configurations used during the activity met the requirements specified by the Criticality Safety Group. Performance was also improved in the areas of radiological surveying and posting requirements.

Evaluation of Safety (EOS) for Waste Facilities: Late last year, a potential inadequacy in the documented safety analysis (PISA) was declared for the Waste Storage Facility (Building 696) and for the Building 695 segment of the Decontamination and Waste Treatment Facility (Occurrence Report LLNL-LLNL-2006-0070). The potential inadequacy affects the 2-hour rated fire partition (firewall) that is designated as a safety significant structure for both facilities. The PISA stated that a combustible free zone should be established within seven feet of the B696 firewall as a compensatory measure to ensure that the functional requirements of the firewall could be achieved. In a May 31, 2007 letter, the Livermore Site Office (LSO) agreed with the LLNL determination that a positive unreviewed safety question determination (USQD) exists. LSO also confirmed the adequacy of the EOS. In its letter, LSO directed LLNL to submit safety basis amendments for the affected facilities.

Public Interaction: On June 14, 2007, the Site Representative met with the executive director and staff attorney for Tri-Valley CARES (Communities Against a Radioactive Environment). Tri-Valley CARES requested the meeting to discuss LLNL's progress in addressing the Board's concerns relating to the Plutonium Facility and Tritium Facility, as well as contract transition issues. The Site Representative also provided an update on the Board's initiatives in the areas of criticality safety, Plutonium Facility documented safety analysis, configuration management of vital safety systems, and packaging of special nuclear material.

External Audit: This week, the Site Representative met with an auditor from the DOE Office of Inspector General (IG). The IG auditor is conducting an audit of LLNL's performance in resolving issues from safety reviews. The Site Representative discussed the status of nuclear safety issues and recent initiatives by the Board to improve the safety posture of LLNL nuclear facilities. The IG is particularly interested in the performance of LLNL in correcting nuclear safety issues identified by oversight organizations both within and outside of DOE.