

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 8, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: A. Gurevitch, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending April 8, 2022

Recommendation 2019-1: As part of its implementation plan for Board Recommendation 2019-1, NNSA committed to replace wood-framed false ceilings in two nuclear explosive cells, which represent an unnecessary combustible and impact hazard. This change also permits removal of a secondary wet pipe fire suppression system. CNS has commenced construction activities in one of the cells. Last week, the resident inspector walked down this facility and noted that both the false ceiling and secondary fire suppression system had been removed.

External Dosimetry: In 2020, the Pantex external dosimetry program and dosimetry processing equipment experienced a breakdown due to various factors, including equipment age and personnel turnover (see 9/11/20 report). Last month, the CNS external radiational dosimetry program re-achieved DOE Laboratory Accreditation Program (DOELAP) accreditation. Of note, CNS now employs an enterprise-level program to administer dosimeters—provided by Y-12—for use at both sites.

Safety Basis: Earlier this year, CNS determined that an unreviewed safety question existed pertaining to a scenario involving an electrical insult to a particular weapon component (see 1/21/22 report). As a compensatory action, CNS implemented two operational restrictions: expanding the formal credit taken by a personnel evacuation specific administrative control, and explicitly crediting personnel electrical bonding—a practice that was already used during this operation, but not formally credited in the safety basis. This week, NPO approved an evaluation of the safety of the situation (ESS) for this scenario, incorporating these two operational restrictions into the safety basis. Of note, NPO issued one comment regarding CNS's submittal. In the safety basis change package, CNS postulated that the hazard in question is actually not credible, stating that there is no charging mechanism during the operation (however, the new controls will still be implemented); NPO identified that CNS should provide additional explanation to support this position.

Special Tooling: On Monday, production technicians (PT) paused operations on a nuclear explosive program when they noticed that a component near the workstand driveshaft (i.e., a mechanism used to raise or lower the unit) did not have its customary engraved arrow markings. These markings are specified in the design tooling drawings and serve as a reminder for PTs as to which direction to rotate the driveshaft wheel. Of note, this workstand has two separate driveshaft wheels; however, raising or lowering the unit requires opposite rotations from either wheel (e.g., to raise the unit, one wheel is rotated clockwise, or the other counterclockwise). The procedure explicitly notes this before certain critical steps, to help avoid damaging tooling or components during assembly and disassembly. The PTs first noticed the lack of engraving while reading one of these notes. At the critique, participants stated that this stand underwent preventive maintenance and in-service inspection earlier this year. It is believed that the component was re-installed backwards at that time, thus hiding the engravings, and the installation error was not caught when the stand was returned to service.