

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 8, 2017

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending December 8, 2017

DNFSB Staff Activity: On Tuesday, M.R. Bradisse and N.M. George held onsite discussions with LANL and NNSA Field Office personnel regarding their ongoing review of the nuclear criticality safety program at the Plutonium Facility. On Wednesday, A.R. Powers and team held a teleconference with LANL and NNSA Field Office personnel to discuss observations from the first phase of their safety posture review of the Plutonium Facility.

Emergency Management: On Thursday, LANL personnel conducted a multi-facility exercise involving the Radioactive Liquid Waste Treatment Facility (RLWTF), the Waste Characterization, Reduction, and Repackaging Facility (WCRRF), and the Technical Area (TA)-35 complex. The scenario involved a simulated leak of a one pound lecture bottle of chlorine gas in a TA-35 laboratory hood. After correctly identifying the appropriate Emergency Action Level, LANL emergency management personnel ordered shelter-in-place protective actions for four different technical areas; however, only the workers in the TA-35, RLWTF, and WCRRF participated in the exercise. Emergency management personnel have scheduled their formal critique with exercise evaluators for next Monday. Of note, this exercise represents a shift in LANL's approach to meeting the requirements for annual exercises. The new approach combines facilities with the intent of reducing the overall number of exercises to enable increased complexity, improved planning, and more thorough evaluation.

Unremediated Nitrate Salt (UNS) Waste Treatment: Area G personnel successfully pulled and repackaged the liners from 11 of the 26 UNS containers by Thursday night. They plan to complete an additional two containers on Friday. On Monday, WCRRF personnel received UNS containers in anticipation of commencing treatment activities; however, they paused work subsequent to questions from the NNSA Field Office regarding a temporary modification that had been made to the confinement ventilation system. WCRRF engineering personnel approved a temporary modification to support the use of cargo tape to adequately seal the filter plenum access doors. They had discovered that the doors were not properly sealing during filter efficiency testing conducted the previous week. On Tuesday, WCRRF management also determined that they had failed to perform a required surveillance on the ventilation system, declared the system inoperable, entered the appropriate limiting condition for operation, and returned the UNS to Area G. WCRRF management initiated a series of learning teams to review these events and plans to resume UNS treatment once the plenum seals are replaced.

Plutonium Facility–Nuclear Criticality Safety: Last Friday, LANL management proposed closure of an Evaluation of the Safety of the Situation (ESS) that resolves longstanding issues with the nuclear criticality safety evaluations for vault rooms B and I. Closure comes after facility personnel implemented revised evaluations late last month. The issues with these rooms originated in 2007 after questions were raised regarding the reliance on, and supporting certification of, boron used as a neutron poison as part of shielding materials in these rooms (see 8/31/2007 weekly). LANL personnel completed new evaluations in 2012 that did not credit the presence of boron, but then discovered a separate evaluation on the interaction between drawer and floor storage locations that assumed the presence of boron resulting in the ESS (10/19/2012 weekly).