

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 4, 2007

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** B. Broderick and C. H. Keilers, Jr.  
**SUBJECT:** Los Alamos Report for Week Ending May 4, 2007

Anderson, Davis, Bamdad, Laake, Roscetti, Plaue, & Shackelford were here this week reviewing TA-55.

**Plutonium Facility (TA-55):** The basis for safe nuclear operations in TA-55 remains the interim technical safety requirements (iTSRs) that NNSA approved in July 2005 and that LANL verified to be implemented, with a few issues, in August 2006. The iTSRs constitute a judgement-based consolidated set of controls from unreviewed safety questions against the last approved safety basis (1996), a proposed 2002 safety basis, and the approved 2005 compensatory measures to address building passive-confinement concerns. They are essentially a stop-gap measure taken until LANL develops and justifies and NNSA approves a fully compliant safety basis (site rep weekly 4/6/07).

TA-55 continues to better understand and define their infrastructure needs, but those needs appear increasingly challenging. In particular, the scope of the line-item TA-55 reinvestment project was established 3 years ago and doesn't entirely reflect the currently understood facility needs; it does include some elements that are crucial to nuclear safety, such as seismically upgrading furnace glove-box supports. The facility would benefit from a responsive and stable sub-line-item mechanism to prioritize, plan, and fund upgrades.

**Recommendation 04-2:** Resolution of TA-55's passive-confinement issue remains elusive. TA-55's last proposed safety basis (Nov 2006) highly relied on personnel taking certain actions during an emergency that minimize building passive leakage (1.6 %). In March, NNSA questioned whether these assumptions were reasonably conservative. Separately, in December 2006, LANL completed a confinement evaluation that identified potentially beneficial active confinement improvements; LANL still awaits federal comments on the study (site rep weeklies 4/6/07, 12/15/06, 9/22/06, 6/16/06).

Delaying the long awaited TA-55 safety basis update in order to resolve the confinement issue would defer important efforts to address a broad range of other issues arising from TA-55's current decade-old, non-compliant safety basis. An alternative might be for the site to commit in the new safety basis to improving TA-55 active confinement, consistent with DOE Secretarial commitments to the Board, and then to plan and execute those improvements during the next few years while updating the safety basis annually to reflect the current confinement capabilities and expected end-state.

**Transuranic Waste Operations:** NNSA issued a safety evaluation report on April 25<sup>th</sup> approving the Waste Characterization Reduction and Repackaging Facility safety basis. However, overall readiness preparations for the facility are behind schedule and the operational readiness review to support high activity waste disposition work is likely to slip (see site rep weeklies 4/13/07, 3/30/07, 2/2/07).

Additionally, this week LANL reported the results of a four month inventory reconciliation effort at Area G in which 38 containers with a total of 169 Pu-239 equivalent curies could not be accounted for. For perspective, the current above-ground inventory at Area G includes roughly 20,000 containers that hold approximately 130,000 Pu-239 equivalent curies of material.