

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 7, 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 7, 2020

Plutonium Facility–Safety Basis Compliance: Last Thursday, workers checking material-at-risk (MAR) values for waste containers in the basement found one with an unexpectedly high value. They noted the container was a pipe overpack rather than a 55-gallon drum as indicated in the records. The safety basis allows a damage ratio to be applied for pipe overpack containers thereby reducing the effective MAR. Further investigation discovered eighteen drums and pipe overpacks that were incorrectly identified as the other type. The work team paused and reported this discovery to operations center personnel who entered the limiting condition for operation related to MAR. Once personnel completed a MAR surveillance, the limiting condition for operation was exited and the pause lifted. At the fact-finding, personnel noted challenges with the efficacy of training to correctly distinguish between various waste containers in order to select the correct type from drop down listing of many containers. We note that the high reliance on container damage ratios in the safety basis complicates operations and that similar challenges have occurred with containers used for nuclear materials (see 7/3/2015 report).

Radiological Laboratory Utility Office Building: Last week, workers receiving a sample shipment from the Chemistry and Metallurgy Research building noted a discrepancy between the expected condition and data recorded on the shipping paperwork. They paused and reported the discrepancy. Further investigation showed that there are several different forms associated with shipments. The forms are inconsistent and some had incorrect information. All MAR coming into the facility must undergo evaluation to ensure that facility MAR limits are maintained. The shipment in question was small and did not approach any facility MAR limits once operators correctly accounted for the contents. Facility management has paused sample receipt while they evaluate near-term corrective actions. They also plan to more thoroughly evaluate the process for receipt of MAR, which will be elevated to a technical safety requirement when the facility transitions to a hazard category 3 nuclear facility to be referred to as PF-400.

Last Thursday, the NNSA Field Office disapproved revision 1 of the safety basis for the PF-400 facility. The field office noted that several of its previous comments were inadequately addressed and they also identified two new comments that require resolution.

Plutonium Facility–Glovebox Safety: On Monday, Triad management transmitted to the NNSA Field Office the final report for the causal analysis and investigation on the glove breach and plutonium-238 uptake event that occurred on June 8, 2020. The report is largely consistent with the results they previously briefed to field office management (see 7/17/2020 report); however, it does identify recommendations to address twelve related concerns that were not causal to the event. Notable recommendations include the need to evaluate: engineered solutions to reducing hands-on work with plutonium-238; annunciation volumes for continuous air monitors across the plant; responsibilities to identify and obtain critical spares for consumable equipment; and the tradeoff between the reductions in extremity radiation exposure from the use of lead lined gloves against the loss of glove strength.