

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 15, 2016

MEMO TO: Steven Stokes, Technical Director
FROM: Zachery Beauvais, Pantex Site Representative
SUBJECT: Pantex Plant Report for Week Ending April 15, 2016

Nuclear Explosive Safety (NES): This week, the NNSA Production Office (NPO) issued letters acknowledging the closure of two open NES Evaluation findings. The 2012 Approved Equipment Program Master Study, Module 1, identified a deficiency in the process by which Pantex personnel perform deviations to Category 1 electrical equipment. To address the finding, the tester Design Agency issued a document clarifying the deviation approval process, and Consolidated Nuclear Security, LLC (CNS), published a work instruction defining the requirements for inspecting testers. The 2013 W88 Operational Safety Review identified that corrective actions developed for deficiencies identified in previous studies did not extend to similar issues in other weapon programs. To address the finding, CNS revised the work instructions governing the NES lessons learned process and the program management manual to reinforce information sharing across weapon programs.

Additionally, NPO issued a letter last week to recommend actions to CNS regarding the Deliberation Topics (DT) and Senior Technical Advisor comments generated by the recently completed W87 NES Study. The NES Study identified a DT which discussed the significant safety enhancements that would be made through complete implementation of Seamless Safety for the 21st Century (SS-21) principles throughout the W87 processes. Notably, the letter recommends that CNS perform a feasibility study for full SS-21 implementation and analyze the risks of continuing to perform operations with the current process and tooling. CNS will develop a schedule for response by May 6, 2016.

Fire Suppression System (FSS) Maintenance: While performing annual preventive maintenance on the FSS in two nuclear explosive bays last week, Special Maintenance Inspectors (SMI) discovered two ultraviolet (UV) flame detectors that failed to receive the required number of counts during a manual sensitivity test. The testing implements a surveillance requirement specified in the Technical Safety Requirements for the safety class FSS. The UV detectors are designed with an internal source that facilitates frequent automatic testing. The automatic testing did not discover the failure or initiate a trouble signal. SMIs replaced the individual flame detector heads and returned the system to service.

The site representative observed a portion of an annual FSS preventive maintenance activity, and corrective maintenance to identify and correct the cause of a trouble signal from a position indicating valve. Both crews demonstrated strong system knowledge while performing the work.

Special Tooling Program: CNS Mission Engineering recently responded to an assessment of the Special Tooling Program performed by NPO. In their response, CNS committed to revising the Special Tooling Design Manual to include tool testing and acceptance criteria, requirements for periodic functional requirement review, and criteria for performing and analyzing load tests. The manual was previously revised to include guidance on reporting tooling failures in the DOE Occurrence Reporting and Processing System. CNS intends to complete the revisions to the manual by the end of calendar year 2016. CNS Tooling and Machine Design and NPO are determining a path forward for additional load testing of existing tooling.