

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 18, 2011

**MEMORANDUM FOR:** Timothy Dwyer, Technical Director  
**FROM:** Jonathan Plaue, DNFSB Site Representative  
**SUBJECT:** LLNL Activity Report for Week Ending February 18, 2011

**DNFSB Staff Activity:** On February 14, 2011, staff members Anderson, Beauvais, Dunlevy, Forsbacka, Gibson, Moury, and Shackelford participated in a video teleconference with personnel from the Livermore Site Office and Laboratory contractor to discuss the proposed revision to the Tritium Facility safety basis. Dunlevy and Gibson participated from the Laboratory and also walked down the Tritium and Plutonium facilities.

**Tritium Facility:** On February 16, 2011, the Facility Manager declared a violation of the Technical Safety Requirements (TSR) when an operation involving radioactive material was discovered while the facility was in Warm Standby Mode—a condition prohibited by the TSR. The Facility Manager had placed the facility in Warm Standby Mode at his discretion, in order to support a maintenance activity on the tritium room monitors and stack monitor. These monitors are considered Equipment Important to Safety and a mode change is not required by the TSR for a loss of their operability. A worker did not observe signage indicating the mode change or announcements regarding the testing and proceeded to conduct an ion sputtering activity on a small plutonium metal sample as part of x-ray photoelectron spectroscopy operations. The worker also failed to verify the facility was in Operations Mode, as required by the daily room check procedure.

The Facility Manager held a critique for this event, which resulted in a corrective action to counsel the worker on facility mode signage and the daily room check. During the critique, personnel also discussed the unique nature of actinide operations in the Tritium Facility. Actinide operations are performed by a small number of personnel. These personnel report to an Associate Program Leader who is primarily focused on activities in the Plutonium Facility. The daily work team meeting for this group—an interaction intended to discuss the planned work and associated conditions for the day—does not include a representative from the Tritium Facility. Further, some of these personnel were not included on an email distribution list, which had been used to proactively provide a courtesy notification to Superblock personnel of the anticipated mode change.

**Plutonium Facility:** In a memo dated February 10, 2011, the Facility Manager canceled the standing order for additional respiratory protection and reemphasized a recent change to the Facility Safety Plan requiring the use of a full-face air purifying-HEPA respirator for certain routine workstation operations (see weekly report dated November 5, 2010). These operations include bag-ins and bag-outs, glove changes, opening sphincter ports that have not been used in 30 days, and opening secondary material storage containers. The memo also noted the approval to exempt full-face respiratory protection requirements for Operational Safety Plans governing metallography, preparation and operation of the scanning electron microscope, and the storage and handling of waste containers in selected areas. The memo further states that the Safety Office is responsible for coordination of the exemption request and approval process.