

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 20, 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 October 20, 2000

DNFSB Activity Summary: H. Waugh was on site Monday through Wednesday. W. White was on site Tuesday through Friday. C. Coones, J. Deplitch, J. Fingerloss, and C. Martin were on site Monday through Thursday to review the new W88 authorization basis and its implementation.

W88 New Authorization Basis Implementation: Members of the Board's staff reviewed the identification of hazards and controls, the implementation of controls, and the readiness assessment process for restart of W88 assembly, disassembly and inspection operations. Staff evaluation of the identification of hazards and controls is not complete. The flow down of controls process is being validated for the first time by the W88 program, and it appears that all controls have not flowed down adequately. This issue may be revisited after the validation of the flow down of controls is completed by MHC. The staff also noted concerns with safety-related W88 tooling which may require further review. Although the scope of the contractor readiness assessment originally appeared too narrow, even this limited scope was sufficient to determine that the W88 program was not ready. The scope of the DOE readiness assessment has been expanded to include all W88 operations.

Significant issues remain with the ultraviolet-actuated deluge system, which is required for W88 operations. The ultraviolet detectors may not provide adequate coverage of the bays and cell. MHC is currently evaluating whether all areas of the bays and cell have coverage by at least three detectors (two out of two are required for deluge activation). MHC is also evaluating (through a testing program with the vendor) whether the ultraviolet detectors are able to detect the types of fires likely in Pantex facilities. In addition, questions remain on the overall adequacy of the fire detection and suppression system as a safety-class system. This safety-class system has a credited reliability of 92.5%. No specific safety-class design criteria have been identified for the system. No detailed failure analysis has been conducted for the system to determine likely points of failure and areas for improvement. No support systems (such as electrical power) have been identified as safety-class systems required to support the fire detection and suppression system. The staff has not yet reviewed the procurement, configuration management, and maintenance program in place for the system to determine whether it is adequate for a safety-class system.^[III.A]

Lightning Protection: MHC held a critique on the lightning protection issue discussed last week, where 2.5 hours was required to disconnect a nuclear explosive from a manifold during lightning warnings (as opposed to the one hour time frame discussed in the analysis in the Lightning BIO). MHC filed an unusual occurrence report noting operations outside the authorization basis. MHC agreed to ensure that future manifold operations can be disconnected within the one hour time frame discussed in the Lightning BIO. MHC and DOE also discussed long-term plans to eliminate reliance on the lightning warning and detection system by developing engineered controls that would allow operations to continue during lightning warnings.^[III.A]