

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director
FROM: Timothy Hunt and Rory Rauch, Pantex Site Representatives
DATE: 25 April 2008
SUBJECT: Pantex Plant Weekly Report

B53 Process Development: B&W Pantex demonstrated the feasibility of moving a B53 trainer unit into a nuclear explosive cell. The trainer unit closely simulated, in size and weight, a war reserve unit. The move from the ramp to the production area was safely completed in about 10 minutes by a team of four technicians. This alleviates one of the concerns associated with performing dismantlement work in a cell.

Justification for Continued Operations (JCO) Expirations: As of 10 March, there were nine active JCOs at Pantex. Four of these had been open for more than four years with no expiration date and three supported facilities that are no longer in use or operations that have been completed. PXSO subsequently informed B&W Pantex that approval of the three unnecessary JCOs would be terminated. For the remaining JCOs, PXSO established a short-term expiration date—the latest being May 31, 2008—subsequent to which all JCOs will be archived. Currently, there are four active JCOs. At this time, B&W Pantex has submitted authorization basis change packages that incorporate two of the remaining four JCOs into the documented safety analysis.

Procedure Inadequacy: During a B&W Pantex process engineering review of B83 nuclear explosive operating procedures to validate the flowdown of requirements from the documented safety analysis, it was determined that a fire protection control specified in the Hazards Analysis Report had not been properly implemented for one specific cleaning operation. The administrative control requires the use of step-by-step procedures describing the 18 inch exclusion area where no operations can be performed during the five minute flammable liquid dry time. The event was categorized as a violation of a safety management program administrative control as defined in the documented safety analysis.

Lightning Bonding: B&W Pantex requested authorization to remove or modify the current in-service inspection requirements to perform a 5-year resistance test as well as a 2-year visual inspection of bond wires. An engineering evaluation concluded that bond wires would maintain their ability to divert lightning to the facility structure unless the bond was completely detached. PXSO has approved extending the visual inspection requirement to five years—based partially on past preventive maintenance data—and concurs that resistance checks need be performed only upon initial installation or after repairs. B&W Pantex also proposed removing the suggested limit on bond wire length (now one foot) but this was rejected by PXSO until the bond wire inductance evaluation currently underway by the Lightning Committee is completed.

Weapon Surveillance Facility (WSF): In support of the NNSA Complex Transformation initiative, a project team was at Pantex last week preparing a recommendation for the location, functions, and requirements of the WSF. The six options being evaluated range from no action (using existing or upgraded facilities for surveillance and reacceptance activities) to consolidating Pantex and LLNL testing functions in a new WSF. Functions considered include nondestructive testing of weapon components, previously defined Component Evaluation Facility testing, and the transfer of LLNL Building 334 testing activities.

Safety Systems: PXSO performed 14 safety system functional assessments in FY07 and documented 43 findings and 28 weaknesses. Areas reviewed that had the most deficiencies were engineered bonds, mass properties equipment, bay blast door interlocks, and emergency lights, as well as the B&W Pantex system engineering program. B&W Pantex recently developed a comprehensive corrective action plan that commits to close all 25 of the remaining open issues by September 2008. Based on the ineffectiveness and delinquency of the corrective actions from the FY07 assessments, PXSO is independently assessing the closure of all FY07 deficiencies.