

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 26, 2001

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending October 26, 2001

Staff members Kasdorf and Leary (OE) were here this week attending the annual 94-1 R&D review. Martin and Nichols were also on site reviewing development of safety system design requirements.

Recommendation 2000-2: The site rep understands that DOE headquarters has suspended plans to conduct comprehensive fire safety reviews at DOE sites, including LANL (site rep weekly 9/14/01). Although these may resume, LANL is now exploring other options. LANL intends to send to DOE in November a plan for executing Phase II assessments and plans to begin these assessments in January. These developments may lead DOE to propose implementation plan changes.

Recommendations 94-1/2000-1: Recent 94-1 research and development (R&D) has focused on resolving moisture-related issues. Process control may be a viable option. Several studies presented this week indicated that, with the exception of chlorides, materials calcined at 950°C should meet the STD-3013 moisture requirements if ambient glovebox humidity is controlled to a reasonably low level. Also, DOE sites are moving away from using super-critical fluid extraction (SFE) for moisture measurements. LANL has investigated the recent SFE problems, considers the causes to be understood, and is continuing SFE development. Future R&D is expected to focus on gas generation – particularly, on reducing the conservatism in the current STD-3013 design pressure requirements.

LANL Authorization Bases (AB): LANL has made 3 major AB submittals to DOE this year (i.e., safety analyses and controls). These are for the critical experiments facility (TA-18), the plutonium processing facility (TA-55), and the weapons engineering and tritium facility (WETF). To date, DOE has reviewed two of these packages (TA-55, WETF) and acted on one (WETF). Throughout this process, DOE has been concerned about the quality of these submittals (site rep weekly 9/28/01).

LANL senior management has recently reviewed these submittals and has also concluded that improvements should be made. This year's submittals were driven by contractually imposed deadlines. They were not made using the LANL internal AB review process that has been in development. This week, LANL proposed performing an independent and rigorous quality check of these documents, considering DOE observations to date, and then resubmitting to DOE after final sign-off by the cognizant Associate Director. DOE and LANL would also revise the master schedule for AB document development. This will likely slow down the AB improvement effort but increase its probability of success. Appropriate prioritization and resource-loaded scheduling with contingency appear key. LANL intends to use the lessons learned to improve the process.

Critical Experiments Facility (TA-18): Like nearly all other LANL facilities, TA-18 needs to improve its performance on Technical Safety Requirement (TSR) compliance (site rep weekly 9/7/01). A recent DOE-EH letter to LANL discusses 3 TSR violations in TA-18 this year and states that TA-18 self-identified instances where corrective actions in 2000 were incorrectly reported as closed. The trend indicates that TSR training conducted in the facility was not adequate, particularly for surveillance requirements. LANL is pursuing further corrective actions.