DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 3, 2019

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: J.W. Plaue and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for Week Ending May 3, 2019

Radiological Laboratory Utility Office Building (RLUOB): Last Wednesday, facility operations personnel entered a service room and noticed a leak emanating from a valve on the radioactive liquid waste (RLW) system. Upon subsequent visual inspection by a radiological control technician, RLUOB engineers believe that this valve, and 6 similar valves, may be constructed of carbon steel. The RLW system handles radioactive liquid waste streams from chemistry operations that include nitric and hydrochloric acids—carbon steel valves would be incompatible with these solutions. The suspect valves are also in contact with stainless steel piping, which would create another corrosion mechanism. RLUOB management plans to drain the affected piping sections and develop a work package to replace all of the suspect valves. They will also confirm the valve materials and if shown to be incorrect, investigate the cause of this failure in the design, procurement, and installation processes. The valves were installed in 2013 as part of a modification to add straining and sampling capabilities that were not in the included in the original design.

Transuranic Waste Management–Inconsistencies: Facilities that handle transuranic waste often rely on 55-gallon containers as the sole barrier to the release of radioactive materials. A degraded container poses a direct risk to workers and may increase the risk to members of the public due to an inability to perform the function assumed in the safety analysis (e.g., supporting a damage ratio). The Technical Safety Requirements (TSR) documents at the various LANL facilities specify different responses to the discovery of a container with suspected degraded integrity. For example, the TSRs for the Transuranic Waste Facility (TWF) and the RANT Shipping Facility require a degraded container to be restored, overpacked, or removed from the facility; however, this action must be completed in 7 days at TWF and 14 days at RANT. The TSRs for the Plutonium Facility and Area G consider 55-gallon waste containers as a Design Feature and as part of safety management program, respectively. As such, the TSRs do not specify response actions and completion times, which are left to management discretion. The approaches at LANL contrast with other sites where TSR coverage ranges from non-existent to specific direction to immediately place the container in a safe configuration and overpack within 48 hours (i.e., Waste Isolation Pilot Plant).

Confinement Vessel Disposition Project: Last week, Triad personnel loaded the ninth confinement vessel into the enclosure. This is the last vessel known to contain nuclear material. Processing awaits repair of the dry chemical fire suppression system in the workstation.

Area G: This week, N3B marked the completion of its first year as the Los Alamos Legacy Cleanup Contractor. Their most significant accomplishment has been the resumption of mobile loading operations to ship transuranic waste to the Waste Isolation Pilot Plant. They completed seven waste shipments with the most recent being this Thursday. Other transuranic waste activities have yet to ramp up partly due to challenges in establishing business systems and safety management programs to support nuclear operations. These are starting to be rolled out now, and the operational tempo is expected to increase in the coming year as additional activities restart.