

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 29, 2006

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director

**FROM:** B. Broderick and C. H. Keilers, Jr.

**SUBJECT:** Los Alamos Report for Week Ending December 29, 2006

The laboratory was closed and Broderick was off-site this week. Normal operations resume Jan 2<sup>nd</sup>.

**Plutonium Facility (TA-55):** On Dec 13<sup>th</sup>, several people were taken to LANL occupational medicine and one person was taken to the Los Alamos Medical Center because they had pre-existing respiratory conditions that could be aggravated by the chemical used for HEPA filter testing, done the previous evening. The chemical (dioctyl sebacate, DOS) has been used for such testing for a decade; it is similar to mineral oil and, while mildly irritating, has not been considered a health risk. TA-55 is pursuing increased employee notification before testing and potential changes to the tests to aerosolize less DOS.

**Nuclear Material Stabilization:** LANL has reported that about 630 kg of plutonium (Pu) have been stabilized since mid-2004 by repackaging for interim storage or disposal; LANL has thereby met 3 commitments due this month for stabilizing half of its Pu within the scope of the Secretary's 00-1 implementation plan (ref: DOE letter 7/23/04). The site reps observe: • while repackaging improves the safety posture, eventually much of this Pu will need to be chemically stabilized and repackaged again; • LANL still lacks large vessel clean-out capability; • LANL still lacks a comprehensive site-wide nuclear material packaging and storage plan – a key element described in the 00-1 implementation plan for LANL addressing its current large Pu residue backlog (site rep weekly 8/25/06).

**Authorization Basis:** NNSA has approved with comments LANL's 3-year safety basis improvement plan. The plan involves developing 10 CFR 830 compliant safety bases for all the nuclear facilities (except possibly CMR) during the first year, and then implementing the annual update requirement for nuclear facilities and completing hazard categorization of other hazardous facilities during the next two years. NNSA comments involved assumptions, project risk planning, and inventory control in less hazardous facilities. The plan emphasizes the linkage between safety basis and engineering and thereby could increase assurance that designated safety systems will demonstrably and reliably perform their safety function – a longstanding issue (ref: Board letter 1/27/04, site rep weekly 8/11/06).

**Readiness Assessments:** LANL conducts roughly two dozen reviews each year to confirm readiness for startup of new or modified nuclear operations and to verify implementation of new safety basis requirements. The LANL reviews have been inconsistent in quality and effectiveness; most issues arise from misunderstandings of the review's purpose, insufficient preparation, and premature declaration of readiness (e.g. site rep weekly 7/22/05). There have been few comparable federal reviews during the last five years, and to the site reps' knowledge, there were no such federal reviews in 2006.

In November, LANL issued a readiness review improvement plan to be completed during the next few months. Key elements include using separate processes for assessing startup readiness and safety basis implementation (already implemented and similar to that used at other sites, site rep weekly 2/10/06); strengthening the management self-assessment (MSA) process; improving training of readiness coordinators and other involved personnel; improving planning and scheduling; and improving coordination with the NNSA site office.