

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 23, 2024

TO: Katherine R. Herrera, Acting Technical Director
FROM: D. Gutowski, Resident Inspector
SUBJECT: Los Alamos Activity Report for the Week Ending February 23, 2024

Staff Activity: On Tuesday, a staff team held a remote interaction with personnel from both the NNSA Field and Project Management Offices to discuss federal review and approval of limited procurement and construction activities requests. This is part of a staff review that also includes capital asset projects at other NNSA sites.

Plutonium Facility–Readiness: A federal team commenced a readiness assessment to evaluate the aqueous nitrate process in the Plutonium Facility (see 1/26/2024 report). This process has been shut down since 2013 and is the last major processing operation in the facility that has not resumed since the 2013 director’s pause. A vigorous readiness assessment for the aqueous nitrate process is particularly important as the nature of aqueous processes presents criticality safety challenges that operations with primarily solid materials do not. This week, the team observed simulated field demonstrations of the ion exchange and calcination processes. They also performed numerous personnel interviews. The assessment will continue next week with additional field demonstrations and interviews.

Legacy Facilities: On Tuesday, the Environmental Management field office and headquarters conditionally approved the new hazard category 2 safety basis for 21-257 and the industrial waste lines in Technical Area 21 (see 12/22/2023 report). The one condition of approval was to ensure that the first annual update of the safety basis include a description of any industrial waste lines remaining east of 21-257. In August 2020, N3B declared a potential inadequacy of the safety analysis following sampling results that indicated that these facilities, which were being prepared for decontamination and decommissioning as radiological facilities, may have enough material at risk present to be nuclear facilities that need coverage by a documented safety analysis. The newly approved safety basis authorizes non-destructive assay, sampling, debris removal, surveillance, and maintenance. Further decontamination and decommissioning activities will be covered under a new safety basis to be developed based on sampling data obtained under this safety basis.

Area G–Criticality Safety: On Tuesday, N3B management paused corrugated metal pipe size reduction activities following a question as to whether use of water in a sprayer bottle was evaluated in the nuclear criticality safety evaluation. The criticality safety evaluation for this process evaluates a fully flooded condition, but there is no specific analysis of use of a spray bottle. The water spray is used to help control airborne radioactive contamination generated during the cutting process. Management released the pause on Thursday following an initial assessment from criticality safety personnel stating that use of water spray was acceptable. Longer term, criticality safety personnel are revising the criticality safety evaluation to include contamination control methods using water and proposed future usage of water with fixative. Criticality safety personnel will also perform the annual fissile material operations review of this process early.