

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 28, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: A. Gurevitch, M. Bradisse (acting), and C. Berg (acting), Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending January 28, 2022

Staff Activity: The resident inspectors attended demonstrations associated with an ongoing nuclear explosive safety study (see 1/14/22 report).

Production: This week, the Pantex site manager announced the establishment of a Production Optimization effort to help recover from production delays resulting from challenges with facilities, staffing, and tooling. The current vice president for CNS Mission Engineering will step out of his current role to lead this team, which will report directly to CNS senior leadership.

Maintenance: Earlier this week, a subcontractor was performing preventive maintenance work on a low-voltage module of a fire alarm control panel. The procedure directed the worker to disconnect a particular power lead, perform a confirmatory loss of power test, and then reconnect the lead. While performing the reconnection step, the worker's glove contacted and moved a battery conductor, causing a short to the fuse base and resulting in damage to the panel. The worker reported the issue to his subcontractor technical representative, who directed him to pause work and await subject matter experts from the CNS fire protection and electrical safety organizations. It was determined that the worker had mistakenly disconnected the wrong lead in the first step, creating the conditions that allowed the short to occur. After CNS personnel arrived on the scene, workers removed electrical power from the panel and took several actions to recover from the electrical short. Following those actions, they reconnected electrical power and attempted to restore the panel to functionality, but the panel did not operate properly.

At the event investigation, it was noted that the subcontractor—who was performing this work alone and therefore not under the direct guidance of an experienced technician—had limited hands-on experience with this particular panel, and was relatively new to the job, having only four months experience. Participants in the investigation further noted that the procedure itself does not clearly describe which leads are to be disconnected.

At the critique, CNS and NPO participants questioned the recovery actions taken following the electrical short. The subcontractors and subject matter experts noted that the procedure allows workers to take actions to return the system to the “as found” condition if they encounter unexpected circumstances, and cited this language as the basis for the actions taken. However, CNS and NPO stated that this allowance in the procedure was likely not intended to apply to circumstances where system damage may have occurred. Additionally, NPO personnel questioned the adequacy of pre-job briefings for this type of work, and whether they provide inexperienced subcontractor personnel with the information needed to perform work unassisted. It was noted that these briefings often contain only generic information on the upcoming task, and instead focus on a pre-selected safety topic (e.g., ladder safety) to avoid repetitive summaries of daily job tasks. However, while these briefings may be appropriate for experienced workers, they may not be well suited for newer employees. These concerns were captured as gaps and will be examined further during an upcoming causal analysis.