

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 17, 2012

**MEMORANDUM FOR:** Timothy Dwyer, Technical Director  
**FROM:** Jonathan Plaue, DNFSB Site Representative  
**SUBJECT:** LLNL Activity Report for Week Ending February 17, 2012

**Radiation Protection:** This week, two events demonstrated the continued utility of the radiological monitoring practices performed as part of the radiation protection program. In one event, facility personnel detected a slightly elevated level of radioactivity on a daily passive air monitoring filter. Follow-up investigation and discussion with the handler working in the glovebox revealed that no higher risk activities (i.e., bagout, glove change, etc.) occurred on the day in question. As a result, personnel conducted a comprehensive survey of the glovebox gloves, identified contamination indicative of a suspected breach, and changed the glove.

In the second event, handlers and a health and safety technician identified that the results of a routine periodic dose rate measurement for a glovebox were inconsistent with current conditions in the glovebox (i.e., elevated doses though limited nuclear material was present). Additional investigation revealed that the source of the dose was a pair of leather over gloves. The dose rate for these leather gloves was approximately 100 mrem per hour. Facility management utilized this event to reinforce awareness of glovebox glove safety.

**Plutonium Facility:** On Thursday, while performing a gamma measurement, materials management personnel knocked a nuclear material package from a measuring stand to the floor. Personnel appropriately evacuated and notified management. A planned recovery revealed that no contamination was released from the package, which consisted of a small plutonium metal target packed in a conflat container, double bagged, and placed in a juice can. The measurement was performed using a portable gamma detector mounted on a rolling cart with an elevated push bar. After an adjustment to the configuration, the bar contacted the package knocking it from the stand, which was also on wheels. The Site Representative notes that the governing Operational Safety Plan contained no controls to secure the package of nuclear material, the rolling stand, or the rolling cart. Facility personnel conducted a critique of this event.

**Safety Basis:** On February 17, 2012, the contractor transmitted the annual update of the safety basis documents list to the Livermore Site Office (LSO). The document list is intended to capture the current set of safety basis related documents and correspondence for each nuclear facility. Control of the documents list is guided by the contractor's procedure (AB-012), which calls for informal LSO concurrence on periodic updates and an annual formal approval. The contractor maintains the list, and associated documents, in their iDocMan database. This is a separate database from the configuration controlled version used by the facilities (ECMS). Of note, the list contained multiple documents (at least 40 for the Plutonium Facility), including several older documents dating as far back as 2002. It was unclear why these older documents were not captured as part of the annual safety basis update process.

Separately, LSO and the contractor also maintain authorization agreements that are updated on a three year time frame. Authorization agreements are no longer directly required by Department of Energy directives, but are specified in a guide as an acceptable approach to meeting a requirement. LSO is currently evaluating whether to continue using authorization agreements and what justification would be used for selecting an alternative implementation method.