

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 5, 2010

**MEMORANDUM FOR:** Timothy Dwyer, Technical Director  
**FROM:** Jonathan Plaue, DNFSB Site Representative  
**SUBJECT:** LLNL Activity Report for Week Ending November 5, 2010

**DNFSB Staff Activity:** This week, staff members J. Anderson, D. Campbell, E. Gibson, J. Pasko, and C. Roscetti were at the Laboratory to review the nuclear facility training program.

**Plutonium Facility:** In a memorandum dated October 29, 2010, the working group on personnel protective equipment provided its recommendations to the Facility Manager and the Nuclear Materials Technology Program (NMTP) leader (see weekly report dated October 15, 2010). A majority of the working group, which included fissile material handlers, Safety Office personnel, the Health Physicists, and a representative from Respirator Services, concluded that the Facility Safety Plan (FSP) should be strengthened to require full face respirators for activities where respiratory protection is currently required. The FSP currently requires the use of a half face respirator, at a minimum, for operations such as glove changes, bag-in and bag-out operations, opening secondary containers, and use of glove or sphincter ports after 30 days of nonuse. Some of these practices have been augmented by recent standing orders (see weekly reports dated June 11 and October 15, 2010). The working group proposed two other changes to the FSP:

- Minimum requirements for anti-contamination clothing for general glovebox work and activities requiring respiratory protection would be increased from a lab coat and booties to full coveralls and booties.
- Bagging operations on workstations where plutonium-238 is the primary contaminate would require the use of a new bag. The group determined that this change would ensure the highest possible integrity of the plastic bag, as well as reduce the likelihood of release by reducing the number of taped closures (i.e., pig tails) from two to one.

The memorandum noted that the conclusions discussed above did not reflect a consensus opinion and a minority of the group believed that the FSP should only be modified to capture the changes invoked in the recent standing order. The minority opinion consisted of handlers and some safety professionals.

**Feedback and Improvement:** On October 29, 2010, the Health Physicist (HP) discussed with Superblock personnel the lessons learned from the June 2010 puncture wound of an operator repackaging transuranic waste at the Savannah River Site. The briefing, which was given during the regular biweekly feedback and improvement meeting that all fissile material handlers are required to attend, was requested by the NMTP Leader. The HP discussed the waste drum remediation activity, the particulars of the event, findings from the accident investigation, and applicable lessons. The HP noted that the Laboratory has about 600 transuranic waste drums that require similar remediation activities. The HP emphasized that minor changes to operations can have unintended consequences and that all changes need to be properly analyzed. The briefing also included personnel from Health Services to discuss chelation therapy and other medical capabilities to mitigate doses in the event of a radiological intake.