

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 16, 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 February 16, 2007

**Readiness Assessment for Legacy Item Disposition:** LLNL has issued the final report from the contractor portion of the readiness assessment (RA) to disposition a legacy item referred to as Object-77. The disposition activity will be conducted in the Plutonium Facility. The LLNL RA team conducted document reviews, interviews, and observed two days of dry runs. The dry runs were intended to demonstrate that the safety controls could be successfully integrated and implemented through the use of procedures, equipment, and fissile material handler proficiency. Four pre-start findings were documented in the RA report, along with several observations and strengths. The specific pre-start findings are:

- the emergency response plan for the activity is not fully implemented;
- the containment tent to be constructed at the entrance to the laboratory room will interfere with facility fire protection system equipment;
- NOMEX fire hoods for fissile material handlers are not yet available; and
- issues resulting from the facility's management self-assessment were not formally documented and closed.

LLNL material handler knowledge and conduct of operations discipline were recognized as strengths. Currently, LLNL is closing out the pre-start findings. Once the findings are closed, the Livermore Site Office (LSO) will conduct an independent RA, consisting of document reviews and interviews. The LSO RA will likely be completed by early March.

**Plutonium Facility Safety System Activation:** On February 14, 2007, the Plutonium Facility Emergency Power System (EPS) activated after a loss of electrical power to an increment of the Plutonium Facility. The EPS performed its function by activation of an automatic transfer switch and automatic startup of an emergency diesel generator. The immediate availability of emergency power allowed the confinement ventilation system to continue to operate without interruption. It should be noted that in recent years LLNL has corrected a number of vulnerabilities in the EPS in response to concerns raised by the Board (see Board letter to DOE dated December 21, 1999).

**Plutonium Facility Safety Basis:** On February 14, 2007, LLNL requested an exemption to the requirement to provide an annual update to the Plutonium Facility Documented Safety Analysis (DSA). LLNL submitted the DSA on December 19, 2005, and LSO approved it in April 2006. Specifically, LLNL requested an exemption to 10 CFR Part 830.202.c.2. This section of the *Nuclear Safety Management* rule requires that LLNL annually submit to DOE either an updated DSA or a letter stating that there have been no changes in the DSA since the prior submission. This update is due in April 2007 and was expected to include a number of safety improvements that were defined in conditions of approval of the LSO Safety Evaluation Report. LLNL has requested that the first annual update to the DSA be deferred until April 7, 2008. LLNL justifies the need for the exemption by pointing out that the DSA is currently in the implementation phase and will not be complete until November 2007. Once fully implemented, LLNL safety basis resources will be reallocated to begin the annual update process. In a separate correspondence, LLNL has indicated that all contingency built into the DSA implementation has been consumed.