

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 30, 2007

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** B. Broderick and C. H. Keilers, Jr.  
**SUBJECT:** Los Alamos Report for Week Ending March 30, 2007

Goff was on site this week to observe a criticality assembly control system design review.

**Operational Assessments:** This week, LANL completed its first Institutional Evaluation Board (IEB) review of a nuclear facility (WETF); a report is expected in a few weeks. LANL intends to conduct periodic IEB reviews of its nuclear and high-hazard facilities and has patterned the IEBs after the Facility Evaluation Boards used at other sites to increase senior management's awareness of issues.

**Transuranic Waste Operations:** LANL has proposed a new safety basis for the WCRR facility to support repackaging high-activity drums; NNSA expects to issue a safety evaluation report (SER) by Apr 13<sup>th</sup>, eliminating the need for an exemption from the Nuclear Safety Management rule (10 CFR 830). LANL is adding two weeks to the schedule to reflect this change, as well as to provide the facility more time to improve the roughly 80 procedures involved and to train and qualify operators.

LANL management asserts that they will not declare readiness until they are ready; they are adding an extra week for the management self-assessment and resolution of pre-start findings and another week for the NNSA operational readiness review (ORR), for a total slip of about a month. The schedule still assumes that NNSA and LANL forgo a contractor ORR, and it still requires an exemption to the DOE startup order (DOE O 425.1C). The earliest startup would be the week of May 29<sup>th</sup>.

Except for a non-schedule-controlling ventilation modification, WCRR physical upgrades should be completed within a few days; these upgrades eliminate or reduce some hazards (natural gas, wildfire) and improve seismic capacity, fire suppression, ventilation reliability, lightning protection, and robust outside storage. Predicted unmitigated accident consequences are at least an order of magnitude below those at other LANL Hazard Category 2 facilities (e.g. TA-55, Area G). The primary controls are inventory limits, the waste containers, vehicle barriers, and vehicle access and fueling restrictions.

**Plutonium 238 Operations:** LANL has committed to disposing of the remaining Pu-238 residues by June 30<sup>th</sup> from the TA-55 storeroom that was contaminated in Aug 2003. Last November, LANL informed the Board that these residues pose about a quarter of the risk due to TA-55 packaged materials; while improved, their storage conditions (e.g., non-robust containers, some combustibles) mimic those assumed in some of TA-55's highest consequence accident scenarios. Currently, TA-55 has prepared about 100 of the 250 estimated waste drums required, working to a 56 Ci drum limit.

To ensure they meet the commitment and to reduce the significant handling risk and worker dose, TA-55 intends to begin loading higher-activity containers of non-hydrogenous residues into pipe over-pack containers (POCs). While this seems to be a WIPP-compliant configuration, WIPP and LANL are not able to certify such packages now above 100 Ci. Within a few months, they hope to have certified sealed sources available to extend their non-destructive assay calibration range to 200 Ci; by inserting, in some cases, a single can into a POC, this should allow LANL to de-inventory the TA-55 storeroom and ship these high-activity drums to WIPP in a timely manner. LANL appears to need POC certification and shipping capability, possibly to even higher activity levels, in order to address the current large residue backlog and avoid recreating such a backlog in the future.