

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 19, 1999

MEMORANDUM FOR: G. W. Cunningham, Technical Director
FROM: T. Dwyer and H. Waugh, Pantex Site Representatives
SUBJECT: Pantex Plant Activity Report for Week Ending November 19, 1999

DNFSB Activity Summary: T. Dwyer and H. Waugh were on site all week. A. Gwal and W. White were on site Tuesday-Thursday discussing lightning issues. J. McConnell and Outside Expert R. West were on site Tuesday-Friday observing W62 activities.

W62 D&I Program: The W62 D&I Nuclear Explosive Safety Study (NESS) Revalidation commenced Monday. The NESS Group's activities have consisted of briefs and discussions, since demonstrations will not be authorized by the SMT until Milestone 3 is achieved. [Note that an SMT conference call on Thursday concluded that Milestone 3 criteria remained open; the SMT rescheduled the Milestone 3 conference call for next Tuesday.] Major discussions have occurred concerning: HE response and application of laboratory data; lightning protection and controls; and AB documents and methodology. The AB issue includes a difficult timing aspect: the W62 HAR/ABCD: (1) assumed sitewide TSRs would be implemented; and (2) included lightning controls that were more conservative than controls associated with the lightning JCO, previous TSRs and the lightning Engineering Instruction (EI). In fact, the TSRs will not be implemented prior to W62 D&I start-up, and the W62 lightning controls are inconsistent with the JCO and current EI. W62 D&I NEOP demonstrations are expected to occur during the weeks of November 29th and December 6th, with deliberations the week of December 13th. Meanwhile, the W62 Project Team is working to close the 28 contractor RA pre-start findings [up from initial reports of 25]. Training of the PTs on the bay NEOP under contractor RA team supervision was completed, however, the redemonstration of the cell NEOP to the contractor RA team resulted in a follow-on requirement that the RA team observe subsequent cell training, too.^[II.A]

Lightning Issues: The Board staff reviewed the recently approved lightning JCO. The JCO consolidates existing guidance on lightning protection controls for nuclear explosive operations. Core lightning controls appear to be concisely captured. However, issues still exist regarding surveillance for specific systems (e.g., surge suppression). In addition, enhancements to the lightning warning system remain to be addressed by M&H. A potential inadequacy in several authorization basis documents (particularly the W62 ABCD) has also been identified -- the dielectric strength of a ceramaseal® insulator used during purge and backfill operations may be inadequate under certain vacuum environments. JCO implementation will involve contractor and DOE readiness assessments; final implementation is not scheduled until January 10th.^[II.A]

Fire Protection Issues: M&H continues to work to resolve the issue of flammable HE floor matting. M&H Manufacturing Division now has 2 standing orders on the street regarding this issue. One prohibits the use of HE floor matting in nuclear explosive facilities, although an exception is made for programs that rely on the matting as a control during uncased HE operations. The exception requires the use of [non-flammable] barrier paper over the HE floor matting. The second order institutes compensatory measures for continued use of the HE floor matting in explosives facilities. M&H Applied Technology Division has issued a more stringent standing order for continued use of the matting in explosives facilities under its jurisdiction. Research into available replacement materials has led to the identification of a commercially available substitute that has passed initial skid and combustibility tests, although more data is needed before a final procurement decision is made. Of note, the latest M&H report to AAO on this subject states that they now have broader concerns than just the mats, and "that the overall issue of combustibles, in the vicinity of weapons, needs to be reviewed a second time."^[II.A]