

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 5, 2020

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Miranda McCoy, Resident Inspector  
**SUBJECT:** Pantex Plant Activity Report for Week Ending June 5, 2020

**Safety Basis:** Last month, NPO approved commencement of startup activities for assembly/disassembly operations involving two different first production capability unit (FPCU) options for a weapon program. NPO additionally approved a change package for a safety basis supplement for one of the two FPCU options (see 5/15/20 report). This week, NPO approved a second change package, which added an evaluation of the second FPCU option to the safety basis supplement. The second FPCU option involves a nuclear explosive configuration, and nuclear explosive operations to assemble and disassemble the FPCU twice. In the associated safety evaluation report (SER), NPO notes that the FPCU assembly/disassembly nuclear explosive operations are required to exercise processes and operations such as assembly and component reacceptance, obtain qualification evaluation releases, and gather data. Similar to the controls and process outlined in the previous change package, the second FPCU option will not be authorized for transportation. The SER asserts that the current weapon response is bounding for the proposed operations, and, therefore, the same control set is adequate.

On a different weapon program, CNS safety analysis engineering personnel declared a potential inadequacy of the safety analysis (PISA) regarding hazards associated with the loading and unloading of one configuration into an enhanced transportation cart (ETC) during assembly operations. In response to the PISA, CNS implemented an operational restriction prohibiting the loading and unloading of this configuration into ETC-Is for temporary staging during the assembly process. CNS issued a stop work event notification to implement the operational restriction.

**Nuclear Explosive Safety Evaluation:** NNSA held a nuclear explosive safety (NES) change evaluation (NCE) last week. The NCE evaluated several dozen changes to the code management system (CMS) since September of last year; the project team noted that a number of these changes were administrative in nature. The NCE concluded with no findings, no minority opinions, and two deliberation topics. In one deliberation topic, the NES study group (NESSG) noted that an electrostatic discharge hazard evaluation had not yet been performed for a change to the CMS involving the addition of a Pantex label attached to the CMS equipment using a number of plastic zip ties and metal fixture. The NESSG asserted that they did not anticipate the electrostatic discharge analysis to reveal a safety concern, given unit configuration and the low expected addition to capacitance from these added components, but that an evaluation had yet to demonstrate that stance. The second deliberation topic outlined a broader question regarding when in the process of design, manufacturing, and implementation Category 1 electrical equipment—defined in DOE directives as “electrical equipment intended for connection to an electrical circuit of a nuclear explosive or [high explosive] subassembly”—becomes Category 1 electrical equipment and must meet the requirements outlined in DOE Order 452.2. The NESSG determined that while a valid question, the deliberation topic extended beyond the scope of the present NCE. The NESSG proposed revisiting the question during the next approved equipment program NES master study, scheduled to take place in 2023.