

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 28, 2016

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending October 28, 2016

DNFSB Staff Activity: On Monday, a staff team conducted a teleconference with NNSA Field Office and LANL personnel to discuss questions regarding the safety basis for the Transuranic Waste Facility.

Emergency Management: On Tuesday, LANL management reissued their after action report for the full-scale exercise (see 10/14/16 weekly). The revised report identified that 10 of 152 objectives were not met, resulting in four findings and 25 opportunities for improvement. The findings involve: non-functioning telephones at the Joint Information Center; an inappropriate radio patch that interfered with real world public safety; lack of familiarity on the part of LANL radiological control technicians of the layout and process for contaminated patient handling at the Los Alamos Medical Center; and poor implementation of an exercise freeze. The report captures the fact that a unified command was never effectively established as an opportunity for improvement and notes that it would have resulted in a finding; however, the event jurisdiction fell under the Federal Bureau of Investigation and LANL does not issue findings against external entities.

Area G–Safety Basis: LANL recently submitted to the NNSA Field Office for review and approval an Evaluation of the Safety of the Situation (ESS) for the Potential Inadequacy of the Safety Analysis (PISA) concerning newly identified explosive hazards on several Flanged Tritium Waste Containers (see 9/9/16 weekly). The ESS references a calculation that demonstrates the currently established 50 foot standoff distance is adequate to ensure safety of the workers. The ESS also identifies safety significant Specific Administrative Controls for fire protection and container management to reduce the likelihood of a container deflagration from anticipated to extremely unlikely. LANL concludes that temporary storage in this configuration is safe and have established a team of experts to develop a path forward for disposition of this material.

Plutonium Facility–Safety Basis: Last week, safety basis personnel concluded that the concern regarding hazards associated with cellulosic material (i.e., cheesecloth) contacted with nitric acid and plutonium-238 did not constitute a PISA (see 10/7/16 weekly). Their assessment relies on a white paper produced by the waste management group at the Plutonium Facility. The white paper largely focuses on nitrating cellulose in chemically simple systems, though it does acknowledge that ignitable or reactive material could be produced and recommends further testing. The safety basis assessment also points to two hazard scenarios in the approved safety basis that involve nitric acid and cheesecloth. The Site Representatives note that the white paper fails to consider the operational history of accidents involving cheesecloth and nitric acid at LANL, and more broadly in the nuclear industry, and also note that both hazard scenarios occur inside the building, whereas the extent-of-condition indicates there may be 174 waste containers of potential concern that may not all be indoors.

Inappropriately Remediated Nitrate Salts (RNS): Last week, LANL submitted to the NNSA Field Office for review and approval a Plan of Action (POA) for a Contractor Readiness Assessment (CRA) for the restart of the Waste Characterization, Reduction, and Repackaging Facility to safely treat the RNS waste currently stored in Area G. The CRA is planned to commence in early January 2017. LANL notes in the POA that the CRA will be followed by a Federal Readiness Assessment.