

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 8, 2014

**MEMORANDUM FOR:** S.A. Stokes, Technical Director  
**FROM:** R.K. Verhaagen and J.W. Plaue  
**SUBJECT:** Los Alamos Report for Week Ending August 8, 2014

**DNFSB Staff Activity:** Staff members C. Berg, D.J. Campbell, R.T. Davis, M.W. Dunlevy, and M.M. McCoy conducted a review of the safety bases for Area G and the RANT Shipping Facility. A.H. Hadjian observed geophysical testing underway in support of the effort to update the probabilistic seismic hazard analysis. R.K. Verhaagen was on leave.

**Plutonium Facility–Worker Safety:** Earlier this summer, a programmatic operations group lead restricted use of a glovebox line used for thermal treatment of Pu-238 oxide powders after operators expressed concern about its material condition. The glovebox originated from the old DP Site Plutonium Facility and is at least 30 years old. Material condition concerns include multiple windows with cracked glass, gaskets taped and painted for unknown reasons, corroded water-filled shielding that has likely leaked dry, and significant amounts of abandoned in-place legacy equipment. Use of the glovebox line is essential for all Pu-238 products, including deliverables for the Office of Defense Programs. The group lead is working to resolve these issues.

The Site Representatives note that the current System Health Report for these gloveboxes does not capture most of these degraded conditions despite evidence the conditions have existed for many years. The report further indicates that all the gloveboxes are operable per the safety basis, which credits gloveboxes as safety significant with a performance criterion to maintain primary confinement of dispersible radioactive materials during process operations, upon loss of ventilation, and during or after performance category 2 seismic events. System engineers indicated that they believe these degraded conditions do not challenge the ability of these gloveboxes to perform this function, but had informed safety basis personnel on the need to provide greater engineering detail in the safety basis for this important safety system.

**Plutonium Facility–Criticality Safety and Conduct of Operations:** Last Friday, Plutonium Facility management directed that personnel execute most work-authorizing documents as Use-Every-Time documents irrespective of the approved level-of-use. In addition, the work authorizing documents are to be present on the floor with any references available within 15 minutes. On Thursday, LANL management provided a status of resumption activities to NNSA senior management.

**RANT Shipping Facility:** Last Thursday, LANL submitted to the field office the Evaluation of the Safety of the Situation (ESS) regarding the fluctuations in the firewater system pressure (see 7/4/14 weekly). The ESS argues that the facility is safe given the operational restriction of Cold Standby mode and indicates that additional investigation on the firewater system is required prior to proposing a path forward.

**Area G–Safety Basis:** Last Friday, LANL submitted the third revision of the ESS for fuel pool fires involving combustibles waste (see 3/28/14 weekly). The ESS considers a single drum of combustible waste in a fuel pool fire and establishes a control to limit receipt of drums at Area G to less than 80 Pu-239 Equivalent Curies. In accordance with the ESS, Area G personnel successfully over-packed the only existing combustible drum that exceeds this value on Wednesday. The ESS analysis does not examine multiple drums of combustible waste or other accident types.

**Area G–Nitrate Salt Wastes:** On Thursday, Area G personnel obtained samples of salt residues from the empty parent of the drum known to have breached at the Waste Isolation Pilot Plant.