

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 15, 2022

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: D. Gutowski and J. Plaue, Resident Inspectors
SUBJECT: Los Alamos Activity Report for Week Ending April 15, 2022

DNFSB Staff Activity: Members of the DNFSB staff held a closeout teleconference with personnel from the Environmental Management Field Office and N3B to discuss the results of the staff's review of the current safety posture of Area G (see 3/18/2022 report).

Plutonium Facility—Infrastructure: Last month, facility engineers determined that the gloveboxes for the new heat-source plutonium recovery line meet seismic performance requirements after revising their calculation to account for the installed anchors (see report dated 2/18/2022). This glovebox line is essential to increasing the throughput necessary to support the eventual processing of the shipments of large quantities of heat-source plutonium expected to meet launch requirements for the National Aeronautics and Space Administration (see report dated 4/1/2022). Workers continue to finalize modifications to the glovebox line. The new line will rely on a portable vacuum pump because of long-term availability and reliability issues with the house wet vacuum system that supports this area of the facility. NNSA does not have a schedule or funding to refurbish that system. Notably, the portable vacuum pumps typically provide a service life of about six months and then become a challenge to remove from the glovebox environment and dispose as transuranic waste.

Plutonium Facility—Worker Safety: Last Thursday, a worker felt a poke on a finger while performing decontamination activities in one of the material management rooms. Radiological control technicians responded and found no detectable contamination on the finger to include a subsequent wound count. The worker indicated that he identified a strand of wire embedded in the floor paint that may have been the source of the puncture. At the fact-finding on Tuesday, facility personnel discussed improvements for decontamination activities including the use of more puncture resistant gloves. They also discussed potential origins of the wire strand. Tamper indicating devices and radiological condition tags both use braided wire and are ubiquitous in the facility. In particular, workers routinely cut the tamper devices inside and outside of gloveboxes, which are known to unravel and generate sharp strands. In response, management directed a learning team to identify any near-term improvements to working with the tamper devices and longer-term efforts to investigate whether the braided wire could be substituted with a safer material.

Transuranic Waste Management: Last month, the NNSA Field Office directed Triad to develop a plan and schedule to establish size reduction capabilities for oversized transuranic waste using the Waste Characterization, Reduction, and Repackaging Facility (WCRRF) as a hazard category 3 nuclear facility. Triad does not possess this capability, which is needed to support removal of more than 150 legacy gloveboxes and some pieces of large, contaminated equipment from the Plutonium Facility as part of upgrades for pit manufacturing. NNSA previously planned to establish modern and enduring capabilities for size reduction and container remediation as part of the original mission the Transuranic Waste Facility, but they eliminated the scope as a cost saving measure. The 1980's vintage WCRRF will require a new safety basis, substantial corrective maintenance, and readiness reviews before operations can begin. The NNSA Field Office also directed Triad to evaluate establishing capabilities for other size reduction processes inside the yard at the Plutonium Facility and for shipping larger-size waste boxes.