DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 28, 2006

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending July 28, 2006

Plutonium Facility (TA-55): LANL has not yet proposed and NNSA has not yet approved a path-forward to address eight discrepancies in the interim technical safety requirements (iTSRs) that were approved a year ago. The site rep reported on the two most significant issues last week; the other six involve primarily errors in the iTSRs. The iTSRs are supposed to be implemented July 31st, and without formal resolution and approval, the basis for continuing operations appears uncertain.

Waste Operations: LANL has proposed but NNSA has not yet approved continuing to operate the TRUPACT loading facility – RANT – to an older version of its TSRs until mid-December. RANT's authorization to operate to the older TSRs expires July 31st, and RANT is not prepared to operate to the new TSRs. The new TSRs were intended, in part, to mitigate seismic concerns by further restricting the inventory, but they also reduce efficiency of waste shipments to WIPP. Since March 2005, NNSA has intended for RANT to receive seismic upgrades or shutdown. LANL has apparently not been pursuing the upgrades since last Fall, NNSA has not monitored the issue since last Fall when it dropped its SSO oversight, and the issue remains open (site rep weeklies 4/28/06, 3/18/05).

Los Alamos Neutron Science Center (LANSCE): LANL has proposed but NNSA has not yet approved continuing LANSCE operations under the current five-part safety basis through Aug 2007, as well as using updated nuclear data to calculate the 1L Target radioactive inventory. The current LANSCE safety basis, now ~5 years old, expires Aug 31st, and using old data, the target inventory is predicted to exceed a radionuclide-specific safety basis limit on Aug 9th, necessitating shutdown. Even using the new data, this safety basis limit will likely drive target replacement within a year, which may or may not be the best decision from an overall risk perspective (site rep weekly 9/2/05).

Weapons Engineering Tritium Facility (WETF): WETF has one of the newer LANL safety bases (2002), and its implementation was verified via ORR in 2004. Safety analyses show that unmitigated consequences from postulated WETF accident scenarios are about an order of magnitude lower than for TA-54 and for TA-55, but WETF still warrants safety-class controls to protect the public.

In letters in 2002 and 2003, the Board questioned the efficacy of WETF lightning protection as safety-class. In early 2004, NNSA responded by directing LANL to upgrade safety-class containerization and fire barriers, and to reevaluate WETF accident scenarios, including lightning, in the next safety basis update. While WETF has made some safety improvements, such as moving inventory into ASME-pedigree containers, NNSA and LANL management have allowed the fire barrier upgrade to slip. In 2005, NNSA disapproved a proposed safety basis update because of USQ discrepancies and passed up an opportunity to reassert the need for the fire barrier upgrade that would improve public safety. LANL expects to resubmit a safety basis update in November (site rep weekly 3/5/04).

Management: Either NNSA or the contractor should have persevered on the WETF upgrade and should have averted the artificial crises discussed above for TA-55, RANT, and LANSCE, but neither did. LANS recognized before Jun 1st the looming TA-55, RANT, and LANSCE deadlines. NNSA could have taken appropriate actions before Jun 1st, but NNSA's attention has been elsewhere. As a result of late awareness, NNSA has relinquished opportunities to exert federal authority in these cases. Collectively, these cases illustrate the slip in nuclear safety oversight here in the last two years.