

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 14, 2020

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: J.W. Plaue and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for Week Ending August 14, 2020

Flanged Tritium Waste Containers (FTWC): On Monday, a team composed largely of external personnel commenced the contractor readiness assessment for the venting and transportation of the FTWCs with potentially flammable headspace mixtures that are stored in Area G. The team observed demonstrations of venting and movement activities performed at the mockup facility at Technical Area 49, observed an emergency drill performed at Area G, and conducted numerous interviews. Three NNSA personnel shadowed these activities and EM personnel performed limited oversight of the drill. The startup approval authority for this activity is EM Headquarters. They are currently discussing with the NNSA Field Office on whether additional performance demonstrations will be conducted for observation by federal personnel.

Emergency Management: At the hotwash for the FTWC drill discussed above, N3B personnel noted that they did not receive protective action information from Triad's site-wide mass notification system. In follow-up discussions, Triad management explained that they send messages based on office locations and that there were no offices associated with the affected portion of Area G. As a result, N3B personnel only received notifications from their operations center and not a second anticipated message from Triad. We note that the office based approach to mass notification is ineffective at Area G due to the lack of offices and transient nature of the workforce—points that apply broadly to the whole laboratory and were documented in the Board's letter dated October 11, 2017. Subsequent to the Board's letter, Triad documented additional instances of problems with this system in several after-action reports, most recently including the exercise conducted at Area G on February 19, 2020. Notwithstanding the above concern, corrective actions from that exercise proved effective during this drill, including improved coordination between the operations center and emergency management.

Legacy Facilities: Last Wednesday, EM Headquarters approved the variance N3B requested to its unreviewed safety question procedure (see 7/10/2020 weekly). Last Thursday, N3B used this variance to declare a potential inadequacy of the safety analysis regarding a higher than expected radionuclide inventory for the TA-21-257 radioactive liquid waste facility and the adjacent inactive underground industrial waste lines. N3B revised the facility hazard categorization and concluded these facilities contain hazard category 3 quantities of nuclear materials. N3B paused work on these facilities. They are developing the facility hazard categorization documentation to allow for additional sampling and characterization activities to support planning of deactivation and decommissioning work. They also plan to perform a formal causal analysis.

Area G—Corrective Actions: Last Friday, N3B safety basis personnel noted that the daily shift order in place to address the recent potential inadequacies of the safety analysis (see 7/17/2020 report) was insufficient. Specifically, they identified that there is no analysis for the behavior in a fire of a pipe overpack container (POC) that is also overpacked. Consequently, the existing shift order that lowered fuel limits did not protect them from a fire insult. The facility's fuel log showed that fuel had been in the vicinity of the two relevant POCs since the shift order was issued on July 1, 2020. On Thursday, N3B personnel issued a new daily shift order that prohibits all fuel in the vicinity of the two POCs. Longer term, they plan to replace the POC filters with the new fusible model that will allow a damage ratio of zero for the POCs. N3B management is also evaluating how an inadequate corrective action was enacted for a safety basis issue.

Engineering: Last Thursday, the NNSA Field Office approved Triad's ten-year update to the natural phenomenon hazards analysis developed in 2014 (see 5/29/2020 report). They further concurred with Triad's plan to complete the update within 3 years not to exceed September 2024.