

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 3, 2003

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** C. H. Keilers, Jr.  
**SUBJECT:** Los Alamos Report for Week Ending October 3, 2003

Andrews, Bamdad, Deplitch, Fortenberry, and Jordan were on site this week reviewing integrated hazard analyses. Nichols and Von Holle were on site attending the energetic materials conference.

**Integrated Safety Management (ISM):** On Saturday (9/27), five TA-55 workers reported to the Los Alamos Medical Center after being exposed to vapors while soldering a piping joint for a rerouted coolant line. The coolant (originally freon, later a freon-like substitute) was used for a glovebox machining operation curtailed about a year ago. The workers had just cut the line in two places with a pipe cutter, had observed liquid spraying from the line, and had bagged one end. It appears that the line had not been properly drained and vented prior to the work, that the workers were not informed of the line's status, that the workers were not formally trained on freon, and that the workers did not recognize the liquid as an abnormal condition. Soldering supplied heat that likely caused the coolant to chemically breakdown, producing irritating vapors and an acrid smell. While the workers were adequately protected from radiological hazards (including use of HEPA-filtered respirators), questions exist on whether this chemical hazard was identified, analyzed, and controlled. As a result, all TA-55 facility work was curtailed. Each work package is undergoing review by LANL and KSL prior to re-releasing the work. LANL is initiating an investigation.

**Readiness Assessments (RAs):** The site rep believes that the LANL RA process needs improvement. The site rep recently received the Management Self Assessment (MSA) report and the LANL RA report for starting up the new TA-55 Pu-238 scrap recovery line, dated 7/6/03 and 7/29/03 respectively (site rep weeklies 7/11/03, 8/1/03). The MSA should have been the most rigorous review in the startup process. The MSA report consists of a checklist, 3 documented management walk-arounds during simulated operations, and no apparent findings. The LANL RA report had 88 findings – 31 require pre-start correction, 20 are post-starts, and 37 are observations. Twelve pre-starts remained open at the time of the RA report. The type and number of RA findings indicate that the MSA was not sufficiently rigorous and that the RA was more a management-assist than appropriate. The LANL RA itself was a continuation of activities of a year ago and was conducted before NNSA approved the startup notification report (9/9/03). While the recent RA activities apparently reviewed all procedures, they did not include demonstration of some operations that had significant changes in safety basis requirements. The site rep believes these types of RA issues are not unique to TA-55. LANL has acknowledged that there are lessons that need to be learned from this to improve the RA process.

**WIPP Shipments:** LANL has suspended shipments of transuranic (TRU) waste to WIPP as a result of a finding during last week's Carlsbad Field Office annual audit. Specifically, it appears that LANL may have shipped several drums to WIPP without certifiably demonstrating they were greater than 100 nCi/g TRU. While LANL performs non-destructive analysis on the drums, the analysis has not always adequately confirmed that drums were above WIPP's disposal threshold. This suspension delays shipment of higher wattage drums under the Quick-to-WIPP initiative.

**Weapons Engineering Tritium Facility (WETF):** NNSA has verified that WETF has properly prepared, trained, and demonstrated 4 of 8 new surveillance procedures required to implement the new technical safety requirements (TSRs). WETF is planning a contractor RA in mid-November on the full implementation and on closure of open items for Building 450 startup (site rep weekly 8/1/03). The NNSA Operational Readiness Review for Building 450 startup is scheduled for January 2004.