

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 1, 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 June 1, 2018

**Plutonium Facility–Safety Basis:** LANL Safety Basis personnel completed the New Information (NI) process to evaluate the airborne release fraction (ARF) and respirable fraction (RF) for dispersible plutonium powders involved in seismic events (see 5/18/2018 report). They concluded that the ARF/RF values currently used in the Documented Safety Analysis (DSA) for the Plutonium Facility are sufficiently conservative, and that there is no Potential Inadequacy of the Safety Analysis. They based this conclusion on an evaluation of spill and impact ARF/RFs contained in *DOE-HDBK-3010-94*. The current DSA uses an ARF/RF from the handbook for free falling powders dropped from a 10 foot height which is bounding for a material enclosed in a glovebox that falls on its side. The NI evaluation further concludes that it is not credible to have objects fall on the spilled powder creating an additional airborne release as there are no postulated building or equipment collapses that could generate sufficient impact energy. The Board's staff plans to further evaluate this position as part of their ongoing review of the Plutonium Facility's Safety Basis.

**Plutonium Facility–Fire Protection:** During a routine surveillance, facility personnel discovered an acetylene bottle left in a room. The bottle was left in the location when the personnel using it exited because of a contamination spread (see 5/18/2018 report). In response, facility management has recognized that processes for evacuating rooms following radiological or other events should include a more formal process to determine if exiting workers left any conditions that need to be addressed as part of room recovery.

**Weapons Engineering Tritium Facility:** During morning rounds, a worker discovered that the safety-significant environmental chamber overtemperature protection system (ECOPS) had actuated and performed its safety function to cut power to one environmental chamber. There was no actual hazard since no tritium containment vessel was present in this chamber. The exact cause of the trip is not known, however there is no evidence of an actual temperature transient and this unit tripped again during investigation. All of the other units, some of which are currently protecting chambers with tritium present, appear functional and historically these systems have been highly reliable. However, the ECOPS units are old so facility management plans to begin the design process for a project to replace them with a newer system.

**Confinement Vessel Disposition (CVD) Project:** CVD personnel resumed vessel cleanout activities this week after halting due to performing non-destructive assays of daughter drums in an unauthorized location (see 4/13/2018 report). The team is now using a new location for non-destructive assay that is covered by a criticality safety evaluation document. They also have a new criticality safety evaluation that authorizes use of the location that had not been evaluated.