DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 27, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: E. Freeman and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for the Week Ending September 27, 2024

Plutonium Facility–Infrastructure: Last Thursday, there was a loss of cascading differential pressure for the confinement ventilation system on the north side of the Plutonium Facility. Operations personnel entered the required action statements from the relevant limiting conditions for operation. They restricted programmatic work and personnel access to the north side of the facility. The alarm chimes that normally sound to alert workers to exit the areas impacted by a ventilation loss did not sound. Therefore, operations center personnel also entered additional limiting conditions related to operability of the Facility Control System. Differential pressure was restored promptly, but the cause of the issue has not been determined. Troubleshooting of the Facility Control System identified a problem with an optical communications module. These modules support communications between the safety-significant portion of the Facility Control System that was upgraded last year and the alarms (see 6/2/2023 report). This communication function is not credited in the safety basis. These optical communications modules are an obsolete component that have caused problems in the past (see 7/9/2021 report). Continued modernization of additional functions of the Facility Control System is in the planning stages.

Plutonium Facility–Emergency Preparedness: On Tuesday, Triad personnel conducted an emergency preparedness drill at the Plutonium Facility and adjacent buildings in Technical Area 55. The scenario was a criticality accident inside a glovebox processing plutonium with two severely exposed individuals and two individuals with lower exposures. The drill required the evacuation of the full complement of workers from inside the Plutonium Facility to the assembly area for potentially contaminated personnel. Other workers sheltered in place or remained indoors depending on their location. Key aspects of this drill included the proper exit procedure when a criticality alarm is sounded, full accountability of workers, ensuring appropriate radiological control measures are implemented, and resolving challenges associated with movement of key personnel to the facility command location. The drill included participation from Technical Area 55 personnel, the Los Alamos Fire Department, and the Triad HAZMAT team. The resident inspectors observed the drill from the assembly area and facility command. Triad safety basis personnel were also observing the drill to improve their understanding of facility evacuation times, which are used in leak path factor calculations.

Legacy Facilities: On Wednesday, N3B personnel declared readiness to operate Building 21-0257 and the Industrial Waste Lines as a hazard category 2 nuclear facility (see 9/13/2024 report). Activities under the new safety basis will be limited due to current operational priorities.

Safety Basis: On Monday, Triad submitted to the NNSA Field Office for approval a revision to the temporary safety basis modification for the return of a heavy motor generator rotor past several nuclear facilities (see 8/30/2019 report). The revision reflects changes since the 2019 departure of the rotor such as a heavier overall trailer weight and changes to nuclear facilities along the travel route. The RANT Shipping Facility has been restarted, the Waste Characterization, Reduction, and Repackaging Facility is being restarted as a hazard category 3 facility, and PF-400 is now a hazard category 3 nuclear facility.