

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 27, 2011

MEMORANDUM FOR: Timothy Dwyer, Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending May 27, 2011

Livermore Site Office (LSO): In a memorandum to National Nuclear Security Administration Headquarters dated May 16, 2011, the LSO Manager requested changes to the nuclear safety authorities delegated to the site office. The requested changes included removal of a compensatory measure for the manager and the addition of authorization basis authority for the new technical deputy. If approved, each technical deputy will hold authorization basis approval for their cognizant nuclear facilities (Waste Storage Facilities and Superblock) when acting as manager.

Plutonium Facility: On May 18, 2011, LSO approved a contractor request for an exception to an approved Limiting Condition of Operation (LCO) for the facility. According to the LCO, the differential pressure of all gloveboxes must be maintained between -0.5 and -1.5 inches of water with respect to the room. The laboratory contractor programmatically required the use a particular glovebox for laser welding the closure of hexagonal containers filled with plutonium dioxide and uranium dioxide; however, the required pressure differential could not be maintained when the glovebox door is opened to introduce the container. LSO approved the request on the basis that the glovebox is to be confirmed as uncontaminated prior to opening the door. The exception duration was limited to August 31, 2011.

On May 19, 2011, the contractor submitted the evaluation of safety for the potential inadequacy in the safety analysis (PISA) declared on April 11, 2011, regarding the impact of plutonium chloride solubility on the accident analysis. The PISA specifically noted that the International Commission on Radiological Protection recommended the use of the moderate inhalation solubility class of dose conversion factors for plutonium chloride; however, the accident analysis utilized the slow class. The contractor asserted in the evaluation of safety that the existing use of 30 year old fuels-grade plutonium in the accident analysis conservatively accounted for the difference in solubilities. The contractor also qualitatively noted that there was not much plutonium chloride currently in the facility, though the planned future startup of chlorination operations had the potential to generate significant quantities. Overall, the contractor concluded that no further actions were necessary and that the unreviewed safety question determination was negative.

On May 18, 2011, the contractor filed an occurrence report (2011-0028) associated with the discovery of suspect/counterfeit bolts on a work stand borrowed from the Sandia National Laboratories. The work stand was recently moved into the facility and was being readied for use in the disassembly of the nuclear explosive like assembly (see weekly report dated April 8, 2011). The contractor replaced the suspect bolts this week and is expected to resume preparations next week, including training on the stand for the disassembly work crew.