

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director
FROM: Timothy Hunt and Dave Kupferer, Pantex Site Representatives
DATE: 17 November 2006
SUBJECT: Pantex Plant Weekly Report

DNFSB Staff Activity: R. Rauch was at Pantex to observe the NNSA readiness assessment for the W88 Cell Operations Restart Project.

Misidentified Weapon: The production technicians discovered last week that a unit they had partially dismantled had known defects that had not been analyzed by the design agency (DA). Since the weapon was identified as a retirement unit upon receipt at Pantex, BWXT did not initially realize that this unit, and others in the queue, had anomalies that required the DA to develop a special engineering release that evaluated the condition and provided a path forward for dismantlement; nor was the nuclear explosive safety change control process completed. The program was restarted following receipt of the DA's evaluation and implementation of correction actions to address internal administrative issues.

Approved Equipment Program Nuclear Explosive Safety (NES) Master Study: NNSA recently completed a NES master study to evaluate life cycle processes for equipment that can be introduced into nuclear explosive areas. It was essentially conducted as three serial master studies: tooling, supplemental equipment, and testers. The NES study teams concluded that, in general, the program was adequately managed. The team identified one pre-start and 11 post-start findings. A minority opinion disagreed with the categorization of five of the post-start findings. Although the NES study team did not identify it as a finding, the team expressed concern that special tooling design calculations lacked consistency and quality. The team recommended that engineering analyses for safety significant or safety class tooling be reviewed for accuracy and errors.

W76 Nuclear Explosive Safety Change Evaluation (NCE): This week, NNSA conducted an NCE to evaluate the potential hazards and proposed controls associated with a W76 recovery operation that involves an additional hoist lift. The NCE review team concluded that the operation can be performed safely with one conditional assumption—that the design agency completes one-point safety analysis of the tooling involved in the operation and concludes that there are no one-point detonation safety issues.

Deluge System Testing: As part of the 12-44 upgrade project, BWXT performed a full-flow deluge test of the newly modified fire suppression system in the hydraulically most demanding cell Thursday. This water density and spray pattern test is rarely performed by BWXT in nuclear explosive facilities – it has been several years – because of an approved equivalency test that allows the deluge nozzles to be removed and replaced with hose connections that are attached to a collection device. The test successfully showed that the water flow and coverage is more than adequate to reach all areas and extinguish a fire. The data will be correlated to the other cells to determine system acceptability. The time for water to discharge out of the sprinkler heads after actuation of the system, the pressures at the most remote sprinkler and system actuation valve, and the spray pattern were all well within acceptable criteria.