

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 28, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais and Miranda McCoy, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending June 28, 2019

High Pressure Fire Loop (HPFL): The resident inspectors observed directional boring activities performed by subcontractor personnel in support of an HPFL lead-in replacement project for one nuclear explosive cell. The HPFL replacement design requires directional boring and hydro-excavation of a channel beneath the cell floor to allow placement of a lead-in pipe between the fire riser and the HPFL. Subcontractor personnel noted difficulties with positioning during hydro-excavation, resulting in multiple pull-back and repositioning attempts.

Electrostatic Discharge Controls: During a hazard analysis walkdown conducted for the development of a special operation on one weapon program, CNS safety analysis engineering (SAE) personnel identified a number of discrepancies between the assumed and actual properties of equipment used during existing operations on this weapon program (see 4/26/19 report). SAE later determined that these discrepancies represented an unreviewed safety question. CNS engineering developed a variety of compensatory measures to address the hazards and included them in a justification for continued operations, recently approved by NPO. The compensatory measures included extending falling technician controls, introducing a new design feature to an existing piece of special tooling, crediting additional connector covers, and identifying additional bonding for ESD mitigation. Two electrical testers used on this program are subject to the additional bonding requirements. Implementation of these controls required a nuclear explosive safety change evaluation (NCE) of changes to the electrical tests. The bonding strategy for one of the two testers requires that production technicians electrically connect the tester to a dissipative mat with a metal bonding clip. That mat is placed atop a separate dissipative mat required to control an internal electrical hazard. Both mats are placed atop a conductive cart. NCE study group members inquired whether the bonding strategy could be accidentally defeated if the clip made direct contact with the conductive cart, as opposed to the second mat. The project team included further direction in the draft operating procedures to prevent this scenario. The NCE identified a deliberation topic wherein they suggest that CNS perform a complete extent of condition for ESD hazards due to the use of these electrical testers on other weapon programs. At the time of this report, operations on this program remain paused.

Potential Inadequacy of the Technical Safety Requirements (PITSR): CNS recently developed a new process for the identification of potential deficiencies or inadequacies in technical safety requirements (TSR), independent of the PISA process (see Oak Ridge Activity Reports for 5/3/19 and 5/24/19). Last week, CNS SAE management identified the first PITSRs in the Pantex TSR. The first PITSR addresses an extraneous word included in a specific administrative control (SAC). The second PITSR addresses the specification of the wrong 35-account material in a separate SAC. The hazard analysis report identified the use of conductive tape specified as material 35-5011 whereas the TSR calls out the use of material 35-511, a likely typo. The operating procedures implementing the SAC direct production technicians to apply 35-5011—in alignment with the hazard analysis report but in contradiction with the TSR. CNS and NPO are working to prioritize safety basis change packages to address the two PITSRs.