

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 12, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending April 12, 2019

DNFSB Nuclear Explosive Safety (NES) Oversight: C. Berg provided oversight of a NES evaluation for the B61-12. NNSA continued their NES evaluation for the W88 Alt 370.

Legacy Safety Basis Issues: CNS submitted a justification for continued operations (JCO) identifying ten administrative compensatory measures and four compensatory design features to address hazard scenarios encountered during disassembly operations on one weapon program (see 1/18/19 and 3/29/19 reports). While the majority of the identified compensatory measures extend previously implemented controls to address the identified hazards—for example, implementing the severe weather control program to prevent lightning hazards—the JCO introduces an intricate set of compensatory measures to prevent specific electrostatic discharge (ESD) hazards. The compensatory measures specify a combination of dissipative plastic bags, copper tape, and bonding cables to remove potential charge, including steps where the dissipative bags are bonded to weapon components using the copper tape. CNS tests the electrical resistance of these materials independently through their 35-account program, but does not test their combined resistance. NPO approved the JCO with no conditions of approval.

A NES study group evaluated the proposed process modifications this week. The project team scoped the NES evaluation to provide authorization for partial disassembly of a single unit. The scope is sufficient to allow removal of parent unit parts required to support an upcoming deliverable to the Department of Defense and to place the unit in a transportable configuration. The resident inspector observed briefings, deliberations, and process demonstrations held as part of that evaluation. Representatives from the design agencies briefed the study group on recent testing performed to support development of the new control set. In their briefing, the design agencies described the test methods and maximum observed voltages, but did not present an estimate of the various sources of uncertainty in their measurements. The NES study group did not identify any areas where the proposed process modifications violated the NES standards.

Readiness Assurance: To meet component requalification needs in support of an upcoming warhead program alteration, CNS developed a process to requalify canned subassemblies (CSA) at the Pantex Plant. The process includes leak checking performed in a dedicated bay and CSA radiography performed in a bay that is also authorized to perform nuclear explosive operations. CNS initiated a contractor readiness assessment (CRA) of these radiography activities. The CRA followed a checklist format, recently introduced to Pantex following feedback from previous review teams. The resident inspector observed process demonstrations and a drill held as part of this CRA. The drill assessed the ability of quality assurance technicians (QAT) to detect and respond to an individual inadvertently left alone in the radiography bay with the beam activated. The QATs responded adequately to the scenario and appeared knowledgeable of their expected response. The CRA follows NPO's recent approval of a change package to incorporate the new operations within the safety basis. That change package did not include any new safety-related controls, but did identify an initial condition that only intact CSAs can be processed in the radiography bay. The CRA is still underway at the time of this report.