

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 2, 2004

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending April 2, 2004

Bamdad, Jordan, Kimball, Stevenson (OE), and Zavadoski were on site this week reviewing ventilation and ventilation-related accident analyses for TA-55 and CMR Replacement.

Critical Experiments Facility (TA-18): NNSA announced Wednesday that half the special nuclear material (SNM) at TA-18 will be shipped to Nevada Test Site (NTS) during the next two years, starting in September. Few details are available now on how this will be accomplished and how NNSA intends to maintain qualified staffing and minimize the impact on the criticality safety program that NNSA has committed to under Recommendation 97-2. The TA-18 Relocation Project completed a conceptual design in January and is waiting on Critical Decision 1 (CD-1). The plan was to complete preliminary design in 2005, start construction at NTS in 2006, move material in 2009, start operations in NTS and decommission TA-18 in 2011. It is unclear what the plan is now.

The site rep understands that the project is meeting next week in Nevada to develop a plan and that SNM for Recommendation 97-2 related activities will likely be first to move. There are options that could maintain some continuity in the 97-2 program. Considering local implications, it is unclear when or how NNSA and LANL will resolve issues on whether the new safety-class temperature scram systems will perform their credited safety function (Board letter 7/9/03). These issues are likely applicable regardless of where the assemblies are located. It is also unclear how NNSA and LANL intend to manage the risk of current TA-18 operations during the transition. In advance of the safety-class temperature scram systems being installed, LANL has admin controls and interim compensatory measures in place that are equivalent to safety-class. As discussed in site rep weekly 2/13/04, the effectiveness of these controls relies highly on the management, training, and qualification of the TA-18 operators – areas that may warrant closer scrutiny during this transition.

Plutonium Facility (TA-55): NNSA has accepted a LANL proposal to upgrade the TA-55 electrical switchgear so that power would be automatically restored to key electrical loads, like confinement ventilation; however, funding remains uncertain (site rep weekly 2/6/04). NNSA headquarters has deferred to the Site Office on funding. The situation resembles that in 1996, when the Secretary of Energy committed to the Board to upgrade emergency power for TA-55 glovebox ventilation, but the issue was never resolved. Separately, LANL is working with the staff to address questions on ventilation seismic capacity and on conservatism in leak path factors in the proposed safety basis (4/02).

Chemistry and Metallurgy Research Building Replacement (CMRR) Project: CMRR has completed conceptual design and expects a CD-1 within the next 2 months. There may be hidden assumptions that affect safety, such as assuming no ball-milling and no Pu-238 operations. These need to be explicitly reconciled against mission needs and addressed. The project would also benefit if it had NNSA-approved principle guiding criteria that capture the top-level design strategy (e.g., engineered controls over admin controls, the need for post-accident monitoring). As-is, the approach appears to copy the TA-55 ventilation strategy, which may not be the best for either mission or safety.

Weapons Engineering Tritium Facility (WETF): WETF appears well-prepared for an NNSA Operational Readiness Review (ORR), starting on April 19th. The scope covers the Technical Safety Requirement implementation and neutron tube target loading (NTTL) being transferred from TA-21.