

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 4, 2004

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** C. H. Keilers, Jr.  
**SUBJECT:** Los Alamos Report for Week Ending June 4, 2004

**Investigations and Trending:** During the last two years, LANL has improved its investigations and trending of events reported under both the occurrence reporting system and the Price-Anderson program (the new sub-occurrence reporting system here still needs work). In early 2003, LANL analyzed about 1,400 occurrence reports filed during the previous 8 years, and they have continued to update these trend analyses. Some LANL observations from both last year and this year include: most of the correction actions taken are at the facility-level instead of the institutional-level; most actions taken are procedural changes; few corrective actions specify a new or modified engineered control; and even fewer actions make a substitution or otherwise eliminate the hazard. While LANL has taken some actions in response to these valuable studies, it appears more could be done take advantage of lessons learned across the lab, as illustrated by the lightning protection example below.

**Lightning Protection:** In August 2002 and again in August 2003, the Board raised questions about the functionality of the NFPA 780 lightning protection system for the Weapons Engineering Tritium Facility (WETF). NNSA has designated this system as safety-class. Several of the questions involved maintenance and configuration management of the system. The NNSA/LANL response (3/18/04) discusses actions taken since last Fall to inspect the WETF lightning protection system, correct deficiencies, and ensure proper maintenance.

In March 2004, LANL curtailed operations in the Radiography Facility (TA-8-23), and subsequently, NNSA formally suspended TA-8-23 operations involving explosive and tritium items due to lightning protection deficiencies and confusion on the safety basis (site rep weekly 4/16/04). Radiography of other items continued. Both the specific deficiencies and the institutional lapses that led to delay in correction are nearly identical to that experienced earlier by WETF. Before resuming the curtailed operations, LANL plans to conduct a readiness assessment, which will likely examine the institutional lapses. Since several LANL nuclear facilities rely on the lightning protection system to perform a safety function, LANL would be well-served to address these issues at an institutional level.

**Waste Operations:** NNSA and LANL are pursuing expedited shipment to WIPP of about 2,000 drums with the highest, most dispersable inventory. To resolve a bottleneck for this effort, LANL is installing a glovebox in the TA-54 Decontamination and Volume Reduction System (DVRS) facility and is proposing that DVRS be used for a 5-month campaign for visual examination and repackaging of transuranic waste containers.

DVRS is currently operating as a radiological facility. This will require it be approved for Hazard Category 2 nuclear operations. In early April, LANL prepared a limited-life Basis for Interim Operation (BIO) that discusses the hazards and controls. Accidents postulated include spills, fires, drum deflagrations, and earthquakes. Safety systems proposed include as safety class: the waste drums; the external building and internal enclosure (designed to PC-2 load criteria); active, filtered ventilation; backup power for ventilation; and fire suppression. The glovebox and its supports, exhaust, atmospheric controls, and drum lift are all proposed as safety significant. Key administrative controls proposed include: inventory and drum limits; vehicle and forklift prohibitions; external door controls; and prohibition on drum stacking. NNSA is reviewing the proposed limited-life BIO.