

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 6, 2023

TO: Katherine R. Herrera, Acting Technical Director
FROM: A. Boussouf and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for the Week Ending January 6, 2023

Plutonium Facility–Infrastructure: Last month, Triad completed the annual revision of the TA-55 Project Execution Strategy (PES) (see 1/28/2022 report). The PES outlines the strategy, estimated cost ranges, general scope, high-level schedule, and potential funding sources to be used to complete a set of upgrades, modifications, and maintenance activities at the Plutonium Facility. For last fiscal year, the PES highlighted key accomplishments including: completion of the chlorine system upgrades which included a new chlorine gas delivery system and chlorine gas detection system; closure of several issues identified as part of the ongoing seismic evaluation efforts, such as duct seams, were resolved through calculation or further evaluation of code; and completion of seismic analyses for 38 gloveboxes.

For this fiscal year, the PES recommends actions including the completion of: a fire dynamic simulator model of a lab room fire across the corridor, in addition to a 2-hr test of a mock PF-4 corridor coated with intumescent fire barrier paint; construction and commissioning of the new facility control system (FCS); seismic testing of fire suppression system piping components; the design for the instrument air system upgrades; a prioritized schedule of gloveboxes to be analyzed in support of the seismic program and evaluations for six groups of them; and a prioritized list of fire hazard evaluations to be analyzed with seven to be completed.

Plutonium Facility–Operations: Beginning two weeks ago, facility personnel experienced multiple problems with the FCS. The FCS has a safety-significant function supporting the ventilation system and has other non-credited functions including monitoring radiation detection systems, monitoring fire systems, and interfacing with the paging system. Facility personnel repaired the first issue with the FCS by replacing a communications module. They resolved a second issue about a week later with a server swap and restart. Following a third incident, facility management kept the facility in limited operations mode and the FCS formally inoperable after the successful initial repair until more detailed troubleshooting and repairs could be completed. Those activities continued this week. The FCS is now operable, and the facility is in normal operations mode. The FCS is an aging system, and there is a current project in place to replace its safety-significant function. The existing system will remain largely in place to perform its other functions following completion of the new system. The new system is installed, and several outages to support swapping over to it are planned over the next few months.

Area G–Safety Basis: On Sunday, the Environmental Management Field Office conditionally approved the latest revision of the Area G basis for interim operations and unconditionally approved an addendum supporting corrugated metal pipe (CMP) size reduction. The approval documentation included one new condition of approval to include new calculations and standoff distances to support eventual Flanged Tritium Waste Container venting. Internal pressure of these containers steadily increases due to tritium decay, and the field office directed a similar evaluation last year. Two other conditions of approval remain from last year and are related to 1) helicopter crash standoff distances, and 2) the re-evaluation of the frequency of combined fixed wing aircraft and helicopter crashes with results incorporated into the modern documented safety analysis under development to replace the current basis for interim operations. Work is ongoing to close the remaining condition of approvals. A contractor readiness assessment to support startup of that activity is planned for later this month.