

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 20, 2002

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending September 20, 2002

White (DNFSB staff) was on site this week observing a DOE lightning protection review.

Lightning Protection: The DOE lightning protection review followed up previous DOE reviews of the last 2 years, as well as staff observations discussed in a Board letter (8/6/02). These reviews have driven improvements, albeit slow, in the LANL lightning protection program. Progress has been hampered somewhat by informal issue transmittal, tracking, and closure by DOE and LANL.

DOE and LANL recently designated the Weapons Engineering Tritium Facility (WETF) lightning protection system as safety class, which is unique at LANL (site rep weekly 5/31/02). The DOE team questioned the appropriateness of designating NFPA 780 systems as authorization basis (AB) controls. For WETF, LANL has addressed many of the deficiencies found during the staff's May review and reinspected the system. However, during a tour this week, one air-terminal was discovered to be disconnected, illustrating the needs for clear criteria, frequent inspection, and roof top configuration control. WETF also needs to consider instrument line surge suppression. The WETF system's operability and surveillance requirements, and inspection acceptance criteria need better definition, given the safety class designation. Also, the Chemistry and Metallurgical Research Facility (CMR) system still has deficiencies that were observed during the staff's May review, particularly lack of roof perimeter air terminals. These need resolution.

Decommissioning Activities: This week, LANL conducted a management self assessment (MSA) of a subcontractor's plan to open and non-destructively characterize a pair of buried radioactive sludge tanks in TA-21 (site rep weekly 7/26/02). Estimated transuranic inventory is 200-400 gm (12-25 Ci). Safety controls are substantially improved. Regarding the potential for flammable gases and a puff release, the subcontractor believes that the tanks are not sealed and pressurized, and, if they were sealed, the lower flammable limit would not be exceeded. As precautions, the subcontractor is planning on periodically monitoring, hand excavating with non-sparking tools, and remotely opening each tank. The possibility of gas sampling before opening is being considered if an existing vent can be found. The MSA team's report is expected on Monday. DOE is reviewing the process concurrently. If approved, excavation could start next Friday (9/27/02), and characterization could be completed during the following 2 weeks

Plutonium Facility (TA-55): Last Friday morning, PF-4 shut down all ventilation in a controlled manner in order to perform annual calibration on instrument air system switches. While ventilation was shutdown, the facility was depending on confinement integrity without differential pressure to prevent a release, as permitted by the AB. Following the evolution (about 3.5 hours), TA-55 restored ventilation, confirmed no radioactivity released, and returned to normal operations. This is the second time in two months that TA-55 has had to rely on this passive filtration mode for confinement due to a minor evolution. It is driven by existing AB requirements to keep process air and nitrogen isolated from instrument air. As discussed before (site rep weekly 8/2/02), there are options. The site rep understands that LANL is examining options to decrease reliance on the passive mode and improve reliability of the instrument air system.