

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 29, 2004

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** T. D. Burns Jr. and C. H. Keilers, Jr.  
**SUBJECT:** Los Alamos Report for Week Ending October 29, 2004

**Resumption Status:** LANL readiness review (LRR) teams submitted their reports to the Resumption Review Board this week for plutonium operations (TA-55/CMR) and will likely submit reports next week for both TA-18 security category I/II and TA-55 Pu-238 operations. An LRR has started for TA-50/54 higher-risk waste operations, and another should start next week for TA-8-23 radiography.

**Plutonium Facility (TA-55):** NNSA has approved an interim addendum (expires 3/30/05) to the TA-55 authorization basis (AB) to allow LANL to finish cleanup of the room contaminated with Pu-238 in August 2003. Cleanup of the room essentially stopped about 6 months ago because of AB issues. The approved addendum permits residue cans in filtered plastic bags to be transferred into either glove-boxes or 55 gal Type A drums with plastic drum liners and filters. Drum limits consider heat loading and material-at-risk. Until the residue is dispositioned, the drums will be stored on the floor in TA-55 in locations picked considering seismic and fire risks. The drums will also undergo periodic radiological and visual inspection. Over-packing will start after the LANL Director approves TA-55 resumption and is expected to take 2 months. In a generic sense, the interim AB addendum approach appears useful for facilitating focused, short-duration risk reduction activities lab-wide. As for TA-55, disposition of the corroding cans of Pu-238 residue and cleanup of this room would constitute a significant risk reduction, as discussed in the Board's letter of 9/13/04.

**Critical Experiments Facility (TA-18):** LANL has reported that TA-18 moved security category I material prior to fully resolving pre-start findings and to receiving resumption approval. Management misinterpreted the Director's approval of certain essential (i.e., Level 0) operations as having precedence over addressing pre-starts identified later that apply to security category I/II operations. The LRR team has also found that TA-18 has not fully adhered to their combustible loading surveillance procedure, including missing review steps by management and by a fire protection engineer. LANL reports that combustible load limits were not exceeded. Overall, while LANL is making some improvements, TA-18 operational staffing, management, and control do not currently appear commensurate with the risks of the proposed full range of operations (site rep weekly 10/15/04).

**Radioactive Liquid Waste Treatment Facility (RLWTF):** NNSA and LANL will likely need to decide within a few weeks on whether to allow the Plutonium Facility (TA-55) to transfer transuranic (TRU) liquid waste to the RLWTF and to allow the RLWTF to resume treating such waste. The site reps understand that TA-55 may begin to resume operations soon and that TA-55 caustic liquid storage is now nearly full. While the TA-55 tanks are contained within glove-boxes, it is poor practice to store this waste for an extended period. Low storage capacity may impact resuming both national security and nuclear material stabilization missions (i.e., Board Recommendations 94-1/00-1).

While TA-55 may have issues, the ability of the RLWTF to safely receive and treat TRU waste is questionable. For example, the caustic waste receipt tank leaked last year and has since been used only for direct transfer to avoid challenging the known leak-site (site rep weeklies 9/19/03, 10/24/03). Efforts to order a replacement tank have stalled during the last year due to still-unresolved authorization basis and engineering equivalence questions. Another example is a clarifier tank that has visible corrosion and un-characterized mechanical integrity (site rep weekly 7/30/04). It appears to be a potential single-point-failure for processing. If the clarifier leaked, the leakage would be contained within the building but would be radiologically challenging to clean up. TA-55 and RLWTF are developing a joint path forward to propose to the Resumption Review Board.