

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 2, 2012

**MEMORANDUM FOR:** Timothy Dwyer, Technical Director  
**FROM:** Jonathan Plaue, DNFSB Site Representative  
**SUBJECT:** LLNL Activity Report for Week Ending March 2, 2012

**Post Deinventory Planning:** On February 13, 2012, the Deputy Administrator for Defense Programs provided direction to the Los Alamos Site Office and laboratory contractor regarding planning for the Chemistry and Metallurgy Research Replacement facility. The Deputy Administrator requested a plan to maintain continuity for required materials characterization and analytical chemistry following an orderly phase-out of the existing Chemistry and Metallurgy building in approximately 2019. Specific to this request, the Deputy Administrator detailed an assumption to share workload between existing capabilities at Los Alamos and continued use of the LLNL Plutonium Facility operating as a hazard category 2, security category 3 nuclear facility. To date, Livermore Site Office (LSO) and LLNL personnel have not been formally requested to provide any information in support of this planning effort.

**Work Planning and Control:** This week, facility personnel began utilizing an electronic process to populate the respective Facilities Activities Lists (FAL). The FAL is used by the facility managers to approve, deconflict, and release work on a daily or weekly basis, depending on the facility. The new system provides direct electronic linkage between the content of work control documents (work permits, Operational Safety Plans, etc.) and the FAL. In the Site Representative's opinion, the integrated and systematic nature of the new process is driving improved consideration of tasks (including associated hazards and controls) and the locations for performance of work. Additional usage is needed to determine whether the electronic FAL provides improved identification of actual work conditions in the facility.

**Plutonium Facility:** Recently, LSO and the contractor jointly approved the Scope and Key Issues Statement for an amendment to the safety basis related to the Toxic Gas Control System (TGCS). The TGCS is a safety significant control that protects workers from exposure to chlorine ( $\text{Cl}_2$ ) and hydrogen chloride (HCl) gases during the conduct of planned chlorination experiments. The safety basis amendment included changes to the Specific Administrative Control limits for chlorine cylinder content and pressures and a revised analysis for toxic gas consequences utilizing bounding temperature conditions reflecting bounding summer temperatures at LLNL (120 versus 70 °F).

In addition, the contractor plans to rewrite the performance criteria, detector set points, and surveillance requirements for the TGCS detectors. The current LSO approved safety basis requires an alarm to warn workers in the lab room at HCl and  $\text{Cl}_2$  gas concentrations of 1.0 ppm and 0.5 ppm, respectively. The safety basis does not provide bases for these alarm points; however, the contractor subsequently documented bases relying on conservative interpretations of national occupational protection guidelines. During the course of system installation, the contractor determined that certified check gas is only available at 5 ppm. The contractor is attempting to reconcile the difference between their interpretation of national guidelines and commercial availability of check gases. The contractor is also working to identify the design codes and standards applicable to this newly installed system. The management self-assessment for the TGCS was completed last week.