

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 19, 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 June 19, 2020

DNFSB Staff Activity: On Thursday, a DNFSB Headquarters staff team conducted a telephone conference with Triad and NNSA personnel to discuss the re-designation of the Radiological Laboratory Utility Office Building to a hazard category 3 nuclear facility to be termed PF-400. The discussion covered the safety and control strategy, as well as the current concerns related to the design and installation of key active support systems in the facility (see 3/27/2020 report).

Plutonium Facility–Accident Investigation: On Wednesday, Triad management issued a charter for a team to investigate last week’s airborne exposure of workers to heat source plutonium (see 6/12/2020 report). The team’s mandate includes: development of a comprehensive articulation of the facts and timeline; an assessment of glove surveillance and maintenance to include a review of the past two years of glove breaches; an assessment of the radiation protection and occupational health responses; an evaluation of the effectiveness of the corrective actions taken after the July 2018 puncture wound; and a causal analysis supported by a human performance evaluation to inform recommended corrective actions. The team includes several members from other sites and is expected to complete its work by July 17, 2020.

Chemistry and Metallurgy Research (CMR) Building: In late May, CMR personnel began flammable gas sampling on 9979 containers containing enriched uranium materials in preparation for shipment offsite to support risk reduction at the facility. Several of the containers had unexpectedly high hydrogen levels with one approaching the lower flammability limit. Safety basis personnel entered the New Information process to evaluate this condition. In 2018, a similar entry into the New Information process concluded that the safety analysis was adequate based on predicted hydrogen generation rates. Facility personnel plan to sample more of the 9979 containers in CMR and vent those with elevated readings. This process is awaiting an update to the criticality safety evaluation, which does not explicitly allow sampling or venting of these containers.

Transuranic Waste Facility (TWF)–Operations: Last Thursday, during flammable gas sampling activities, a worker noted that a filter on a transuranic waste drum was loose. The safety basis requires containers that have questionable integrity to be overpacked or the integrity restored within seven days of discovery. In this case, facility operators contacted the laboratory’s HAZMAT team and they overpacked the drum into an 85 gallon drum later the same day. TWF personnel only have the capability to overpack drums into standard waste boxes, and in this case they considered the 85 gallon drum overpack a better option. Last December when a worker found damage to the filter medium, one of the corrective actions was to evaluate adding capabilities for TWF personnel to overpack drums without relying on institutional HAZMAT personnel (see 12/20/2019 report). They concluded there was a need to develop that capability; however, the action to develop a procedure has been extended twice and is currently scheduled to be completed in September. After this event, TWF management took an action to evaluate the need for safety basis coverage and procedures to recover from other common off-normal conditions such as changing filters on waste containers.