

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 23, 2022

TO: Katherine R. Herrera, Acting Technical Director
FROM: C. Berg, Acting Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending December 23, 2022

Nuclear Explosive Safety (NES): This week, a NES study group concluded two NES change evaluations (NCE) for the same weapon program (see 12/16/22 report) and briefed their results to NPO. The first NCE assessed the safety of transporting the ultimate user configuration within its handling gear in Zone 12 ramps and corridors during lightning warnings. In its report, the study group documented zero findings and two deliberation topics. The study group evaluated the handling gear and found it provides adequate protection from a direct lightning strike by acting as a Faraday cage. Additionally, the study group found that multiple, independent positive measures—e.g., the overhead catenary cable system, the ramp structure, and physical features in the weapon configuration—exist to prevent NES consequences for the proposed operations. In conclusion, the study group endorsed the transportation activity, stating the NES standards remain satisfied, but noting that efforts to quantify the reliability of the overhead catenary cable system and ramp structure should be pursued.

The second NCE examined a proposed change to a NES rule related to crediting tamper-indicating devices on containers for two-person control of a certain weapon component—similar to other weapon programs. In its report, the study group documented zero findings and one deliberation topic. The study group endorsed the use of the tamper-indicating devices and the proposed change to the NES rule, noting that the NES standards and criteria remain satisfied.

Facility Inventory Limits: Last week, CNS personnel moved a unit from one facility to a staging facility within Zone 12 under the incorrect part number and exceeded the receiving facility's high explosive limit (see 12/16/22 report). CNS utilizes a software program during material moves to ensure limits are not exceeded; however, in this case, the program allowed the move due to the incorrectly assigned part number not having an associated explosive quantity. At the investigation, participants also noted multiple failures—prior to the material move—to detect the discrepancy between the item moved and the assigned part number, including during transfer checks. As a corrective action for this event, CNS plans to revise a work procedure and specify that item weights should be checked to further ensure assignment of the correct part number. Additionally, CNS will brief all production technicians and quality assurance technicians on revisions to the work procedure, requirements associated with transfer checks, and expectations for maintaining a questioning attitude.

Safety Basis: Earlier this month, NPO approved—with no conditions of approval—a safety basis change package developed by CNS related to the applicability of design features within the technical safety requirements. Specifically, design features will only be applicable and required to perform their credited safety function to prevent or mitigate a hazard “when they are installed or used for a process or activity.” This change to the technical safety requirements clarifies when a safety basis noncompliance shall be declared by CNS. For example, if technicians were to identify damaged special tooling that could no longer perform its safety function, but this tooling was not in use, the discovery would no longer represent a safety basis noncompliance.