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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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June 18, 2004

The Honorable Spencer Abraham
Secretary of Energy
1000 Independence Avenue, SW
Washington, DC 20585-1000

Dear Secretary Abraham:

Your letter of May 3, 2004, transmitted a revision to the Implementation Plan for the Board's Recommendations 94-1, *Improved Schedule for Remediation in the Defense Nuclear Facility Complex*, and 2000-1, *Prioritization for Stabilizing Nuclear Materials*. The revision provided new commitments and milestone dates for the treatment and removal of sludge from the K-Basins at the Hanford Site, culminating in the removal of all sludge from the basins by April 2007.

While the new completion date in 2007 reflects a significant delay relative to earlier commitments, the Board notes that the sludge is to be packaged and ready for shipment off site instead of remaining untreated on site as previously planned. The Board also recognizes that managers at the spent fuel and sludge projects at Hanford must correct several programmatic deficiencies to ensure safe handling and packaging of spent fuel and sludge at the K-Basins. These deficiencies have been well documented and encompass the areas of design, testing, project management, and Integrated Safety Management. Below are excerpts from the Flour Hanford, Inc. report, *Broader Scope Issues Summary Report, Sludge Water System*, February 26, 2004.

- The Sludge Water System (SWS) subproject did not establish an integrated resource loaded schedule.
- Nuclear safety inappropriately categorized the change to the SNF (Spent Nuclear Fuel) facility (i.e., installation and operation of SWS) as a negative unreviewed safety question.
- The functional design criteria did not contain adequate detail.
- The procurement specification for an off-site vendor to "design and build" sludge containers was incomplete and did not invoke required codes and standards.
- The design was inadequately controlled and design reviews were less than adequate.

- Hazard identification and incorporation in the hazard and accident analyses were inadequate.
- The hazard and accident analyses were not adequately integrated with the design.
- Internal oversight reviews (e.g., peer reviews, management assessments, independent assessments, and quality assurance) were inadequate.

The Board looks forward to effective corrective action in these areas that have caused delays in the implementation of Recommendations 94-1 and 2000-1.

The Board would like to commend the Department of Energy (DOE) Richland Operations Office personnel who conducted the oversight which led to the identification of nuclear safety and engineering deficiencies in the SWS following the suspended Operational Readiness Review (ORR) in April 2003. Furthermore, the Board agreed with the DOE-Headquarters decision to require an ORR rather than a Readiness Assessment for the retrieval of North Load Out Pit sludge. On June 9, 2004, members of your staff briefed the Board on the results of this ORR. The rigor of the ORR appropriately provided DOE the opportunity to validate that the contractor had implemented corrective actions for operational deficiencies exhibited last year. The Board is encouraged that DOE is committed to ensuring that this proper oversight continues to be applied to the sludge removal project.

The Board and its staff will continue to provide close oversight of the spent fuel and sludge projects to verify that the new commitments are supported by resource-loaded schedules, improved project management, and strong Integrated Safety Management Systems.

Sincerely,



John T. Conway
Chairman

c: Mr. Keith Klein
Mr. Mark B. Whitaker, Jr.