

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 25, 2014

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.T. Davis, R.K. Verhaagen, and J.W. Plaué
SUBJECT: Los Alamos Report for Week Ending April 25, 2014

DNFSB Staff Activity: D.N. Kupferer, J.C. McComb, and J.A. Pasko conducted an onsite review of progress made toward resolving the criticality safety and conduct of operations issues in the Plutonium Facility. J.A. Pasko and the Site Representatives also walked-down the recently completed seismically strengthened columns and work sites for near-term upgrades to the roof girders in the Plutonium Facility. R.T. Davis continued monitoring the recovery associated with the radioactive material release event at the Waste Isolation Pilot Plant.

Nuclear Environmental Sites: On Monday, LANL transmitted to the field office the results of a positive Unreviewed Safety Question Determination (USQD) regarding the planned demolition of a water tower in TA-21. The water tower, a 175 ft tall and about 1452 ton structure, sits in proximity to Material Disposal Area T and Material Disposal Area A, known as the General's tanks. The DOE Office of Environmental Management has separately contracted to demolish the water tower and tasked LANL to perform the USQD given the collocated Nuclear Environmental Sites. The USQD identified the planned demolition could increase the probability of occurrence and consequences of postulated accidents, as well as an increase in the probability and consequences of malfunction of safety equipment. The field office is determining a path forward.

Criticality Safety: Last week, LANL responded to the field office regarding the institutional *Nuclear Criticality Safety Program Upgrades* plan (see 3/7/14 weekly). This institutional plan is one of the two plans that collectively constitute the overall improvement effort documented in NNSA's response to the Board dated December 6, 2013. LANL indicated they will submit a revision of the institutional plan addressing the field office comments, including the need for a resource-loaded schedule, by June 30, 2014.

Plutonium Facility–Criticality Safety: Facility personnel performing a confirmatory neutron measurement on a standard waste box (SWB) identified that the measured value exceeded the limits specified by the criticality safety evaluation by a factor of nearly two. The measured value also exceeded the combined, individual measured values of the items inside the SWB by a factor of nearly four. Workers took the correct immediate actions to secure the area, back off, and make notifications. During a critique, facility personnel questioned the adequacy of the calibration of the equipment and agreed to reconvene to determine a path forward for confirming the contents of the SWB. The Site Representatives note that critique personnel did not bring or review as part of the critique the calibration procedure, the procedure for assaying the waste, or the procedure for loading the SWB.

Weapons Engineering Tritium Facility (WETF): On Thursday, LANL submitted to the field office the Evaluation of the Safety of the Situation (ESS) regarding the potentially inadequate firewater riser pressure (see 4/4/14 weekly). The ESS notes that a revised hydraulic calculation supported by new field measurements indicates the current required minimum pressure is adequate as currently written. The facility remains in a 24-hour fire watch performed hourly until the field office approves the ESS.