

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 2, 2007

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director

FROM: B. Broderick and C. H. Keilers, Jr.

SUBJECT: Los Alamos Report for Week Ending November 2, 2007

Burnfield, Minnema, and Volgeneau were on site this week observing the DOE-HS biennial review (site rep weekly 10/12/07). Elliott was on site for a NNSA headquarters review of criticality safety.

Transuranic Waste Operations: Most Area G dome operations were suspended last Friday (10/25) due to emergent criticality safety questions; some activities not involving drum movement are resuming today. RANT waste shipments slowed in the last week due to the Area G issue and to WIPP slowing down receipts. WCRR repackaging activities were suspended Tuesday when workers found a 55 gal drum with an internal unvented 15 gal container, counter to recently imposed controls; the technicians stopped work and, following management review, placed WCRR in a safe condition.

Criticality Safety: On Oct 24th, NNSA facility reps in Area G questioned a waste drum with a non-conformance tag indicating that the contents exceeded the fissile-gram-equivalent limit (200 g); LANL management conservatively suspended operations and declared a criticality safety infraction. Out of about 20,000 above-ground drums, six exceed the limit, based on original waste generator data, and 58 exceed the limit, based on more-recent shipment certification data. LANL identified controls for high-fissile content drums in 2002, but those controls were not implemented. While mostly a legacy-drum issue, TA-55 has recently been loading drums to close to the limit, exacerbating the issue. Operations management is not always notified when such drums are found or received. Next week, Area G plans to start segregating and spacing high-fissile-content drums in accordance with criticality safety requirements.

Plutonium Facility (TA-55): TA-55 now plans to continue the outage until Jan 3rd. The criticality safety reviews continue; LANL still needs to apply more attention to planning, scheduling, and resourcing these reviews like a project to ensure that they are both timely and thorough.

On Oct 18th, NNSA directed LANL to provide an integrated priority list for TA-55 safety system upgrades identified in the recently proposed safety basis update, the Dec 2006 confinement ventilation evaluation, and the TA-55 reinvestment project. NNSA expects LANL to identify near-term funding for those upgrades necessary to protect assumptions in the safety basis accident analyses. NNSA also expects to complete its review of the safety basis by Feb 1st (site rep weeklies 10/5/07, 5/4/07).

Nuclear Infrastructure: TA-55 is probably LANL's best maintained nuclear facility, but at current funding levels, sub-standard practices persist. For example, TA-55 does not have a proactive maintenance and surveillance program for radioactive liquid systems; they rely on radiological control indicators to identify leaks after they occur. Facility personnel have spent the last week tracking down the source of one such leak for one glovebox line and discovered another leak in the process.

TA-55 lacks sufficient staffing and resources to implement such programs. The LANL Director's Assessment recognized the base issues: TA-55 operations are not being performed to modern nuclear standards, and TA-55 is not supported in a manner commensurate with its national importance. Other issues – such as the recent concerns on criticality safety, fissile material handler certification, and safety system operability – will likely recur until resolving the base issues becomes an institutional priority (site rep weeklies 10/5/07, 9/21/07, 8/31/07, 8/17/07, 7/27/07, 7/20/07, 6/22/07, 3/2/07).