DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 23, 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 July 23, 1999

DNFSB Activity Summary: T. Dwyer and H. Waugh were on site all week. J. Deplitch was on site Tuesday-Thursday attending NSTE-270, *NES Orientation Course*.

Lightning Issues: M&H submitted the final lightning JCO to AAO on Wednesday. A letter from M&H NESS accompanied the JCO, formally arguing against the JCO, as it authorizes nuclear explosive operations in cases for which supporting analyses/NESS reviews are lacking. AAO is drafting a Safety Evaluation Report (SER). If any remaining iterations of JCO/SER can resolve the outstanding NESS concern, AAO will be the approval authority for the JCO. (Pantex facility-related safety basis signature authority has previously been granted to AAO.) If accommodation with NESS cannot be reached, DOE-AL will serve as the line management arbiter. Design Agency feedback has not yet been received. Meanwhile, site lightning-related events continue to underline the immediacy of this issue. The Lightning Warning System was taken down Saturday morning for Y2K end-to-end testing. Subsequently, it could not be recovered, and remained out of service until a vendor technician could complete software repairs Monday evening. M&H instituted compensatory measures per Plant Standard 3161, but these did not include all of the actions that would be required if the approved sitewide TSRs were implemented. In particular, default lightning warnings were not instituted pending restoration of the system. Interestingly, it appears that an electrical transformer near building 12-73 was struck by lightning at some time on Saturday. The transformer tripped off line, and the surge arrestors on all 3 phases were burnt in the process of diverting the strike to ground.[II.B.2.b]

W56 Dismantlement Program: Thursday, M&H made their 10th attempt at a W56, this time using the porta-power hydraulic ram. The troublesome primary-to-secondary joint released at ~ 4800 psi (equates to ~4100 ft-lb), then unscrewed easily to complete separation.[II.B.2.a]

AL-R8 Sealed Insert (SI): The Design Agencies provided M&H with a conditional Qualification Evaluation Release (QER) Monday. By Friday, M&H had successfully repackaged 8 more pits into AL-R8 SIs. Regarding the potential LLNL issue with the structural capacity of stage right 6-packs, M&H reports that they have successfully completed empirical demonstrations using AL-R8s loaded to ~2x the weight of an AL-R8 SI package. LLNL has not yet reported the results of re-running their finite element model with corrected data.[II.B.2.b]

Amarillo National Resource Center for Plutonium (ANRCP): The ANRCP 1999 Researcher's Conference was held in Amarillo Monday-Wednesday. Approximately 85-100 people attended, participating in over 40 presentations and exhibitions about ongoing research projects in the ANRCP university consortium. Over 30% of the presentations were directly applicable to the storage of SNM, and the AL-R8 SI in particular. In fact, 1 thermal modeling project appeared to show a mechanical means to gain ~8°F of thermal margin in AL-R8 SI storage configurations. On the down side, some of the research efforts appeared to be hindered by imperfect data transfer regarding as-built configurations in the complex as compared to those being used in the research project. Of note, ANRCP and Radian International Corporation announced they are pursuing a contract with the Defense Threat Reduction Agency (DTRA), in an effort to broaden the ANRCP budget base.[II.B.2.b]