

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 14, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: A. Gurevitch, M. Bradisse (acting), and C. Berg (acting), Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending January 14, 2022

Staff Activity: M. Sautman was onsite to meet with the resident inspectors, conduct walkdowns of Pantex facilities and construction projects, observe select nuclear explosive operations, and meet with emergency management personnel. The resident inspectors also attended briefings associated with a nuclear explosive safety study.

High Pressure Fire Loop (HPFL) Lead-in Replacement: The resident inspectors observed structural repair activities associated with HPFL lead-in replacement in two nuclear explosive cells. To facilitate installation of the new lead-in piping, holes were cut into the concrete floor of the safety class facility structures. After piping installation, a CNS subcontractor installed mechanical splices—connecting new sections of rebar with existing in-place rebar—and prepared for placement of new concrete. This week, the resident inspectors observed concrete batching and placement activities for this project and found the activities to be satisfactory. In particular, Pantex successfully implemented lessons learned from previous HPFL lead-in replacement efforts, including verification of concrete specifications at the batch plant prior to shipment to the project site. Additionally, the resident inspectors noted appropriate segregation of materials at the batch plant for quality assurance purposes, suitable agitation of the concrete during placement, and sufficient coordination with site personnel to expedite concrete delivery to the project site. CNS also provided extensive oversight of its subcontractor during this project.

Safety Basis: Last month, NPO issued a safety evaluation report approving a safety basis change package related to proposed plutonium metal disposition operations. The change package meets the NNSA direction to establish the capability to repackage and ship plutonium feedstock materials currently staged in Zone 4, having previously arrived from the Savannah River Site (SRS). The plutonium is currently packaged in a number of 3013 cans, which are in turn packaged in Type B 9975 containers (i.e., one 9975 container holds several 3013 cans). However, many of these 9975 containers have expired certificates of compliance and are therefore not certified for offsite shipment. Consequently, the proposed operations will involve Pantex personnel repackaging the 3013 cans into new, certified 9975 containers in preparation for offsite shipment. The operations should not involve direct exposure to nuclear material, as none of the 3013 containers will be opened. Additionally, NPO approved the plan of action for the contractor readiness assessment for these operations.

Last week, NPO issued a safety evaluation report allowing certain operations for a specific weapon program to be conducted without using protective floor mats. These mats are generally employed to mitigate the effects of dropping high explosives. The safety evaluation report noted that CNS had worked with the design agency to better characterize the consequences from specific component drop scenarios; consequently, assembly and disassembly operations for new builds on this program no longer require the use of these protective mats. Operations on legacy units for this weapon program will still require such mats.