

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 7, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: Ramsey P. Arnold and Zachery S. Beauvais, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending September 7, 2018

Vacuum Chamber: CNS initiated the contractor readiness assessment (CRA) of operations in the modular vacuum chamber facility. The resident inspectors observed select demonstrations performed for this assessment. While the CRA team is continuing their review and has not yet categorized their observations, they noted that the production technicians had difficulty implementing zone coverage during the demonstrations. In the nuclear explosive safety study of these operations, the study group noted in a deliberation topic that the bay layout may complicate two person control in a manner similar to what was observed by the CRA team. CNS intends to perform modular vacuum chamber operations in a facility that has not been previously used for nuclear explosive operations. The readiness verification, a CNS activity used to prepare the project team for the readiness assessments, was completed in November 2017, prior to the completion of fire barrier system modifications. NNSA plans to conduct a federal readiness assessment prior to authorizing operations in this facility.

Hazard Discrepancy: During their development of a safety basis annual update package, CNS safety analysis engineers identified inaccuracies in assumed parameters used in a hazard analysis. Specifically, the weight of a weapon component was discovered to be greater than assumed in the hazard analysis. CNS determined that the applied weapon response rule, that indicated component drops screened for all consequences, was no longer applicable. The bounding weapon response rule indicates that tritium release and worker safety consequences are possible for component drops. Consequently, CNS determined that the situation has the potential to require a new safety control and determined it represented a potential inadequacy of the safety analysis. CNS has administratively restricted operations involving these components. CNS was not actively performing operations involving this hazard when the issue was discovered.

Unreviewed Safety Question (USQ) Process: Last week, CNS determined that they had performed several USQ determinations for proposed changes to plant operations against documentation that had not yet been approved by the NPO safety basis approval authority. These instances occurred when the approved safety basis documentation had known deficiencies, such as PISAs with operational restrictions or positive USQs without approved justifications for continued operations. CNS is currently operating with restrictions in place for eight separate issues. While allowed by the local USQ procedure, these restrictions have not been explicitly approved by NPO. As part of their response to the discovery, CNS and NPO verified that the existing operational restrictions are adequate until more formal compensatory measures are implemented. CNS SAE management also performed training for USQ evaluators and peer reviewers to protect against this situation. CNS has previously experienced difficulty with consistent implementation and change control for operational restrictions that have not been formally approved by NPO (see 12/21/17, 5/4/18 and 7/13/18 reports).