

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 22, 2011

**MEMORANDUM FOR:** Timothy Dwyer, Technical Director  
**FROM:** Jonathan Plaue, DNFSB Site Representative  
**SUBJECT:** LLNL Activity Report for Week Ending July 22, 2011

**Emergency Management:** On July 21, 2011, the contractor performed the annual site-wide evacuation exercise. The exercise examined the performance of personnel across the laboratory to evacuate their buildings and perform accountability. Superblock facilities were exempted due to their recently conducted exercises. Waste Storage Facilities personnel performed a concurrent exercise that examined the response to an earthquake with a simulated (1) breached drum of tritium waste at the Decontamination and Waste Treatment Facility complex and (2) a contaminated and possibly injured worker resulting from a toppled drum of transuranic waste at the B625 Waste Storage Facility. Exercise play at B625 was constrained by the presence of a single controller/evaluator for most of the event, as well as limited scenario inject information. The exercise will be debriefed next week.

**Tritium Facility:** On July 13, 2011, the facility manager approved the critique report from the unauthorized maintenance performed on the fire suppression system (see weekly report dated July 8, 2011). The critique identified a number of issues regarding the scheduling and release of work performed by institutional maintenance personnel, institutional work control documentation, and visitor access into the radioactive materials area. The Livermore Site Office (LSO) is still reviewing this event.

**Conduct of Engineering:** On July 18, 2011, contractor personnel performed the final design review for the Centralized Waste Processing Line—a new glovebox line that will be used to sort, video, and repackage transuranic waste in the Plutonium Facility. The contractor intends to initiate procurement actions next month in order to support startup activities in July 2013. The design team's efforts have been substantial, including the development of a full-scale wooden mock-up that was tested by five fissile material handlers to provide feedback to the design.

The review committee assessed the design through a viewgraph presentation given by the design team. At the time of the review, the documentation available to the review committee included a drawing set, parts list, and the action item closure record from previous design reviews. During the course of the presentation, the design team indicated that other efforts to document aspects of the design were in-progress (e.g., ALARA study, criticality analysis, fire hazards analysis, safety basis documentation, seismic analysis, ventilation flow study, etc). The review committee will determine the maturity level of these documents required to move forward as part of the action items; however, there was some disagreement with facility personnel regarding responsibility and timing (i.e., part of the engineering review required now or later as part of the Facility Acceptance Process). The review committee chair further clarified that the committee does not specifically review these calculations, but rather ensures they exist. In discussions with several review committee members, they indicated that they had received no formal training or instruction on their role in the design review. The committee generated a number of comments that will be converted into action items. Personnel from the LSO also observed the review and have initiated a review of the contractor's design process.