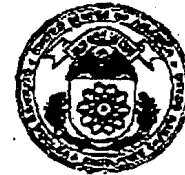


John T. Correy, Chairman
A.J. Eggenberger, Vice Chairman
Joseph J. DiNunno
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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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November 18, 1997

The Honorable Alvin L. Alm
Assistant Secretary for Environmental Management
Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585-0113

Dear Mr. Alm:

In Recommendation 94-1, the Defense Nuclear Facilities Safety Board (Board) cited the urgent need for the Department of Energy (DOE) to remediate plutonium-bearing materials and spent nuclear fuel in the defense nuclear complex. In its response to Recommendation 94-1, DOE concurred in the need for urgent action and, among other actions, committed to initiating removal of the deteriorating spent nuclear fuel from the K-Basins at Hanford by December 1997 and to providing stable interim storage on site.


Extensive delays in the schedule for placing the spent fuel in safe and secure long-term interim storage pending its ultimate disposal were announced to the Board during briefings in August and September 1997. As a result, the Board initiated an in-depth review of the reasons for the delays, possible steps that might be taken to recover some of the delays, and measures to ensure that further slippage in the schedule will not occur. A report of this review by the Board's staff is enclosed for your consideration in developing the corrective actions needed to successfully complete the Spent Nuclear Fuel Project (SNFP).

Key observations from the staff review were discussed with you during our meeting on October 14, 1997. The Board is concerned that the significant and unexpected delays in the SNFP were caused by a lack of sound project management, which is essential to successful integration of diverse organizations and activities and vital for project success. Although key management personnel have been added to the contractor's organization, the DOE Richland Operations Office (DOE-RL) still has little confidence that the new contractor-proposed schedule dates will be met. DOE and its contractors must still develop the technical management strength needed to ensure successful completion of stabilization of the N-Reactor fuel in a manner that is safe, timely, and cost-effective. Early identification and rigorous resolution of technical issues, and emphasis on the coordinated planning and scheduling of equipment delivery, installation, and preoperational testing for the various subprojects, will contribute to the safe, expeditious initiation of fuel removal.

The Board recognizes that DOE-RL and the contractors are giving increased management attention to the SNFP, although a sound recovery plan has still not been formulated. The Board requests that DOE provide a report describing DOE and contractor plans for the path forward for the SNFP, including identification of critical path items, actions to be taken to recover schedule slippages, revised milestones and confidence level for achieving revised commitments. There is particular concern with the low confidence level associated with the proposed schedules that have been briefed to the Board.

The Board has excerpted from the enclosed staff report, a list of actions the Board believes need to be undertaken if DOE is to avert further schedule delays. To assist DOE in its recovery plan, those conclusions are also enclosed for your consideration.

Sincerely,


John T. Conway
Chairman

c: Mr. Mark B. Whitaker, Jr.
Mr. John Wagoner

Enclosures: (2)

**Excerpted Conclusions from the October 1997 Board Staff Report
on the Review of the Hanford Spent Nuclear Fuel Project Schedule Delays**

1. Project Management

There should be a systematic identification and evaluation of problems to date; identification and institutionalizing of specific actions to permanently address and resolve the problems; and communication of these changes and individual performance expectations to project personnel. (III.A.1, IV.A.3)

2. Integration

- a. A work control management function for K-Basins should be established with responsibility and control of the resources needed for the daily management of the installation of basin modifications, the Integrated Water Treatment System, and the Fuel Retrieval System. (III.B.2, IV.B.2.c, IV.B.3.c)
- b. A comprehensive evaluation of the integrated utilization of facility systems (all SNFP facilities, systems, equipment and operations personnel resources that move fuel from the K-Basins to storage in the Canister Storage Building) to ensure the safe expeditious completion of fuel removal and storage, once it has started. (III.B.2, IV.B.8)

3. Vendor Interface

- a. Vendor delivery incentives should be evaluated and established that would provide opportunities for schedule improvement. (III.A.2)
- b. Aggressive expediting of vendors is required to ensure no further slippage in schedule. (III.B.2) This includes vendors for the following equipment:
 - K-Basin Gantry Crane (IV.B.4.c)
 - Multi-Canister Overpack Hoist (IV.B.5.c)
 - Cold Vacuum Drying Processing Units (IV.B.6.c)

4. Technical Confidence Measures

These measures will help ensure that SNFP schedules will be met:

- a. Establishment of acceptance criteria for water removal in the cold vacuum drying process (III.B.1.b)
- b. Establishment of adequate preoperational testing requirements for the Integrated Water Treatment System in the K-Basins, including the use of actual fuel and sludge. (III.B.1.d, IV.B.2.c)

Water Treatment System in the K-Basins, including the use of actual fuel and sludge.
(III.B.1.d, IV.B.2.c)

- c. Determination of the applicability of safety-class design criteria for various SNFP cranes. (III.B.1.a, IV.B.3.c)
- d. Obtaining of additional experienced safety analysis personnel. (III.B.1.c, IV.B.9.c)

5. Other Opportunities for Ensuring or Improving the Schedule

- a. Pursuit of alternate procurement strategies for the K-Basin manipulator, and hydraulic actuator. (III.B.3.a.1, IV.B.1.c)
- b. Immediate installation of Fuel Retrieval System control equipment, followed by software modifications at the Hanford site when available from the vendor.
(III.B.3.a.2, IV.B.1.c)
- c. Development of effective methods for operator training, using mockups or trainers, prior to equipment delivery and installation. (III.B.3.c)
- d. Development of contingency planning for the following:

K-Basin manipulator failure (III.B.3.a.3, IV.B.1.c)

Delivery of storage tube plugs and hold-downs for the Canister Storage Building
(III.B.3.b, IV.B.7.c)

Response to the need for cold vacuum drying equipment modifications resulting
from first-article testing (III.B.1.c, IV.B.6.c)

Note: Shown in parentheses are the numbers of the sections in the report where supporting discussions for each conclusion is presented.