

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 23, 2001

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: H. Waugh and W. White, Pantex Site Representatives
SUBJECT: Pantex Plant Activity Report for Week Ending February 23, 2001

DNFSB Activity Summary: H. Waugh was on site all week. W. White was on site Monday through Thursday and on annual leave Friday. C. Coones, T. Dwyer, and A. Matteucci were on site Tuesday through Thursday for a review of site-wide fire protection issues.

W56 Nuclear Explosive Safety Study: DOE convened a nuclear explosive safety study group at Pantex this week to review a proposed change to W56 nuclear explosive safety rules. Currently, a radiograph to verify the safe state of each unit is required before disassembly of the unit can begin. BWXT personnel have proposed eliminating the radiography requirement and relying instead on a visual verification that occurs early in the dismantlement process. BWXT believes that the radiograph adds little value. Various administrative measures have already been taken to verify that all W56 units are in a safe configuration. On the remote chance that some weapon is found not to be in the safe state, BWXT personnel would prefer that discovery to happen in a dismantlement bay rather than the radiography bay.

The nuclear explosive safety study group, which included two senior members, concluded that removing the requirement for a radiograph does not appreciably increase the risk of W56 dismantlement operations. The group did note that the original requirement for a radiograph flowed down from DOE orders and supplemental directives requiring that the safe state of a weapon be known before operations begin and that the verification be conducted in a non-intrusive fashion, if possible. Line management may need to seek appropriate order or directive exemptions before implementing the change. ^[III.A]

Fire Protection Module of the Authorization Basis (AB) Upgrade Program: AAO will soon issue its Safety Evaluation Report (SER) on the Fire Protection Module of the site-wide AB. A review of the proposed module, draft SER, and proposed implementation plan revealed that the proposed program is functionally sound, although several areas require further clarification and improvement. Of particular concern are several aspects of the Combustible Controls Program that remain insufficiently defined. For example, a “periodic” inspection by fire protection engineers to validate the adequacy of Combustible Controls Program implementation is specified, yet no definition exists regarding either the periodicity or the standard to be used in the inspection. Both the W76 and W88 programs rely on this control. Other examples of insufficient definition include combustible controls necessary to preclude achieving conditions associated with “slow heat,” to maintain rated quality for incomplete fire barriers, and to preclude fire propagation in ramps.

Other areas for improvement exist. Chemical release hazards associated with canned subassembly (CSA) fire exposure, as analyzed at Y-12, for example, have not been considered at Pantex. The relationship between several Technical Safety Requirements (TSRs) and National Fire Protection Association (NFPA) code requirements may inadvertently lead to conflicts and will require resolution. AAO has also indicated that several other open issues will be pursued, including resolution of voting logic, shadowing, and minimum visible fire size aspects of the ultra-violet (UV) actuation of deluge systems; design agency approval of *Fire Modeling of Multiple Fuel Packages* (the Hughes Report), which is the basis for development of the Fire Protection AB module; and development of an acceptable Fire Protection AB Implementation Plan. ^[III.A]