DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 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 March 7, 2014

DNFSB Staff Activity: R. T. Davis returned to the Waste Isolation Pilot Plant to relieve R.K. Verhaagen for the continued monitoring of recovery actions associated with the radiological contamination event.

Criticality Safety: On Wednesday, LANL transmitted to the field office a project management plan for *Nuclear Criticality Safety Program Upgrades*. This institutional plan consists of a compilation of criticality safety issues and their associated Performance Feedback and Issues Tracking System numbers going back to 2005. Each issue is grouped within five separate sub-projects focused on the following areas: (1) developing the Nuclear Criticality Safety Program (NCSP), (2) establishing a revitalized Nuclear Criticality Safety Committee, (3) establishing a strong partnership between operations and the NCSP, (4) implementing checks and balances to ensure the NCSP attains and maintains full compliance with applicable requirements, and (5) implementing a performance assurance plan to support NCSP evaluation and continuous improvement. LANL is currently working to develop a resource-loaded schedule for each of the five sub-projects, which cumulatively contain about 200 separate actions.

Plutonium Facility: This week, program personnel nearly completed the last aqueous operations required to place the facility in a safe and stable configuration as part of exempted activities under the Director's pause. Specifically, personnel cemented the evaporation residuals from several hundred liters of low plutonium concentration solutions generated during an ion exchange operation that completed at the onset of the pause in late June 2013. The work crew encountered numerous difficulties associated with their procedures, training, and equipment, which resulted in the protracted time line. They expect to complete the final two cement drums next week.

Radiological Safety: Last week, the Confinement Vessel Disposition (CVD) project personnel received a briefing from a Six Sigma Blackbelt regarding the results of a recent study aimed at decreasing the number of glovebox glove breaches. The study focused on the causes of the 65 glove breaches that occurred at the Plutonium Facility from July 2011 to September 2012. The study identified that the leading cause of breaches was latent sharps, in particular work involving bolts, corroded/oxidized metal, and tube cutters. Plutonium Facility personnel are currently developing corrective actions based on the findings. The Site Representatives note that facilities other than the Plutonium Facility would benefit from corrective actions, including training based on the results of the study that provides more than awareness. For example, the identified latent hazards are prevalent during the CVD operation.

Area G–Radiological Safety: On Monday evening, a worker who had cleared multiple radioactive contamination surveys detected contamination on his boots during a final elective survey he performed for peace of mind. Follow-up surveys then detected contamination on his cheek. Radiological control personnel were able to decon both areas. On Tuesday afternoon, facility management conducted a critique of the incident. The critique identified issues with protective clothing doffing, survey practices and responses by radiological control personnel, and worker positioning in contamination survey equipment. Notably, the critique identified that documentation did not include the expectation that radiological control assistance be provided during the entirety of the doffing process for individuals when contamination is detected on outer protective clothing.