

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 22, 2006

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director

FROM: C. H. Keilers, Jr.

SUBJECT: Los Alamos Report for Week Ending September 22, 2006

Recommendation 04-2: The on-site team has transmitted its preliminary evaluation of TA-55's confinement ventilation to the Independent Review Panel (IRP) Chairman. The team considered 24 accident scenarios and explored five in detail that seem to benefit most from active ventilation: a seismically-induced multi-room fire, two Pu-238 room fires, a vault fire, and an ion exchanger thermal excursion. Preliminarily, the team concludes that one particular ventilation subsystem by itself might be capable of maintaining building negativity during an upset and be a worthy candidate for safety-class; the subsystem's functionality depends on avoiding smoke plugging HEPA filters; seismically upgrading glove-boxes is also key, particularly those with furnaces or other fire initiators. The team has scheduled 2 weeks for IRP review and intends to complete its evaluation by mid-November.

Plutonium Facility (TA-55): TA-55 has assigned a location and has conducted a location-specific readiness review for assembling radiation test objects (RTOs), an activity formerly done in TA-18. LANL is also conducting a readiness assessment for starting up more trailers on the TA-55 safeguarded trailer pad and thereby addressing storage constraints. In August, NNSA approved LANL's proposed TA-18 transition baseline, which includes emptying the trailers in February 2007 and completing TA-18 material shipments in August 2008 (site rep weeklies 8/11/06, 7/7/06, 5/5/06).

Pu-238 Operations: During roughly the last year, TA-55 has reduced the Pu-238 material-at-risk in the room that was contaminated in Aug 2003 by about 40 %, primarily by packaging lean residues for WIPP shipment and entering richer residues into the glove-box lines; about 500 g of residues remain.

Weapons Engineering Tritium Facility (WETF): WETF's safety posture is highly dependent on tritium inventory limits, safety-class containers and fire barriers, and its combustible control program. During the last two months, LANL has imposed compensatory measures and addressed about 400 possibly discrepant penetrations in WETF fire walls, which have a 1-hr rating. LANL is currently not pursuing upgrading select fire walls to 2-hr rating because of interferences and estimated costs that are an order-of-magnitude higher than those of 2003. WETF reviewed its combustible control program with the Board's staff last week; while the program's technical basis seems weak, its implementation is strong. WETF intends to revisit the combustible controls and the potential fire wall improvements when submitting its safety basis upgrade, tentatively expected later this year (site rep weekly 7/28/06).

Emergency Exercise: LANL conducted its annual emergency exercise on Wednesday (9/20). The scenario involved an Area G drum impact, spill, and dispersal; a subsequent unrelated nearby wild-land fire; and contaminated personnel with injuries. Protective actions appeared prompt and appropriate; however, radiological monitoring data needed to bound the release seemed excessively delayed. NNSA participated in the exercise. LANL and the LANS corporate partners are largely responsible for formal evaluation of the exercise, which is forthcoming.

Federal Oversight: NNSA has resumed conducting safety system oversight (SSO) reviews at LANL. Reviews in August and September focused on safety systems for LANSCE and for nuclear waste operations, respectively. Reports are forthcoming (site rep weekly 6/9/06).