

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 18, 2018

**MEMORANDUM FOR:** S.A. Stokes, Technical Director

**FROM:** J.W. Plaue and D. Gutowski, Resident Inspectors

**SUBJECT:** Los Alamos Activity Report for Week Ending May 18, 2018

**Plutonium Facility–Safety Basis:** On Wednesday, safety basis personnel entered their New Information (NI) process to examine questions raised last fall by the Board’s staff on the appropriateness of the respirable release fraction used in the accident analysis for seismic events (see 11/17/2017 report). The institutional NI procedure requires closure within 15 calendar days. DOE guidance for the contractor’s 10 CFR 830 obligation to declare a potential inadequacy of the safety analysis states “hours or days, but not weeks.”

**Plutonium Facility–Infrastructure:** Facility personnel repaired the uninterruptable power supply with qualified parts and exited the relevant limiting condition for operation (see 5/4/2018 report).

**Plutonium Facility–Conduct of Operations:** Last week, the Pit Technology division issued their report from their criticality safety days pause of operations in March (see 3/30/2018 report). The report noted excellent workforce engagement and lack of hesitance in raising issues and declaring process deviations. The report notes worker concerns including the need to: further simplify and strengthen the consistency of criticality safety postings across the facility; reduce administrative burdens to enable increased management floor presence; and address protracted temporary assignments for managers.

**Plutonium Facility–Software Quality Assurance and Criticality Safety:** On Monday, a management oversight team member identified that the total mass of nuclear material listed on the SLIP inventory posting for the glovebox was less than the actual amount in the glovebox. The work team declared a potential process deviation and responded appropriately. Criticality safety personnel determined the glovebox to be safe, as the actual material present was in compliance with the limits. Further investigation revealed that the inaccurate mass total had resulted from the presence in the location’s account of a negative plutonium value associated with a “non-physical parent lot,” which is a mathematical artifact used by the nuclear materials control and accountability system to account for measurement uncertainties. Fact-finding participants determined that the SLIP software did not properly account for this artifact and simply summed the values listed for the location resulting in a non-conservative and inaccurate total. Facility management has directed the use of more detailed inventory listings while corrective actions are pursued with the SLIP software.

**Plutonium Facility–Conduct of Operations and Work Control:** On Wednesday, a craft worker performing an exit survey discovered skin contamination on his hands. Follow-up surveys found contamination on the personal protective equipment of the other crew members. Radiological control personnel controlled the room, successfully doffed and decontaminated all impacted individuals, and performed follow-up surveys in the work area. The work crew had been installing clean piping underneath a glovebox. The most likely source of the contamination spread was from the breach of a contaminated system. The planned scope for the day did not include this higher hazard work to connect new piping to an existing vacuum system, similar to the significant contamination event this past fall (see 9/29/2017 report). Facility management paused all pipefitter work while corrective actions are executed.

**Area G:** Facility personnel performed a coached table-top emergency drill for training. The scenario was a lightning induced wildfire encroaching on the facility.