

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 23, 2011

**MEMORANDUM FOR:** Timothy Dwyer, Technical Director  
**FROM:** Jonathan Plaue, DNFSB Site Representative  
**SUBJECT:** LLNL Activity Report for Week Ending September 23, 2011

A team supporting the Chief of Defense Nuclear Safety was at the laboratory this week conducting their biennial assessment.

**Tritium Facility:** In a letter dated September 13, 2011, the Livermore Site Office (LSO) extended the due date for submission of pages changes to the safety basis from September 25 to November 21, 2011. The extension was predicated on the additional time anticipated for LSO to determine resolution of the laboratory contractor's concerns regarding implementation of the condition of approval limiting hydrogen isotopes to less than 2 percent of the glovebox volume (see weekly report dated September 9, 2011). In the letter, LSO stated the contractor's concern of significant impacts to the delivery of targets to the National Ignition Facility. LSO also enumerated the contractor's difficulties with potential options to meet the condition of approval, which included:

- Production and waste flows resulting in choke points where competing needs exceed the 2 percent limit
- Alleged increased risks from transporting and handling tritium in smaller volumes
- Decreased operational efficiency and increased costs from procuring other hydrogen isotopes in smaller volumes

In a separate letter dated September 14, 2011, LSO requested that the contractor formally submit in writing their concerns, recommended solutions, and supporting documentation to facilitate the site office review of the issue. The information was requested as soon as possible.

**Waste Storage Facilities:** In a letter dated September 9, 2011, the contractor provided LSO with the strategy and schedule for resubmitting the revised safety basis annual update (see weekly report dated August 12, 2011). The strategy involves development of a number of key calculations, one of which will be submitted with a sample accident analysis for informal LSO review by December 21, 2011. The first milestone on the schedule, a calculation to determine revised dose conversion factors to be used in developing plutonium-239 equivalents, was scheduled for today. Overall resubmission of the safety basis update is planned by February 27, 2012.

**Nuclear Material Packaging:** On September 21, 2011, the contractor submitted to LSO a revised implementation plan for Department of Energy Manual 441.1-1, *Nuclear Material Packaging Manual*. The plan acknowledges the need to replace currently utilized inadequate packaging with the New Generation Standard Nuclear Material Container (also known as the SAVY-4000 container) engineered to meet Manual 441.1-1 requirements by the Los Alamos National Laboratory. The plan summarized the risk ranking performed on the inventory in 2008 and commits to performing a revised ranking in April 2012 of the inventory projected to remain following the next year's security downgrade. The plan anticipates over-packing into SAVY-4000 containers to commence in October 2012 with overall completion in October 2014. The remaining inventory is expected to be on the order of 100 containers. LSO is reviewing the plan.