

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** J. Kent Fortenberry, Technical Director  
**FROM:** Timothy Hunt and Dave Kupferer, Pantex Site Representatives  
**DATE:** 9 February 2007  
**SUBJECT:** Pantex Plant Weekly Report

**DNFSB Activity:** M. Duncan, C. Martin and R. Rauch were onsite this week to review safety basis documentation, BWXT's processes for making decisions based on new information, and BWXT's unreviewed safety question procedures.

**Hoist Defect:** During a monthly inspection of a 2-ton chain hoist in a nuclear explosive bay, crafts inspected the load bearing connections of the hoist including the hook, which was rotated and fell out of the hoist block. An evaluation by BWXT and the vendor indicated that an internal pin in the hook assembly, which is meant to keep the hook from unthreading from the nut, was not installed by the manufacturer. The subject hoist was installed as part of the upgrade project to replace older hoists with ones qualified to ASME NUM-1, *Rules for Construction of Cranes, Monorails, and Hoists*. This was the second monthly inspection of the subject hoist following installation. This hoist and two similar hoists in adjacent bays – there are an additional 32 in storage – were locked out of service pending an investigation. BWXT is working with the vendor to understand the cause and extent of the issue.

**Lockout/Tagout (LO/TO) Review:** One month ago, there were two LO/TO procedure violations that involved both BWXT and another PXSOC contractor (Noresco) during activities to replace lighting fixtures. At that time, PXSOC directed Noresco to suspend all work that requires a LO/TO be applied to a hazardous energy source and BWXT initiated a root cause investigation of the two incidents. The investigative team identified that work packages were less than adequate, procedures were not followed appropriately, and that previously identified issues were poorly communicated. The team also identified several areas for improvement including increased line management involvement and the use of drawings to communicate LO/TO boundaries. During the investigation, the team compared the actions taken during each incident to the principles of both conservative decision making and integrated safety management.

**Design Feature Inadequacy:** An unreviewed safety question was reported by BWXT this week upon discovery that a swing arm would not perform its intended safety function during W78 operations. The swing arm is a plate between the workstand trunnions that is designed to prevent a falling object from insulting a sensitive assembly. A recent engineering analysis showed that dynamic loading could cause the swing arm to deflect as much as 1.7 inches while the sensitive assembly is less than 1 inch below the swing arm. BWXT is revising the procedure to include a technical safety requirement that requires the sensitive component to be positioned lower in the workstand. The W78 program is not currently operational.

**Loss of Plant-Wide Telephone Service:** Last week, BWXT maintenance personnel disconnected the main power supply and an emergency generator that support telephone service systems so that another contractor could install a different power generator as part of a telephone service upgrade project. The back-up power supply (batteries) failed to function as expected, which resulted in a site-wide loss of telephone service. The primary safety concern regarding this telephone service disruption is that several fire alarm panels communicate alarm signals to the Operations Center and Pantex fire department through the telephone system. BWXT responded appropriately and telephone service was restored within an hour. Power to the Operations Center was disrupted twice in 2006. BWXT performed a root cause assessment of the outages and determined that, if possible, single point failures to critical systems need to be eliminated. It does not appear that this has occurred.