

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 27, 2014

**MEMORANDUM FOR:** S.A. Stokes, Technical Director  
**FROM:** R.K. Verhaagen and J.W. Plaue  
**SUBJECT:** Los Alamos Report for Week Ending June 27, 2014

**DNFSB Staff Activity:** This week, D. Kupferer assisted the Site Representatives in oversight of resumption activities in the Plutonium Facility. On Wednesday, the staff conducted a teleconference with Plutonium Facility and field office personnel to discuss the implementation of criticality safety controls.

**Area G–Nitrate Salt Wastes:** This week, Area G personnel sampled an empty parent nitrate waste drum and provided briefings to the DOE Technical Assistance Team (TAT). LANL personnel reported that more than 700 experiments have been conducted to-date. LANL senior management has released some of these results to the TAT and Accident Investigation Board. On Tuesday, the Associate Director for Environment Programs appointed a team to perform a causal analysis to evaluate processing problems that resulted in a potentially non-compliant drum at the Waste Isolation Pilot Plant. The team will out brief results by July 31, 2014.

**Radioactive Liquid Waste Treatment Facility:** Facility personnel commenced operations of the Waste Mitigation Risk Management tanks for storage of low-level radioactive liquid influent (see 1/4/14 weekly).

**Plutonium Facility–Criticality Safety:** A year ago today, the LANL Director Paused programmatic operations in the Plutonium Facility due to concerns with criticality safety and conduct of operations. In order to commence fissile material operations, program personnel must complete: (1) the resumption process culminating in release by the LANL Director or designee, (2) an Implementation Verification Review, if the operation falls under the Justification for Continued Operations, and (3) screening for applicability, and completing as necessary, a readiness review. As of today, Plutonium Facility personnel could not provide specifics on the numbers of operations that had completed each of these three steps and executed operations with fissile materials, but they expect to release refined resumption metrics next week.

**Plutonium Facility:** Last week, during a routine inventory, Plutonium Facility personnel discovered a tank believed to be empty that actually contained approximately 50 liters of a solution with a low plutonium concentration. The solution was generated and transferred to this tank during aqueous operations required to place the facility in a safe and stable configuration (see 3/17/2104 weekly) and was intended to be cemented for disposal. Multiple previous inventories failed to identify the location of the liquid due to the site glass being completely full. During this inventory, a slight change in color of the solution made its presence detectable. Plutonium Facility personnel critiqued the event and determined that the procedure and processes used to dispose of this solution did not contain sufficient detail or require the necessary formality to ensure operators were keeping track of all solutions and complete disposition of these wastes. Personnel significantly revised the procedure during the Director's pause to include direction that is more specific on how to account adequately for solutions.

**Area G–Criticality Safety:** This week, during an assessment of fissile material operations in Area G, facility personnel identified that they had not performed a criticality safety evaluation (CSE) for handling and storage of sealed sources. Personnel previously identified the need for a CSE for this operation in a May 2012 assessment, but they had not completed the CSE beyond draft form due to competing priorities. Facility management conducted a critique of the event and discovered that operators relied upon informal guidance from criticality safety personnel to control the mass of sources brought into Area G.