

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 5, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending April 5, 2019

DNFSB Staff Activity: J. Anderson provided oversight of the ongoing nuclear explosive safety (NES) evaluation of the B61-12.

Dissipative Flooring: The Pantex Plant technical safety requirements specify an annual in-service inspection (ISI) to measure the resistance of electrostatic dissipative flooring in nuclear explosive bays and cells. During maintenance turnaround activities for a group of nuclear explosive bays, electricians measured the dissipative flooring for a single facility to be outside acceptable limits. The technical procedure implementing the ISI directs the electricians to perform measurements in fifteen locations, selected to represent the areas of greatest wear. The electricians paused the procedure after recording the first six measurements, all of which were above the acceptable resistance limit. As allowed by the technical procedure, technicians cleaned the floor and the electricians re-performed the measurements with a different piece of test equipment but still received out of tolerance measurements. The system engineer determined that the dissipative flooring did not pass the ISI, and facilities personnel declared the system inoperable. Tracking and trending data did not indicate that the dissipative flooring resistance was drifting toward its upper extreme. A previous Pantex contractor installed the flooring in this bay in 2006. An internal estimate based on the use parameters at Pantex predicted the system useable life as 16 years. System engineering has not yet identified a definitive cause for the failure but preliminarily suggests that it was likely due to normal wear.

Implementation Verification Review (IVR): Last week, CNS readiness personnel released the results of their IVR of the safety basis supplement to authorize receipt and storage of a new special nuclear material (SNM) container type not previously used at the Pantex Plant (see 3/22/19 report). The IVR team noted no findings, but provided observations related to the performance of radiological swipes, physical requirements necessary for container handling, potential improvements during emergency response, and the maintenance management program description. NNSA had previously agreed with a CNS proposal to remove the requirement for a contractor readiness assessment. The CNS plant manager has authorized the receipt and storage of this container type.

Radiation Alarm Monitoring System: CNS project engineers have proposed a replacement to the radiation alarm monitoring system (RAMS), referred to as the RAMS2, and continuous air monitors. The existing RAMS contains components that are no longer supported by the manufacturer and is nearing the end of its useable life. The RAMS2 is designed to output diagnostic data to system laptops and is intended to have reduced maintenance requirements compared to the existing RAMS. This week, NNSA released the results of a recent NES change evaluation (NCE) performed to evaluate the system modifications. The NES study group specifically noted their evaluation of the use of laptops during RAMS2 maintenance, installation restrictions, and controls on battery handling and replacement. The NCE concluded that the use and maintenance of the RAMS2 remains within the current NES authorizations. CNS plans to initially deploy the system in two bays and eventually deploy the RAMS2 throughout the plant.