

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 20, 2006

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** C. H. Keilers, Jr.  
**SUBJECT:** Los Alamos Report for Week Ending January 20, 2006

Plaue was here this week augmenting site rep coverage and reviewing nuclear waste operations.

**Federal Oversight:** The NNSA Site Office has resumed facility rep coverage for the Weapons Engineering Tritium Facility (WETF) because of a new operation scheduled to start in February.

**Plutonium Facility (TA-55):** On Monday, TA-55 completed fire alarm system repairs and resumed operations. On Thursday, TA-55 resumed normal material moves that use robust packaging; other material moves outside glove-boxes remain restricted due to the Dec 19" vault contamination event.

**Integrated Safety Management (ISM):** Last Tuesday (1/10), the Radio-chemistry Lab (TA-48 RC-1) had a radiation meter saturate, later attributed to procedure violations; the event was reported on Thursday (1/12) and contentiously critiqued on Friday (1/13). RC-1 has had similar events in the past; they will likely continue until more constructive feedback and improvement mechanisms are in place.

**Waste Operations:** Efficient waste operations and shipment are key to addressing the lab's highest consequence nuclear accident postulated in approved safety analyses (site rep weekly 12/23/05). LANL has decided to forgo 24/7 waste characterization and instead adopt a promising extended shift approach suggested by the work-force; even so, LANL expects the Quick-to-WIPP set of higher activity drums will not be shipped before October - 3 months later than the current commitment.

The site rep believes that, due to future receipts and underground inventory recovery, the risk reduction from Quick-to-WIPP may no longer be as great as NNSA once perceived (site rep weeklies 12/24/04, 11/5/04); the risk may remain high until Area G is nearly de-inventoried, now projected for early 2012. Better goals now may be to sustain and improve operations and maximize efficiency. LANL has started an aggressive improvement effort that has merit and is based on best practices at other sites (e.g., SRS). NNSA could actively support this effort, including accepting some short-term risks (e.g., seismic) to maximize efficiency; these short-term risks appear similar to those accepted for CMR.

**Pu-238 Operations:** Preparations continue for resuming bench-scale aqueous recovery near-term and starting up the full-scale line later this year. One bench-scale issue is that it will increase the current sizeable inventories of residues and liquid wastes, both of which do not have operating disposition pathways. The liquid waste pathway relies on RLWTF TRU operations not expected to resume until mid-2006. The residue pathway relies on pyrolysis startup and new packaging standards, related to longstanding, still-open NNSA and LANL corrective actions from a Type B investigation (Dec 2003).

On full-scale, LANL now intends to have engineered, normally-open vents for several tanks and thereby address hydrogen generation; this will require NNSA approval of new safety features. LANL now also believes that ion exchange operations will be needed soon after startup; this will require addressing shortly several other open safety issues cited in a Board letter of Aug P', 2003.

**Chemistry and Metallurgy Research Replacement Facility Project (CMRR):** Vendor design work on the rad lab/utility/office building (RLUOB) is highly restricted until LANL approves the vendor's quality assurance plan and audits his quality program. The NNSA Site Office has requested and LANL is preparing lessons learned from how the RLUOB quality requirements and standards were invoked.