

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 22, 2017

**MEMORANDUM FOR:** S.A. Stokes, Technical Director

**FROM:** J.W. Plaue

**SUBJECT:** Los Alamos Report for Week Ending December 22, 2017

**DNFSB Staff Activity:** On Tuesday, N.M. George, P.A. Meyer, P.J. Migliorini, A.R. Powers, and M. Randby held onsite discussions with LANL and NNSA Field Office personnel. The discussions involved questions concerning the statistical methodology and associated analyses supporting the leak path factor values used in the safety basis for the Plutonium Facility.

**Fire Protection:** Last Monday, the NNSA Field Office conditionally approved LANL's permanent equivalency request in order to resolve conflicts among fire protection requirements for gloveboxes and similar process enclosures. The request proposed utilizing a fire hazard evaluation (FHE) process to meet requirements and expectations contained the DOE-STD-1066, International Building Code, National Fire Protection Association, and American Glovebox Society standards for establishing fire protection requirements. The request also establishes inerting systems, when properly designed and alarmed, as an equivalent alternative to fire suppression systems. The conditions of approval include mandatory use of LANL's FHE procedure, required NNSA Field Office concurrence for gloveboxes that contain a heat source without either inerting or fire suppression, and quarterly updates on FHE progress. LANL managers are currently developing a schedule to complete FHEs for all of the gloveboxes in the Plutonium Facility. While some FHEs have been developed as part of readiness, many gloveboxes without inert atmospheres await completion of FHEs and associated installation of fire suppression systems, as to be determined by evaluation.

**Unremediated Nitrate Salt (UNS) Waste Treatment:** Last Friday, the Associate Director for Nuclear and High Hazard Operations, as the relevant startup authorization authority, notified the EM Field Office regarding her approval to proceed with processing one UNS container without further readiness review. This container requires a liner-pull activity at Area G, but had been excluded from the contractor readiness assessment because its inventory of radioactive material exceeds the Hazard Category 2 threshold. LANL personnel applied a correction factor based on the material's dispersion properties and were able to support a revised equivalent inventory. Specifically, the UNS material is considered non-combustible/dispersible in the safety basis. LANL personnel used estimates of the mass fraction of organic material derived from real-time radiography imagery to determine an updated combustible equivalent factor of 8 percent for the UNS.

**RANT Shipping Facility:** On Tuesday, LANL and NNSA Field Office personnel briefed NNSA Headquarters personnel on the status of preliminary safety basis analyses meant to examine the adequacy of the proposed seismic retrofit (see 9/8/2017 weekly). The retrofit design is intended to achieve performance category 2 seismic criteria; however, preliminary safety analyses indicate this level of performance may be insufficient under some postulated scenarios. As such, LANL personnel are evaluating alternatives to achieve an enduring transuranic waste loading capability that is weather resistant. In the interim, LANL will continue to rely on mobile loading (see 11/17/2017 weekly).