

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 7, 2011

**MEMORANDUM FOR:** Timothy Dwyer, Technical Director  
**FROM:** Jonathan Plaue, DNFSB Site Representative  
**SUBJECT:** LLNL Activity Report for Week Ending January 7, 2011

**Livermore Site Office:** Last month, the Livermore Site Office (LSO) Manager issued goals for the site office. Short term goals applicable to the nuclear facilities include: complete revitalization of the site office, assist the Associate Administrator for Defense Nuclear Security in defining an appropriate security program for a Security Category III site, improve the activity-level work control process as a part of continuous improvement, affirm the Laboratory's contractor assurance system, and successfully pass a review from the Chief of Defense Nuclear Safety. Applicable longer term (2–3 years) goals include: support activities associated with the Nuclear Posture Review, complete the deinventory according to the approved schedule, and implement a new security posture.

In addition to the office goals, the LSO Manager released a draft organizational structure in support of the site office revitalization effort. The draft structure includes a set of four assistant managers supporting each of the two deputy managers. Functions and staffing assignments associated with this structure are still in development.

**Tritium Facility:** On December 10, 2010, the Nuclear Materials Technology Program transmitted to LSO a revised safety basis update for approval. The revision was intended to resolve LSO's review comments, which included a concern regarding a lack of conservatism in the hazards analysis and control set for fire and deflagration scenarios for protection of the facility worker (see weekly report dated September 17, 2010). Key aspects of the submitted safety basis include:

- Key elements were added to the Emergency Preparedness Program for worker response instructions to fire and major seismic events, emergency response drills, and directing workers away from tritium fire plumes
- Specific administrative controls were added to preserve combustible loading initial conditions and to limit the hydrogen species concentration in certain gloveboxes to less than or equal to the lower flammability limit
- Tritium room monitors were credited as a safety significant control to alert personnel of an otherwise undetected tritium release
- No structures, systems, or components were credited related to tritium confinement or fire protection

**Plutonium Facility:** On December 20, 2010, LSO issued the Safety Evaluation Report (SER) for the 2010 annual safety basis update. The SER approved the submitted safety basis without condition, which included the downgrade from safety significant of the Radiography Cave and Hydrogen Gas Isolation Valve. The SER also discussed LSO's analysis of the impairment of the safety significant Audio Warning and Building Paging (AW/P) system during an emergency exercise last spring (see weekly report dated April 16, 2010). LSO determined that the action statement to establish a fire watch on loss of the AW/P provided sufficient ability to communicate to personnel (e.g. phones, pagers, radios, etc.) during any future unanticipated impairment of the AW/P system. The Site Representative notes that the system does not provide engineered indication when announcement capability is impaired.