

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 26, 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 January 26, 2007

**Readiness Assessment for Legacy Item Disposition:** This week, LLNL re-commenced the readiness assessment (RA) to disposition a legacy item referred to as Object-77. 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. The contractor portion of the RA was completed this week and a report should be published next week. The Livermore Site Office (LSO) independent RA will be conducted following issuance of the LLNL report. The LSO team and the Site Representative also observed the one-time dry runs in order to evaluate the readiness of the facility to perform the operations.

During performance of the previous RA in August 2006 (see weekly report dated August 18, 2006), several deficiencies were observed. The radiological controls were inadequate, conduct of operations lacked rigor, mockup training did not effectively validate procedures, field changes were authorized without specific direction and thorough evaluation, and installation of specially designed equipment was problematic. The dry runs conducted this week demonstrated significant improvements in these areas. The radiological controls were more thorough, conduct of operations was more rigorous, procedures had been validated, field changes were made following established procedural requirements, and the equipment fit and function was verified.

**Radiography Facility Operations:** Operations were performed in the Radiography Facility this week. The operation involved radiography of a plutonium pit. Some weaknesses were noted by the Site Representative during operations earlier this month (see weekly report dated January 19, 2007). Improvements were observed this week in the areas of work permit development and radiological controls posting. The work permit for this operation correctly specified that the radiation levels from the pit would exceed the threshold of a high radiation area (greater than 100 mr/hr at 30 centimeters). Based on gamma and neutron radiation surveys during receipt inspection, the dose rates exceeding the threshold for a high radiation area were confirmed and the area was properly posted.

**Independent Oversight Inspection:** This week an inspection team from the Department of Energy Office of Environment, Safety and Health Evaluations, HS-64 (formerly OA-40), began a two-week audit of safety performance at LLNL. Two important areas of review by the inspection team are the corrective actions taken by LLNL and LSO to address safety issues identified in the previous inspection in 2004 (see weekly report dated January 14, 2005) and the functionality of essential safety systems. The review of essential safety systems will focus on the glovebox ventilation system and fire suppression system in the Plutonium Facility. The audit team will continue to collect data next week and is expected to issue a report in February.