

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: Timothy J. Dwyer, Technical Director
FROM: Timothy Hunt and Rory Rauch, Pantex Site Representatives
DATE: 5 June 2009
SUBJECT: Pantex Plant Weekly Report

Production Manager (PM) Oral Board: A Manufacturing Division PM responsible for three weapon programs was boarded recently and determined to be adequately qualified based on responses to the approximately forty questions posed. The PXSO facility representative that observed the oral board provided several recommendations for improvement. These included updating the eight year old question bank, delving deeper into the candidate's understanding of the authorization basis, increasing focus on PM roles and responsibilities, and better evaluating depth of knowledge by asking more scenario-based questions.

Procedure Adherence: B&W Pantex recently moved numerous containers of depleted uranium components from the warehouse to the loading dock for off-site shipment. Eight of the containers (holding 16 parts) were transferred to the dock without properly dispatching them, per procedure, through the Move Right tracking system. The material handlers and production stores personnel had been working expeditiously to package and load the subject items to meet a tight schedule. The shipping manifest listed the correct items and the receiving location was authorized to accept them. This is the third movement of accountable material destined for off-site shipment in the past three months where site protocols were not followed; B&W Pantex has initiated a failure modes and effects analysis to evaluate these events.

Technical Safety Requirement (TSR) Flowdown and Implementation: A TSR-level administrative control applicable to mass properties operations requires a second person to verify (over-the-shoulder) that fasteners connecting the unit to the equipment are torqued to the proper level. In most cases, the applicable nuclear explosive operating procedures (NEOPs) have steps to tighten the fasteners but do not specify an action to verify they are at the required torque. There is a "Note" before most of the tightening steps that mentions the impending over-the-shoulder verification but there is no action step to actually perform the verification. DOE Orders and B&W Pantex documents do not allow notes to command action. The practice of using notes to direct implementation of TSR controls in NEOPs increases the probability of the action being overlooked. This observation was discussed with B&W Pantex and PXSO personnel.

Special Tooling: Some vacuum fixtures are credited in the documented safety analysis to provide a lifting force of at least 2.5 times the normal payload weight at a vacuum level of 18 in. Hg. To ensure the appropriate margin of lift force is maintained while the fixture is in use, technicians perform a leak check (vacuum loss may not exceed 2 in. Hg in one minute) before the operational step is performed. Last week, two copies of such a fixture for a particular program failed leak check before a third copy passed. A preliminary evaluation attributes the failed checks to a harder adiprene seal than that used for similar fixtures on other programs. The harder adiprene demands a nearly pristine surface before vacuum will hold at the required rate, making it difficult for the vacuum fixtures on this program to pass leak check consistently. B&W Pantex is considering switching to the softer adiprene for this program.

Canned Subassembly (CSA) Non-destructive Evaluation (NDE): As a potential cost saving measure, NNSA recently requested that B&W Pantex provide a cost and schedule estimate pertaining to the development, fabrication, and deployment of NDE diagnostics for CSAs. B&W Pantex has worked with the design agencies to produce a CSA NDE Program Plan to develop six additional NDE capabilities, but detailed project planning and execution cannot commence until this project is fully funded by NNSA.