

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 28, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: A. Boussouf and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for the Week Ending July 28, 2023

Staff Activity: M. Bradisse, R. Eul, D. Minnema, and B. Weathers were on site for another visit supporting their review of nuclear criticality safety (see 3/24/2023 report). Their visit included observations of a fissile material move and several fissionable material operation reviews in the Plutonium Facility.

Plutonium Facility–Safety Basis: On Thursday, facility management entered the limiting condition for operations pertaining to material-at-risk limits and directed all nuclear material on the first floor be placed in a safe configuration. Engineering personnel discovered an inconsistency with software version control on a tool used to track material-at-risk to ensure compliance with safety basis limits. While the software issues are being resolved, the compliance with limits is indeterminate, and the first floor of the facility is in limited operations mode.

Safety Basis personnel concluded that the material-at-risk limit discrepancy identified during the readiness assessments for the receipt of large heat-source plutonium shipments constitutes a positive unreviewed safety question (see 7/21/2023 report). The discrepancy has the potential to increase the consequences of an accident previously evaluated in the facility design basis and the consequences of a malfunction of equipment important to safety. Changes to the documented safety analysis and NNSA approval will be required prior to startup of this activity. As the safety basis addendum required NNSA headquarters to accept risk beyond DOE’s evaluation guideline for postulated consequences to the public, any adjustments to the safety basis should go through a similar review at the headquarters level (see 4/1/2022 report).

Plutonium Facility–Worker Safety: Senior management for Weapons Production and Plutonium Infrastructure are concerned by recent laboratory-wide negative trends in hazardous energy control events (see 2/10/2023, 4/21/2023, 6/2/2023 reports for examples in nuclear facilities). This week they started a series of briefings to all supervisory personnel who are charged with disseminating the content to their workforces by the end of August. The briefings provided a summary of recent hazardous energy events, plans for improving training, and planned changes to lockout/tagout procedures and policies. Management also discussed the importance of pausing work, their expectations for pre-job briefings when hazardous energy controls are required, and that zero energy checks for maintenance and construction tasks must have a superintendent or higher individual present to witness the check and verify the adequacy of the lockout/tagout in place.

Federal Oversight: The NNSA Field Office completed a staffing analysis of facility representative coverage for fiscal year 2023. The analysis gave a recommended staffing level of 19 full-time equivalent facility representatives including nine assigned to the Plutonium Facility. Current staffing is at 13 with three assigned to the Plutonium Facility. The field office continues with hiring efforts; however, this is limited by overall staffing caps.