

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 13, 1996

TO: G. W. Cunningham, Technical Director

FROM: Jim McConnell and Harry Waugh, Pantex Site Representatives

SUBJECT: Pantex Plant Activity Report for Week Ending December 13, 1996.

1. **DNFSB Activity Summary:** Jim McConnell and Harry Waugh were on travel Monday and Tuesday to Albuquerque and Washington, D.C., respectively.

2. New Issues:

- a. Nuclear Explosive Operator Qualifications: Mason and Hanger (M&H) requires, as part of the Authorization Basis for nuclear explosive operations, that only qualified Production Technicians (PTs) be allowed to conduct operations on War Reserve units. In fact, M&H requires that all operations involve at least one certified operator. In addition, a fundamental concept of nuclear explosive safety called the two person concept requires the presence of at least two operators knowledgeable of the work to be performed and capable of detecting unauthorized actions. The qualifications of PTs are expected to be tracked closely as a significant safety issue. Recent evaluations of PT qualification records, performed as the result of an employee concern, have identified at least one validated case where a non-qualified PT performed work on War Reserve units. This event was reported as an unusual occurrence. Subsequent reviews have indicated a potential weakness in the process to ensure qualified and certified PTs remain proficient. If PTs do not retain proficiency, then they are also considered unqualified for War Reserve work.
- b. W69 NESS Single Integrated Input Document: DOE, M&H, LANL, and SNL/NM have been working to complete the Nuclear Explosive Hazards Assessment (NEHA) portion of the W69 Hazards Analysis Report (HAR) and the other elements of the Single Integrated Input Document (SIID) to support the W69 Dismantlement NESS. The NEHA review has identified several deficiencies, many of which have been previously identified by the DNFSB staff. For example, the NEHA states that the annualized risk of plutonium dispersal caused by an HE detonation/deflagration in a bay is about 4×10^{-5} while the bay SAR states that such an accident is deterministically impossible. M&H management has indicated that M&H may delay submitting the SIID to the NESS Group due to these difficulties. However, a meeting next week to walk the NESS Group through the SIID has not been canceled.

3. **Issue Follow-Up:**

- a. Safety Basis for Nuclear Explosive Operations: As a result of the recent evaluations of the safety basis for nuclear explosive operations, DOE, M&H, and all three Design Agencies met on Monday with the intent of developing a plan to address the immediate problems and to identify long term solutions to the systemic problems. Cindy Miller and Jim McConnell attended the meeting which actually focussed almost exclusively on short term issues. Cindy Miller provided additional information in her contact report. As a result of that meeting, a group of weapons experts from the Design Agencies and nuclear safety experts from outside the weapons complex

will be performing a safety walk-down of Pantex facilities during the week of December 16-20. This review is intended to identify any additional short-term safety questions or problems such as those identified with the environmental chambers and the linear accelerators. It appears that M&H may have already identified another similar issue in Building 12-60. This week M&H identified that the design of the facility for class 1 (i.e., remote) HE operations may be inadequate for class 2 (i.e., moderate hazard contact operations) because the blast doors open in rather than out and do not meet the NFPA 101 requirements for personnel egress. While the Explosive Safety Manual and the General Design Criteria allow for an NFPA waiver in situations similar to this, the operations in Building 12-60, such as dynamic balancing, have been suspended until an optimal solution is identified.

Subsequent to the meeting last Monday, DOE-AL has formed a small task force to evaluate the larger issues of safety integration at Pantex and the proper mix of engineered and administrative safety controls. This group which will include representatives from DOE, M&H, and the Design Agencies has been chartered to evaluate the current level of integration of the SAR process, the HAR/NESS process, the SS-21 process, and the ESP. The team is expected to define a desired end-point and develop a transition plan which will be reflected in a revised Integrated Plan, . The Site Representatives and Cindy Miller will follow this teams actions.

- b. Building 12-26 Pit Storage: Last week the Site Representatives reported that Pantex was investigating the possibility that some W55 pits stored in the 12-26 Pit Vault may have exceeded their 140 °F specified limit. At the Pit Thermal meeting held this week, M&H reported that the maximum temperature had not been exceeded. The temperatures of concern reported earlier were recorded on a strip chart that had been incorrectly installed in the recorder. This incident did point out the need to install improved temperature recording equipment in the 12-26 vault. M&H has already initiated the corrective actions.
- c. B61-2 Dismantlement: With last weeks completion of the W55 dismantlement, the only active dismantlement project is the B61-2/5. The B61-2 dismantlement activity appears to be back up to full capacity following the shut-down that resulted from an inadvertent CD activation. As of yesterday, December 12, eighteen units had been successfully dismantled using revised procedures which incorporate the use of a LANL-designed magnetic piston finding tool. The tool should allow the PTs to detect any future command disabled units without spreading contamination.

4. Future Activities:

- a. December 17-20 - W69 SIID Meeting
- b. January ? - M&H AT-400A Corporate ORR begins (tentative)
- c. January ? - DOE AT-400A ORR (tentative, based on conclusion of M&H ORR)
- d. January 7 - W87 NESS Revalidation begins
- e. January 10 - W69 HAR due from LANL
- f. January 21 - W69 NESS Begins
- g. February 11 - W80 NESS Revalidation begins

Copy to: Board Members

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