

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 30, 2010

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending July 30, 2010

Transuranic Waste Facility Project: This week, LANL responded to an NNSA site office condition of approval (COA) identified in the Conceptual Safety Validation Report that requested re-evaluation of the aircraft crash accident scenario. In particular, the COA requested LANL to provide documentation that the frequency of occurrence for this postulated accident is below the screening threshold of $1e-6$ per year or that consequence of an aircraft crash can be mitigated to a level that does not challenge the DOE evaluation guideline. LANL has decided to relocate the facility from Technical Area (TA)-52 to the adjacent TA-63 to increase standoff distance from the airport thus reducing the likelihood of an aircraft crash to less than $1e-6$ per year per DOE-STD-3014. Currently, Critical Decision-1, *Approve Alternative Selection and Cost Range*, is planned for mid-August. LANL also plans to conduct value engineering studies next month, in part, to resolve a site office COA on the adequacy of the seismic accident analysis.

Radioactive Liquid Waste Treatment Facility: Last week, LANL began the deinventory efforts for the sludge settling tank (TK-7) previously associated with Room 60/60A transuranic (TRU) liquid waste processing. TK-7 has a known leak site that required urgent action in 2008 to reduce the sludge level below the leak site. As part of Room 60/60A TRU processing equipment upgrades, a new sludge settling tank (TK-7A) was installed and has been used since TRU processing resumed in late-2009. However, a legacy heel of TRU sludge containing approximately seven Am-equivalent Ci remained in TK-7. LANL's plans to remove this sludge involve the potential for multiple phases. The first phase that began last week involves transferring sludge to TK-7A using the existing pumps and piping that historically removed sludge from the tank. However, given the state of the sludge and lack of in-tank mixing capability, LANL anticipated that this technique may not be capable of removing all legacy sludge. Therefore, a second phase was planned that would involve opening a port on top of the containment tank to insert temporary suction piping to establish a new transfer path to mobilize and remove residual sludge. As of Friday, LANL has removed approximately 75% of the sludge using the initial technique but expected to have to move to the second phase as early as next week to complete removal.

Transuranic Waste Operations: Earlier this month, the NNSA site office approved a page change to the Area G TSRs that authorizes open-drum sort, segregate, size reduction and repackaging (SSSR) operations involving up to 2.5 combustible equivalent Ci. Similar open-drum operations have been conducted at Area G for some time at the less than hazard category 3 level (i.e. less than 0.52 Pu-equivalent Ci) in the Dome 231 Permacon and inside a containment tent in Building 412. The page change increasing the MAR limit associated with SSSR operations allows a greater population of drums to be processed to achieve compliance with the Waste Isolation Pilot Plant (WIPP) waste acceptance criteria, allowing offsite shipment. New TSR-level controls establish a limit of 5 SSSR processing areas at Area G and set thermal separation distances between SSSR areas and staged waste containers. NNSA also issued a COA requiring establishment of TSR-level flammable liquid controls in SSSR areas. A contractor readiness assessment will be performed prior to beginning 2.5 combustible equivalent Ci SSSR operations at

Area G.