DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 21, 2023

TO: Christopher J. Roscetti, Technical Director
FROM: A. Boussouf and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for the Week Ending April 21, 2023

Staff Activity: M. Bradisse was on site to observe the resumption of the contractor readiness assessment for restart of the Aqueous Nitrate Process at the Plutonium Facility. Field demonstrations for this assessment were rescheduled following the flooding event in the basement of the facility (see 3/17/2023 report). Facility personnel completed replacement of HEPA filters and restoration of ventilation in the impacted wing prior to the start of last week.

Plutonium Facility–Criticality Safety: Triad personnel identified a disconnect between criticality safety documentation and the safety basis regarding seismic qualification of nuclear material safes. A subset of safes in the facility are credited to remain upright during seismic events to prevent formation of a critical geometry. Safes required to perform this function are first identified in criticality safety analyses and then designated in the safety basis as a safety-significant control through a process defined in the site's Criticality Safety Program. Triad personnel recently identified deficiencies in the documentation for one of the safes, and a subsequent extent of condition review in progress has identified several other safes with documentation issues. Triad personnel are working to ensure that all safes credited with this safety function have been identified and documented appropriately.

Plutonium Facility–Glovebox Safety: There were two glovebox glove breaches this week. Neither resulted in skin contamination or indication of any uptake. Workers identified one following a radiological survey performed immediately upon exiting the glovebox gloves, and the other was discovered following radiological monitoring at the laboratory room exit. Facility management is including further evaluation of these events into the ongoing evaluation of three other recent glovebox glove breaches (see 4/14/2023 report).

Area G–Safety Basis: On Tuesday, N3B transmitted their site-specific atmospheric dispersion protocol to the Environmental Management Field Office for approval (see 4/7/2023, 6/17/2022 reports). Key approaches used in this protocol include: use of the default χ/Q dispersion parameter for co-located worker consequences; use of plume buoyancy effects for some fire accident scenarios; and use of time-based plume meander correction for longer release durations. The Board's staff plans to review how this new protocol will be used to establish dose consequences in the new safety basis under development for Area G.

PF-400–Electrical Safety: Last Thursday, electricians contacted an energized switch while torquing electrical components for equipment installation in PF-400. While no one was injured, the workers observed sparks. The work documentation for this task had recently been revised and no longer included a lockout/tagout for this scope of work. One of the immediate corrective actions from the event was to reinforce the need to perform zero energy checks by having a superintendent or higher observing the check. This requirement has also been put in place at the Plutonium Facility. Other corrective actions include a review of other electrical jobs in progress and an evaluation of work planning processes for revision of construction work packages.