DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: Timothy J. Dwyer, Technical Director
FROM: Timothy Hunt and Rory Rauch, Pantex Site Representatives
DATE: 26 December 2008
SUBJECT: Pantex Plant Weekly Report

Technical Procedures: During the past few months, the staff has evaluated several nuclear explosive dismantlement procedures and informally provided written comments to cognizant B&W Pantex engineering personnel that would improve clarity, usability, and operational safety. For the W80 program, 15 of the 25 comments were accepted and the procedures revised. On the B61 dismantlement procedures, 10 of the 42 comments were concurred with by the process engineer. The staff believes incorporation of some of the unaccepted comments would enhance the procedures and will work with B&W Pantex personnel to resolve any disagreements.

W76-1 Assembly: Installation of the center item into a main charge with newly designed tooling went well during the build of the second unit. Technicians were able to maintain better control of the item and had more freedom to manipulate it—compared to the difficulty experienced during the first production build—thus precluding damage to the charge that occurred on the first build using an older version of the tooling. To correct this issue a placement gimbal was developed which allows the lifting fixture to move freely, enhancing alignment operations. This will reduce the possibility of component damage and the associated need for rework during future assemblies.

Human Factors Engineering: B&W Pantex relies heavily on written procedures and special tooling to safely perform nuclear explosive work. Human factors considerations are an important element in ensuring that facilities, systems, equipment, tooling and procedures are optimized with respect to the human-machine interface. B&W Pantex has been unsuccessful for several years in attracting a qualified human factors specialist to support engineering and operations. Also, controls must be validated through a human factors assessment which is currently performed by industrial safety personnel until B&W Pantex can hire a human factors engineer.

Technical Procedure Inadequacy: A B&W Pantex process engineer discovered that two nuclear explosive operating procedures contained steps that raised an item in the workstand to twenty-six inches—one inch higher than authorized. This violates a technical safety requirement control which states that the item shall be positioned no higher than twenty-five inches to prevent an impact to sensitive components in the unlikely event of dropped objects. W76-1 cell disassembly and inspection operations using the two affected procedures have been suspended as a compensatory measure while technical procedure change requests are processed.

Support Activities Nuclear Explosive Safety (NES) Master Study: The NES study group convened at Pantex last week to plan and scope the master study scheduled for spring 2009. The goal of this study is to insure management programs not thoroughly covered in previous programmatic reviews or master studies are adequately characterized and controlled. Topical areas likely to be studied include technical procedures, training, NES oversight, tracking and trending, and control of nuclear explosive components and areas.

B61 Operations: The B61 workload has been significantly reduced recently. In addition to the notable cut in dismantlements for FY09, the program completed all disassembly and inspection activities for the FY in October and the ALT-357 life extension work last month. As a result, the B61 is reducing its facility footprint and reassigning production technicians to other programs.