

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 14, 2010

**MEMORANDUM FOR:** T. J. Dwyer, Technical Director  
**FROM:** B.P. Broderick and R.T. Davis  
**SUBJECT:** Los Alamos Report for Week Ending May 14, 2010

**Weapons Engineering Tritium Facility (WETF):** LANL continues actions to resume tritium gas handling operations at WETF to support tritium containment vessel unloading, material-at-risk reduction and to support programmatic testing needs (i.e., function test operations). Recently, LANL recommended the following two options to restart function test operations, which is necessary to support important programmatic deliverables: A) complete contractor and NNSA operational readiness reviews (ORRs) for phase 1 (i.e., unloading and low pressure gas handling/glovebox systems) followed by a contractor readiness assessment to support function test operations or B) if the schedule for option A cannot be maintained, then seek an exemption to DOE Order 425.1C, *Startup and Restart of Nuclear Facilities*, in order to conduct a contractor readiness assessment for function test operations (and required gas handling/glovebox systems) solely to support the execution of a series of function tests required for programmatic deliverables. Last week, the site office approved option A as the preferred plan with preparations to execute option B as the backup plan. The site office directed LANL to obtain LASO approval if it becomes necessary to execute option B. LANL currently remains on the option A plan with a management self assessment being conducted this week and the contractor ORR scheduled to begin on May 24<sup>th</sup>.

LANL also recently submitted a safety basis strategy for WETF that details their plans to submit a safety basis annual update no later than July 31, 2010 and a new Documented Safety Analysis by the end of FY 2011. The safety basis strategy notes that current tritium inventory is higher than what is required to support the anticipated enduring mission at WETF and that material-at-risk reduction over several years is expected to reduce the tritium inventory from the current safety basis limit of 400 grams to approximately 100 grams.

**Plutonium Facility:** This week, facility management declared a potential inadequacy of the safety analysis (PISA) based on the recognition that hazards may not be fully analyzed for four metallic heat source plutonium (HS-Pu) items currently stored in shelf locations in the facility's vault. These Pu-238 enriched items were made in the late 1990's to support a programmatic activity that is now complete. One item contains greater than 100 grams of HS-Pu sealed in a welded inner container that is overpacked in a container with a filtered vent. The other three items, believed to involve small quantities of HS-Pu, are welded in sealed sample vials that are not contained in filtered overpacks. Facility personnel are evaluating these four items for potential container pressurization hazards related to high internal temperatures and helium buildup from the high specific activity of Pu-238. Management has prohibited handling these items pending the results of further evaluation.

**Chemistry and Metallurgy Research Building (CMR):** CMR personnel have transferred roughly 40 grams of non-dispersible Cm-244 from Wing 9 floor well storage locations to a hot cell for repackaging to support offsite disposition of this material. From a material-at-risk standpoint, this small quantity of curium represents greater than 40 kg of Pu-239-equivalent and required NNSA site office notification to introduce into the hot cells. LANL personnel intend to have all material out of floor well storage by the end of this calendar year. Material currently stored in floor wells that cannot be shipped to another on-site or off-site location will be staged in hot cells or the CMR vault.