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**Department of Energy**  
Washington, DC 20585

October 14, 1998

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DNF SAFETY BOARD

The Honorable John T. Conway  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, N.W.  
Suite 700  
Washington, D.C. 20004

Dear Mr. Chairman:

The Department of Energy (DOE) has reviewed your letter of August 26, 1998. We appreciate your comments in relation to the thorough and professional Operational Readiness Review performed by DOE on Building 12-116. We will continue to work with the Defense Nuclear Facilities Safety Board staff to resolve those issues identified in the July 16, 1998, Staff Issue Report enclosed with your letter.

DOE's Albuquerque Operations Office (AL) is continuing with development of the Integrated Pit Storage Program Plan (IPSPP), with expected completion in early October 1998. I expect to review the IPSPP and provide a copy to you by the end of October. After a review of a January draft of the IPSPP by your and my staffs, it was recognized the conduct of a systems engineering review of all operations in relation to the pit handling and storage process was necessary in order to ensure major issues were not overlooked. We contracted with Sandia National Laboratories to perform a systems engineering review of the process. This review began mid-February 1998 and was completed mid-August 1998. The IPSPP has been significantly enhanced through additional design systems review and testing.

We are also proceeding with plans to repackage pits in the Mason and Hanger Corporation (MHC) AL-R8 Sealed Insert (SI). The MHC AL-R8 SI design was selected over the AT-400A because it permits lower personnel exposure and a higher repackaging rate, and results in lower life-cycle cost. For the AL-R8 SI, the life-cycle cost analysis was considered to be a worst-case scenario since it included costs for repackaging the pits into a new shipping container if they were to be shipped to a new location. The results of the systems engineering analysis supported use of the MHC AL-R8 SI. Pit repackaging is currently scheduled to begin second quarter, Fiscal Year 1999.

DOE AL's Assistant Manager for Technology and Site Programs continues to provide me the senior line management attention necessary to effectively address the placement of pits into a controlled environment.

For your information, we are providing a chronology of events to outline the activities that have occurred over the last 8 months and those that are scheduled through the commencement of the repackaging effort. Please call me at 202-586-4879 or Lester Lee of my staff at 301-903-4006 if you have any questions regarding this information.

Sincerely,



Gene Ives  
Deputy Assistant Secretary  
for Military Application and  
Stockpile Management  
Defense Programs

Enclosure

cc w/enclosure:

M. Whitaker, S-3.1  
D. Chaney, DP-24  
A. E. Whiteman, AL  
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S. Arp, AL  
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N. Khalil, AL  
S. Goodrum, AAO  
D. Kelly, AAO  
J. Kirby, AAO

## Chronology

### **Integrated Pit Storage Program Plan (IPSPP)**

January 1998: Draft IPSPP provided to the Defense Nuclear Facilities Safety Board (DNFSB) for informational purposes.

Mid-February 1998: Draft IPSPP reviewed by DNFSB and comments provided to the Albuquerque Operations Office (AL). In response to those comments, it was agreed a "systems engineering analysis" of the pit handling and storage process should be performed.

Mid-February - August 12, 1998: Systems engineering analysis performed.

August 13 - September 11, 1998: Internal review of Systems Engineering Analysis Report and comments incorporated.

August 13 - September 14, 1998: Results of systems engineering analysis incorporated into IPSPP.

September 14 - 30, 1998: Perform internal review of IPSPP and incorporate comments.

October 1998: Transmit IPSPP to Department of Energy Headquarters for review and subsequent transmittal to DNFSB.

### **Pit Repackaging Initiative**

February 27, 1998: Down-select testing completed for three insert designs.

March 1 - May 1, 1998: Prepared AL-R8 Down-Select Test Results Report.

April 15, 1998: Mason and Hanger Corporation (MHC) Sealed Insert (SI) design selected.

July 27 - 30, 1998: Performed preliminary design review on MHC SI design. The Independent Design Review (IDR) Team concluded that no issues were identified, which could not be resolved during the design process. Due to minor modifications made to the AL-R8 SI after completion of down-select testing, the IDR Team felt that further analysis and/or testing with the selected backfill gas would be needed to determine pit surface temperature, and testing would be necessary for vibration, drop, and puncture. In addition, a Storage Qualification Plan needs to be finalized and approved by the design laboratories (Lawrence Livermore National Laboratory (LLNL)/Los Alamos National Laboratory (LANL)). The plan will need to identify criteria and acceptable test results for vibration and puncture.

*Based on the nature of the outstanding design review issues, AL, Amarillo Area Office (AAO), the IDR Team Leader, and the Deputy Assistant Secretary for Military Application and Stockpile Management agreed there would be minimal financial risk in proceeding with a limited quantity of production lot containers.*

August 14, 1998: AL gave notice to AAO to proceed with procurement of process prove-in (PPI) containers (30) and procurement of a limited quantity (500) of production lot containers. AAO was also directed to develop an action plan for resolving IDR Team issues and to enter the AL-R8 SI into their configuration control system.

September 25, 1998: Receive PPI containers. Initiate preparation of procurement package for a limited quantity of production lot containers.

September 25 - October 15, 1998: Complete qualification tests and submit to design laboratories (LLNL/LANL) for review/approval.

October 15 - December 1, 1998: Perform analysis and/or testing for pit surface temperature, drop, vibration, and puncture.

December 1998: Based on preceding analysis and testing, perform final design review and finalize design package, updating configuration control system, if required.

Second Quarter Fiscal Year 1999: Receive production lot containers and begin repackaging.