

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 6, 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 July 6, 2001

DNFSB Activity Summary: W. White was on site all week. H. Waugh was on leave for the week. The Pantex Plant was closed on Wednesday for Independence Day.

W78 Safety Evaluation Report: NNSA/AAO issued the Safety Evaluation Report for the W78 Step 1 Hazard Analysis Report (HAR) and associated changes to the Pantex Technical Safety Requirements this week. The report included multiple conditions of approval and noted several scenarios with residual risk levels above NNSA guidance. Of note, many of the scenarios with significant residual risk involved hoisting and lifting operations that would be eliminated under a full SS-21 process. Some of the more significant conditions of approval are noted below:

- ▼ The W78 HAR should adequately address concerns from fire impacts to certain weapon components.
- ▼ The Fire BIO controls related to the wet pipe sprinkler system, high pressure fire loop, and deluge system should be implemented for W78 operations.
- ▼ The in-service inspection test for detonator cable connector covers should address the as-built condition and potential physical changes over time.
- ▼ The in-service inspection for the floor mats should be revised to address potential degradation of the mats.
- ▼ The in-service inspections for carts and stands should be revised to require an initial load test and a load test after modifications to load-bearing components.
- ▼ Per NNSA guidelines in Chapter 11.8 of the Development and Production Manual, a technical safety requirement should be added to verify the position of the W78 strong link.

Although some of the issues raised in the Board's June 21, 2001, letter and attached staff report on the W78 Step 1 process were addressed either through page changes to the authorization basis documents or in the NNSA/AAO Safety Evaluation Report, some open issues remain. In particular, it remains unclear how the controls identified in the revised hazard analysis for fire protection will be implemented prior to start up of W78 nuclear explosive operations. [II.A]

Quality Assurance Survey for the Lightning Detection System: Last week, NNSA/AAO conducted a quality assurance survey of the lightning detection system. The scope of the review included the lightning detection system, but it did not include the actions necessary to initiate lightning warnings at Pantex. The review team noted several issues. Of particular interest, the review team noted that no adequate functional test of the complete lightning warning and detection system exists. This was originally a finding from the DOE readiness assessment of the implementation of lightning protection controls. A corrective action plan, submitted in January 2000, committed to address this deficiency by September 30, 2000. As with other items associated with lightning protection (many of which are discussed in the Board's June 22, 2001, letter on this subject), there has been little progress in addressing the issue. Also of interest was the decision by the review team not to include software quality assurance for the proprietary software associated with the lightning detection system in this quality assurance survey. [II.A]