

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 26, 2021

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: J.W. Plaue and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for Week Ending February 26, 2021

DNFSB Staff Activity: On Wednesday, a staff team conducted a web conference with Triad and NNSA Field Office personnel to discuss key inputs that will be used in the ongoing update of the leak path factor analysis supporting the safety basis for the Plutonium Facility. They also discussed the current process for managing transient combustibles within the facility and how that is tied to safety basis assumptions regarding fire behavior.

Area G–Safety Basis: On Monday, N3B personnel declared two additional potential inadequacies of the safety analysis (PISA) as a result of the second phase of their extent of condition review of the safety basis (see 2/19/2021 report). The first PISA relates to excessive frequency reduction applied to a spotter control to prevent a crane from impacting waste drums. As a compensatory measure, mobile crane operations are currently paused in Area G. The second PISA is due to an incomplete frequency analysis of the mitigated event for a forklift tine puncture of an unvented or recently vented waste drum. As a compensatory measure, forklift activities now require a spotter.

Safety Basis: Last week, Triad safety basis management transmitted to the NNSA Field Office a revised protocol to perform calculations of atmospheric radionuclide dispersion for safety basis applications. The revision incorporates updated meteorological data and addresses outstanding field office comments (see 11/3/2017 report) including a justification for the use of linear plume meander and questions regarding the potential to concentrate releases in canyon topography. Triad did not request approval, but the NNSA Field Office intends to provide comments to be considered in future applications of the protocol. Consequently, the current approach results in a case-by-case approval as part of the field office’s review of future safety basis submittals.

Plutonium Facility–Infrastructure: On Thursday, Triad safety basis management transmitted to the NNSA Field Office for approval a complete rewrite of the safety design strategy (SDS) for the Los Alamos Plutonium Pit Production Project. This SDS revision addresses NNSA direction to treat the project as a major modification to the safety basis (see 1/22/2021 report). The SDS presents an approach to identify project scope requiring preliminary documented safety analysis coverage and proposes these will take the form of safety basis addenda to avoid duplication with the existing safety basis. The project will develop safety basis addenda for a new radiography system, a final assembly station, and parts staging gloveboxes. The SDS also provides design upgrade analyses for interface with the existing safety systems associated with the criticality alarm, fire suppression, gloveboxes, site paging, and ventilation. To address DOE requirements concerning active confinement ventilation, the SDS includes a discussion on the active and passive confinement systems currently in use at the facility. The SDS asserts these existing systems meet requirements, but note that an ongoing series of incremental projects are being executed with the ultimate goal of achieving a safety-class active confinement ventilation. NNSA’s most recent report to Congress indicates the need date for the completion of these projects is 2025; however, we note that NNSA has not established a date when an implemented safety basis will reflect this upgraded configuration for the enduring facility.