

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 21, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Mark Bradisse and Christopher Berg, Acting Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending May 21, 2021

DNFSB Staff Activity: M. Bradisse reported for duty onsite at Pantex as Acting Resident Inspector on May 17, 2021. C. Berg and M. Bradisse provided on-site coverage of a nuclear explosive safety (NES) change evaluation for the W88 Alt 940.

Safety Basis: Last week, during review of a safety basis change package, CNS safety analysis engineering identified several unevaluated impact hazard scenarios associated with two carts. CNS subsequently declared a potential inadequacy of the safety analysis (PISA). No operational restrictions were established due to some scenarios being adequately addressed by existing controls and others having screened weapon response (i.e., not requiring safety controls). CNS is assessing whether the PISA represents an unreviewed safety question.

Nuclear Explosive Operations: In March, production technicians performing disassembly operations in a nuclear explosive cell skipped an appendix in their nuclear explosive operating procedure. The resulting unit configuration was not authorized by the documented safety analysis or approved by a NES study. CNS paused operations, placed the unit in a safe and stable configuration, and determined the situation represented an unreviewed safety question due to the increase in the probability of an accident (see 3/12/21 and 3/19/21 reports). In response, CNS developed a nuclear explosive engineering procedure (NEEP) to further disassemble this unit, resulting in a configuration that could be dispositioned using the typical process. The NEEP and associated justification for continued operations (JCO) utilize existing special tooling and specific administrative controls. However, the NEEP does differ from the existing process by requiring the installation of a disassembly fixture onto the trunnions of the workstand by hand. The JCO specifically requires two technicians to install this piece of special tooling.

In its report, transmitted last week to the NPO manager, a NES study group—convened by NNSA to evaluate the modified process—documented zero findings, deliberation topics, and minority opinions against these operations. The NES study group paid particular attention to the aforementioned hand lift of the special tooling and noted no immediate concerns. In addition, this week, NPO transmitted a safety evaluation report approving the JCO with no conditions of approval. Based on the endorsements of the modified disassembly process by NPO and the NES study group, CNS approved the commencement of these nuclear explosive operations.

Fire Alarm Receiving System (FARS): Last Friday, software issues related to CNS servers caused enterprise-wide network interruptions. While CNS personnel quickly diagnosed and responded to the server issues, the interruption resulted in the temporary loss of communications with the FARS, a safety-class control. No other safety-related systems at Pantex were impacted by this network interruption. Personnel entered the appropriate limiting conditions of operation for affected facilities until the system was brought back online. CNS categorized the event as a performance degradation of a safety system when it is required to be operable, and is working with the software developers on a path forward to prevent similar events in the future.