

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: Timothy Dwyer, Technical Director
FROM: Matthew Duncan and Rory Rauch, Pantex Site Representatives
SUBJECT: Pantex Plant Report for Week Ending November 11, 2011

DNFSB Staff Activity: J. Plaué visited Pantex to observe operations.

Pit Tube Deformation: This week, a technician bent a pit tube while attempting to insert it into the sample chamber of the Laser Gas Sampling System (LGSS). At this point in the operation, the technician had partially inserted the pit tube in the sample chamber and, per the procedure, was turning a knob while looking at a remote display from a camera inside the chamber to complete the alignment of the pit tube with the laser. The technician felt an abnormal amount of resistance from the knob, looked back at the pit, observed a substantial bend in the pit tube, backed the pit tube out of the chamber, and stopped operations. The technician contacted her supervisor, who in turn made all appropriate notifications. Radiation safety personnel surveyed the pit and the surrounding area and found no radioactive contamination. None of the personnel involved in this operation observed any abnormalities with the pit or the LGSS equipment. LGSS operations are on hold pending further evaluation.

Procedure Adequacy: This week, technicians stopped a nuclear explosive operation after they were unable to raise a high explosive (HE) assembly to the height required by a procedural step. The tooling needed to perform this step could not be installed because of interference from the catch pans at the base of the HE assembly. The responsible process engineer had recently revised the procedure to incorporate several changes, one of which was to move the step to raise the HE assembly before the step to remove the catch pans. The B&W procedure for revising technical procedures indicates that a change to the sequence of procedure steps should be validated by a walkthrough of the affected steps on a trainer unit. In this case, program personnel made the collective decision not to validate this part of the revision using a walkthrough because they believed the catch pans were clear from the tooling installation points for the subject procedural step. Prior to resuming operations, the process engineer plans to restore the previous sequence of steps.

Immediate-Action Procedures (IAPs): Last December, the site reps discovered inconsistencies and illogicalities in the way that IAPs had been implemented at Pantex (see 12/17/10 report). In response to the identified concerns, B&W and the NNSA Nuclear Explosive Safety (NES) Division worked together during the last several months on changes to the wording of IAPs and the principles governing their application.

NNSA recently performed a NES change evaluation (NCE) of the proposed changes to the wording of IAPs. The most significant proposed change involved a simplification that created common IAPs for all weapon programs. B&W also proposed adding “if applicable” caveats to certain IAP steps that would not be applicable to all process conditions. The NCE group concluded that the proposed changes to the wording of the IAPs did not adversely affect NES. PXSO approved the NCE last week.

The NCE group raised several application-specific considerations for the implementation of IAPs that previous NES evaluation groups had failed to address. For example, the NCE group discussed whether the “traditional” IAPs (either the current or proposed version), which require the technicians to disconnect all electrical equipment, would be appropriate for units connected to fixed electrical equipment, such as the dynamic balancer in the mass properties bay. The NCE group chose to defer these considerations to the scope of future NES evaluations, but documented them as a deliberation topic in the NCE memo.