

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 3, 2005

**MEMORANDUM FOR:** J. K. Fortenberry, Technical Director  
**FROM:** Michael J. Merritt, DNFSB Site Representative  
**SUBJECT:** Lawrence Livermore National Laboratory  
Report for Week Ending June 3, 2005

**Plutonium Facility Occurrence:** On May 31, 2005, Plutonium Facility personnel received an alarm on the Uninterruptible Power Supply (UPS) indicating a malfunction with the system (ORPS report OAK-LLNL-LLNL-2005-0042). The UPS is defined as part of the safety-class Emergency Power System in the current Safety Analysis Report (SAR). The safety function of the UPS is to maintain power to critical control and alarm systems during the transition between normal power and emergency power supplied by diesel-generator sets. The response to the alarm and the follow up actions taken by facility personnel were appropriate.

The Technical Safety Requirements (TSRs) require that the facility enter into a Limiting Conditions for Operation (LCO) when the UPS is inoperable. This LCO applies to operations, maintenance and stand-by modes. In maintenance mode, facility management generally restricts access to the Radioactive Materials Area (RMA) to only those personnel required for maintenance and repair work. As required by the LCO, the RMA was placed into maintenance mode while a vendor performed trouble shooting. Using an emergency work permit, an off-hours repair was made to the UPS on June 1, 2005. Completion of the repair allowed the facility to return to operations mode and support critical work that had been authorized by the Livermore Site Office (LSO).

The basis for the TSR LCO is that the UPS supplies power to safety-class equipment, namely the fire detection system. However, system modifications during 2004 established backup batteries for the fire detection system and therefore functionality of the UPS is no longer linked to the safety-class fire detection system. The UPS does provide power to some defense-in-depth equipment that is important to safety. Implementation of the current SAR and TSRs may not, in all cases, reflect the significance of the current controls. Updated controls and safety-class system boundaries defined in the draft Documented Safety Analysis (DSA) should better define the safety function of the UPS, but re-submittal of the DSA has been delayed (see weekly report dated May 27, 2005). Presently, LLNL is not expected to re-submit the DSA until December, 2005. Once approved by LSO, an implementation schedule for the revised controls will be established.

**Heavy Element Facility Deactivation:** Removal and disposal of radioactive items and the decontamination and disposal of gloveboxes is continuing. In order to achieve radiological facility status (see weekly report dated April 15, 2005), LSO approved certain exceptions to DOE Order 435.1, *Radioactive Waste Management*, that allowed gloveboxes without firm disposition paths to be stored in the LLNL Radioactive and Hazardous Waste Management (RHWM) facilities. However, gloveboxes that were included in the LSO exemption approval letter but not transferred to RHWM facilities by April 10, 2005, are problematic since the exemption expired on that date. Despite these difficulties, a Blue Cave (shielded glovebox) contaminated with curium received approval to be transferred to RHWM this week after an off-site disposition path was identified.