

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 20, 2007

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: B. Broderick and C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending April 20, 2007

Plaue was here this week augmenting site rep coverage.

Plutonium Facility (TA-55): TA-55's proactive glove-box inspections, reported last week, are continuing to find discrepancies between operations and their criticality safety postings, such as: • lean solutions in bottles in a glove-box with posting indicating solutions should be in the columns (i.e., tanks) except when filling or emptying, which was done ~2 weeks ago; • a practice of staging small transuranic waste containers (e.g., Hagan cans) on the floor while the posting indicates only 15, 30, or 55 gal drums are permitted on the floor. The latter has led management to curtail transuranic waste packaging until procedures are implemented consistent with the posting, expected next week.

Criticality Safety: These events are similar to the case reported last week and will probably not be the last found by TA-55's ongoing glove-box inspections, which is commendable. Upon review, LANL is also finding that many of these discrepancies (including last week's) were already recognized and documented during last year's criticality safety walk-downs; corrective actions for these typically were assigned a low priority in LANL's extensive multi-year criticality safety improvement plan (site rep weekly 12/22/06). However, operating contrary to criticality safety postings may de-sensitize operators to the postings – an important element of criticality safety and conduct of operations; TA-55 is working on an interim solution. In some cases, such as the TA-55 waste packaging operation, the LANL criticality safety group is reassessing the priority assigned to addressing the issues.

Transuranic Waste Operations: Modifications to the WCRR waste repackaging facility, necessary for the high-activity waste drum campaign, are 98 % complete; ventilation control testing is planned this weekend. LANL expects to submit the final rule-compliant safety basis to NNSA today; NNSA expects to issue a safety evaluation report on it by next Tuesday. The final stage of operator training and qualification begin next week; the management self-assessment is expected the following week.

The highest activity drums and degraded drums are over-packed; inner drum integrity is not readily ascertainable until removed. These drums have been found to be generally robust structurally, with occasional corrosion holes; however, it is conceivable that the inner drum could fail while being lifted, spilling its contents. The current safety basis hazard analysis considers a degraded drum failing during handling outside but not inside the building; NNSA and LANL are now considering this scenario.

LANL still awaits NNSA action on an exemption request to fire protection requirements in the DOE facility safety order (DOE O 420.1B). The most significant proposed exemption involves lack of automatic engineered fire suppression within the WCRR glovebox. Near-term, LANL will stage fire control agents within the glovebox, and train operators in their use, as well as assign a fire watch during high-activity glovebox operations. By December 1st, LANL has committed to evaluate the upgrades required for compliance and has committed to implement those upgrades before processing drums with activity exceeding the current safety basis limit (i.e., 300 Ci combustible waste).

Given the expected NNSA safety evaluation report and the implementation of a rule-compliant safety basis, LANL believes that WCRR can be used not only for the high-activity drums aboveground but also those belowground with activity below the current safety basis limit.