

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 2, 2010

**MEMORANDUM FOR:** T. J. Dwyer, Technical Director  
**FROM:** B.P. Broderick and R.T. Davis  
**SUBJECT:** Los Alamos Report for Week Ending April 2, 2010

**Plutonium Facility – Seismic Hazards:** This week, LANL requested an extension for completing the seismic analysis of the Plutonium Facility against the updated probabilistic seismic hazard assessment. The existing Justification for Continued Operation (JCO) that addresses this issue will expire on June 30, 2010 for the Plutonium Facility. LANL's preliminary evaluation of the facility indicates the need to perform a more sophisticated probabilistic analysis. The new schedule to complete analyses for the facility structure and key safety systems is December 2010. The completion date also includes evaluation of portions of the ventilation system and the fire suppression system against performance category-3 criteria. This information will be needed to make decisions on safety system upgrades to improve the facility safety posture for challenging seismically-induced accident scenarios. The proposed JCO would expire in March 2011 (the additional time would be used to complete and seek approval for any required safety basis changes).

**Plutonium Facility – Safety Basis:** This week, Plutonium Facility management declared a potential inadequacy of the safety analysis (PISA) based on a discrepancy between a TSR material-at-risk (MAR) limit and the supporting analysis in the DSA. The MAR limit, which controls the amount of dispersible Pu-238-enriched heat source plutonium (HS-Pu) allowed in individual gloveboxes, excluded several forms of HS-Pu, including sintered oxide pellets. Although these material forms are not highly dispersible, the DSA does not discuss or justify a basis for excluding them from the glovebox MAR limit in the TSRs.

In response to the PISA, the affected material forms will be counted toward the glovebox MAR limit until a Justification for Continued Operations or DSA page change is submitted and approved. Also, facility personnel have confirmed that no gloveboxes currently exceed their MAR limit when the previously excluded forms are added to the glovebox MAR inventory calculation.

**Plutonium Facility – HS-Pu Containerization:** In FY09, LANL personnel overpacked into safety class containers 60 of the roughly 160 HS-Pu-bearing Russian Product Containers (RPC) stored in the vault water bath. The campaign to overpack the remaining RPCs, which is required to be complete by the end of June 2010, has been on-hold awaiting the procurement and testing of a new, more robust safety class container. This new container successfully completed a series of burst tests recently that demonstrated it far exceeds the performance criteria required of safety class containers. NNSA is now reviewing a LANL request to begin using these new containers to overpack the remaining RPCs prior to the completion of a series of drop tests that are not expected to challenge the extremely robust construction of the new container (Board Letter dated 4/7/09).

**Plutonium Facility – Isotopic Fuel Impact Test Facility:** The site office approved resumption of testing operations this week based on satisfactory closure of all pre-start findings and approval of corrective action plans for post-start findings identified during the NNSA Readiness Assessment for the Isotopic Fuel Impact Test Facility. LANL plans to begin hot operations next week.