

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 7, 2014

**MEMORANDUM FOR:** S.A. Stokes, Technical Director  
**FROM:** R.T. Davis, R.K. Verhaagen, and J.W. Plaue  
**SUBJECT:** Los Alamos Report for Week Ending February 7, 2014

**DNFSB Staff Activity:** On Thursday, R. T. Davis deployed to the Waste Isolation Pilot Plant to monitor the investigation of the underground fire involving a salt handling truck.

**Chemistry and Metallurgy Research (CMR) Building–Exit Strategy:** Last month, the NNSA Office of Defense Programs issued a memorandum transmitting the government’s strategy for plutonium infrastructure investments at LANL. The strategy consists of three steps: (1) maximizing the use of the Radiological Laboratory Utility Office Building (RLUOB), (2) reusing space in the Plutonium Facility (PF-4), and (3) evaluating options to extend the lifetime of PF-4 through modular additions. The strategy notes that the first two steps are required to cease programmatic operations in CMR. These steps entail implementing NNSA’s Supplemental Guidance for DOE-STD-1027 to increase the material-at-risk limit in RLUOB from 8.4 g to 38.6 g of Pu-239 equivalent, outfitting about 11 laboratory rooms in RLUOB with analytical chemistry capabilities, and removing existing equipment and re-equipping four rooms in PF-4 with analytical chemistry and materials characterization capabilities (see 12/27/13 weekly). The strategy indicates that initial funding will be used to develop pre-conceptual design documentation and a resource-loaded schedule. NNSA does not specifically commit to an acquisition approach and notes that the use of operating expense funds or the more rigid Major Item of Equipment approach (an acquisition type included in DOE Order 413.3 for equipment with little installation cost) provides the execution speed needed to reduce risk exposure in CMR before it either needs additional infrastructure investment or simply fails.

**Weapons Engineering Tritium Facility (WETF):** This week, WETF management declared a Technical Safety Requirement (TSR) violation after personnel discovered three secondary tritium containment vessels with open valves. These safety class vessels cannot perform their credited containment function with open valves. WETF received these legacy vessels in the 1990’s from another technical area at LANL. Personnel discovered the first vessel with an open valve in October 2013 during an inventory of legacy tritium items and did not recognize that this condition represented a safety basis issue. Following discovery of a third vessel with an open valve in January 2014, a worker notified a WETF manager, who then directed capturing the issue for later review. In February, the WETF Management Review Board tasked a safety basis analyst to consider the need to declare a Potential Inadequacy of the Safety Analysis (PISA). Subsequent to declaring the PISA, WETF management critiqued the issue and determined that the condition represented a TSR violation. The critique revealed that personnel had verified 30 additional similar vessels have closed valves, but identified the need to verify other vessel types have closed valves and to revise procedures to ensure that valves are closed following all work with containment vessels.

**Safety Basis:** Last Friday, LANL submitted to the field office a safety basis improvement plan (see 11/15/13 weekly). The plan identified the need to develop several products including: a staffing strategy, upgraded qualification standards for analysts, revised institutional processes and procedures, a performance assurance plan, a site-wide safety basis to encompass all safety management programs, a Management Review Team to focus on communications and issue management with the field office, a revised technical document examining dispersion analysis for the site, a laboratory safety basis council, and a nuclear facilities risk assessment to facilitate resource allocation.