DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 26, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais and Miranda McCoy, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending July 26, 2019

Nuclear Explosive Safety (NES): NNSA conducted two NES change evaluations (NCE) evaluating the use of an electrical tester for a weapon program and operations on an anomalous unit with the detonator cable assembly (DCA) extending less than expected from the unit (see 5/3/19 and 5/24/19 reports), respectively. The electrical tester had previously been evaluated and approved for use for several other programs. Both NCEs concluded with no findings and no deliberation topics. The resident inspectors observed the anomalous unit NCE, which evaluated an electrical continuity test designed to provide additional information about the state of the DCA, and noted that the assembled NES study group displayed strong relevant skillsets and an appropriate questioning attitude. The NES study group determined that an additional control for human-generated electrostatic discharge would be a best practice, and the project team implemented a change to the temporary procedure to address this concern. The project team expects that the electrical test will provide adequate information for the design agency to inform a path forward for disposition.

Electrical Fire: Last week, a small fire occurred in a tool crib within the vehicle maintenance facility, a non-nuclear facility located in a remote area of the Pantex plant. A mechanic working in the area saw smoke, attempted to extinguish the fire and attempted to use the nearest manual alarm pull station and found it to be inoperable, before using an alternate pull station. The fire caused automatic sprinkler systems installed in the facility to actuate, and the fire department responded to apply additional dry chemicals to fully extinguish the fire. The Pantex fire department determined that the fire was caused by overheating of a battery booster pack, a device used to jump start vehicles, which was charging in the facility. The booster pack ignited other combustibles in the vicinity. After the fire department extinguished the fire, electrical safety performed a facility inspection, and CNS maintenance replaced the actuated sprinkler head. While no nuclear or explosive operations are performed in the area, in-service inspections on nuclear transport trailers are performed at the vehicle maintenance facility.

Safety Basis Non-Compliance: Earlier this year, CNS safety analysis engineering developed a safety basis change package for a warhead program. Among other revisions, the change package implemented a previously identified modification to the electrical properties of the insert disassembly fixture, a piece of special tooling used during cell operations. While developing a safety basis supplement to support continued disassembly of a unit with a stuck case component (see 7/12/19 report), CNS safety analysis engineering identified that the operating procedure directing the use of the tool had not been updated to reflect the tooling modification. CNS conducted an implementation verification review (IVR) of the safety basis change package that implemented the tooling modification; however, during the fact finding the IVR reviewers noted that multiple procedure revisions occurred between their review and final implementation of the change package. A copy of the tool that does not meet the inherent conductivity requirement is installed on the unit with the stuck case component. CNS intends to seek NPO approval for interim use of that copy of the tool prior to replacing it with the newer, compliant copy.