

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 13, 2002

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending September 13, 2002

Critical Experiments Facility (TA-18): The LANL independent Reactor Safety Committee reviewed TA-18 this week. In its closeout, the Committee observed that TA-18 is working on national priority missions; morale is high; and facility operations, management, and coordination have improved during the last 2 years. The pending relocation decision is a concern of many – particularly the consistency of vision, the continuity of mission, and the sustainability of national asset capabilities. Operationally, 4 of the 5 critical assemblies are up; 2 returned to operation in June. SHEBA remains down, but the facility has a plan to restart it in a few months. Configuration management is improving. Earlier this year, TA-18 hired 3 systems engineers with mechanical, electrical, and instrumentation/control expertise. The Committee's report is forthcoming.

Last week, DOE approved the LANL plan to implement the new TA-18 safety basis, approved by DOE in July (site rep weekly 8/9/02). The safety basis hazard analysis identified about 400 scenarios, of which about 100 challenged the evaluation guidelines. Because of similarities, these were grouped into 21 evaluation basis accidents. To address these accidents, the facility now has 11 safety class and 19 safety significant systems. DOE elevated SNM containers to safety class, since the buildings do not meet Performance Category 3 (PC-3) seismic/wind requirements. Other safety class features include safety shutdown mechanisms, seismically qualified storage configurations, shielding, building structure, the Flood Retention Structure, and one assembly's controls and seismic restraints. Some safety class features are yet to be installed – such as, a new in-core temperature measurement system – and are being addressed in the interim by compensatory measures.

TA-18 has determined the changes in hardware and procedures required, has prioritized the changes, and is managing implementation like a project (e.g., using a work breakdown structure). The facility has also prepared a cross-walk that links the new safety basis controls to the systems performing the safety functions, and to the relevant operations, maintenance, and surveillance procedures. High priority is assigned to safety basis training and certain modifications: in-core instrumentation, sample well closures, hydraulic fluid spray shields, and robust containers. A number of studies also are high priority, including those on automatic seismic isolation valves for natural gas lines, Flood Retention Structure maintenance, SCRAM response time testing improvements, and cost/benefit analysis for potential upgrades (e.g., building seismic). LANL expects to complete most high priority items during the next 3-6 months, and the longer term items during the next 18 months.

Authorization Basis (AB): DOE has 3 major upgrade packages for action, applicable to the following Hazard Category 2 (HC-2) facilities and activities: the TA-55 Plutonium Facility, submitted in April; site-wide transportation, submitted in August; and the TA-8-23 Radiography Facility, submitted last week. DOE is also evaluating a LANL request to downgrade one of the two TA-21 tritium facilities to HC-3 in preparation for deactivation. The other TA-21 tritium facility will likely be handled similarly, pending transfer of operations to the TA-16 Weapons Engineering Tritium Facility (WETF). Looking ahead, LANL anticipates submitting upgrade packages for the TA-50 Radioactive Liquid Waste Treatment Facility within the next two weeks; the TA-54 Waste Storage & Disposal Facility (Area G) in October; and the TA-50 Waste Characterization, Reduction, and Repackaging Facility (WCRR) in November.