DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 8, 2000

MEMORANDUM FOR: J. K. Fortenberry, Technical Director

FROM: H. Waugh and W. White, Pantex Site Representatives

SUBJECT: Pantex Plant Activity Report for Week Ending September 8, 2000

DNFSB Activity Summary: H. Waugh and W. White were on site all week. C. Coones, J. Fingerloss, and M. Forsbacka were on site Wednesday through Friday to review the implementation of fire protection controls for the W76 program.

W76 Fire Protection: Fire protection for the W76 program appears significantly improved since the March 2000 review. Combustibles and other materials are generally well controlled and containerized. There was heightened attention to fire protection and combustible controls among the production technicians, engineers, and facility managers. A few significant concerns remain, however.

First, combustible controls can not be fully demonstrated to flow down from the critical assumptions in the W76 Fire Hazards Analysis and the Hughes Report. For example, MHC was unable to demonstrate that the combined fuel package of combustible materials collected on the tables in the cell falls within the maximum peak-heat release rate for a package which constitutes the upper bound of the Hughes Report's analysis. The W76 Activity Based Controls Document requires the fire protection engineers to periodically review the combustibles in the bays and cells and verify that the level of combustibles is maintained within the analysis limits. The periodicity of these reviews is not defined. In addition, MHC fire protection engineering was not able to specify some of the quantities of combustibles originally analyzed, so future reviews may be difficult to conduct.

Another concern is the inadequacy of surveillance requirements for the deluge suppression system. Loss of suppression in a bay or cell means that standoff distances are inadequate; simply stopping work may be insufficient to protect the safety basis for the weapon system. Review of the deluge system test requirements indicates that the system has not been full-flow tested since original installation, although NFPA requires an annual flow test of these systems. The UV fire detection system is scheduled to provide automatic activation of the deluge system. To trip the system, a fire must be seen by at least two detectors, and the detection logic is 2 out of 2, twice. MHC personnel were not able to verify that detectors were aligned or maintained to provide this type of coverage.[II.A]

Thermal Characterization of Building 12-116: A test plan has been prepared to determine the rate of pit temperature rise and rate of recovery experienced in the event that cooling is lost in Building 12-116. The data collected will be used to develop a thermal recovery plan for long-term pit storage in 12-116. A mixture of pits in both AL-R8 and AL-R8 Sealed Insert containers will be involved. The test will have a duration of no more than 5 days as determined by downtime of the air conditioning. The test plan has been approved and the test will be monitored by both pit design agencies.[II.A]

W80 Command Disablement: The W80 command disablement test remains on hold. MHC has submitted a Justification for Continued Operation (JCO), with an attached Hazards Analysis, to the DOE Amarillo Area Office for approval. According to the JCO, if the test is not conducted by September 17, 2000, a readiness assessment may be required since the last test was conducted on September 17, 1999, and more than one year will have passed since the last W80 command disablement test. [II.A]