

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 24, 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 August 24, 2007

Plutonium Facility Compensatory Measures: This week, the Plutonium Facility implemented compensatory measures during the replacement of the second of two room ventilation system exhaust fans. The compensatory measures prohibit activities involving dispersible material and activities involving welding or other hot work. The Livermore Site Office (LSO) approved LLNL's request to take up to 14 days to replace the fan, during which time, these compensatory measures will be in place. A Technical Safety Requirement deviation was approved to allow the facility to support the accomplishment of several important programs without disruption.

Legacy Item Disposition: LLNL has completed the recovery of nuclear material from the legacy item referred to as Object-77. This phase consisted of extraction of the plutonium from the item, placing the material in approved containers, and bagging out the material for processing. The fissile material handlers (FMHs) performed the work with an appropriate level of formality of operations. The FMHs effectively implemented the safety controls, radiological controls, and ALARA techniques. The remaining work for this activity consists of processing the material to a stable form, packaging for long-term storage or possible programmatic use, and disposition of the remaining Object-77 hardware. The completion of the disposition of Object-77 will also allow the programmatic use of the glovebox used for disposition activities. The glovebox was designed to perform hydriding, nitriding, dehydriding (HYDOX) and direct metal conversion (DMO) of plutonium. Use of the glovebox for HYDOX and DMO was deferred because of the need to conduct the Object-77 activities in a new, uncontaminated glovebox.

Hardened Engineering Test Building Critique: On August 24, 2007, a critique was conducted to review the temporary misplacement of an americium-beryllium source. The AmBe source was located in less than 24 hours in the INRAD bay of the facility. The conduct of this critique represented the initial use of the new Nuclear Material Technology Program (NMTP) *Event Critiques* procedure in this facility. The conduct of the critique process was a significant improvement compared to the critique in the Radiography Facility last week (see weekly report dated August 17, 2007), even though both facilities are managed by the same facility manager. It appeared that feedback provided by the Site Representative last week assisted facility management in being better prepared to conduct the critique.