

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 7, 2009

MEMORANDUM FOR: Timothy Dwyer, Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending August 7, 2009

Deinventory of Security Category I/II Nuclear Materials: Representatives from the Idaho National Laboratory (INL) and National Nuclear Security Administration (NNSA) Headquarters were at the laboratory this week to discuss potential mission transfer. LLNL currently performs research, development, and training on nuclear material detection equipment used for emergency response, counterterrorism, and nonproliferation applications. Some of these activities require the use of Security Category I and II nuclear materials that will need to be relocated as part of the deinventory effort. The laboratory has identified about 100 items that support the overall program and require transfer. These items are currently stored in a variety of packaging types, including some that have not been demonstrated to meet Department of Energy (DOE) Manual 441.1-1, *Nuclear Material Packaging Manual*. The laboratory's overall approach to meeting the Manual, which the Livermore Site Office (LSO) has approved, is largely focused on near term packaging into DOE Standard 3013 containers as part of the deinventory effort. Many of these items are not suitable for packaging into Standard 3013 containers because the required stabilization process would interfere with programmatically desired characteristics. The laboratory is now investigating packaging that would meet the requirements of Manual 441.1-1 rather than leave this task to the receiver sites, such as INL. Given the time and resource constraints at LLNL, this effort ought to be facilitated by broader NNSA initiatives to develop technical bases for similar nuclear material packages needed elsewhere in the complex.

Radioactive and Hazardous Waste Management: Last week, the laboratory completed the initial tasks associated with the drum sampling activity (see weekly report dated July 3, 2009). The work permit was revised to include non-sparking tools, an appropriately defined hydrogen meter, and a more conservative approach to gas sampling prior to opening the drum. The initial sampling activity was completed without incident and the maximum hydrogen concentration encountered was less than two percent. The task to volumetrically quantify the hydrogen generation rate will likely occur next week. Separately, a work permit has been approved to support decontamination of the room where the glovebox over pressurization incident occurred. This activity is also likely to begin next week.