

A.J. Eggenberger, Chairman  
Joseph F. Bader  
John E. Mansfield

# DEFENSE NUCLEAR FACILITIES SAFETY BOARD

625 Indiana Avenue, NW, Suite 700 Washington, D.C. 20004-2901  
(202) 694-7000



January 5, 2006

The Honorable Samuel W. Bodman  
Secretary of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-1000

Dear Secretary Bodman:

The Defense Nuclear Facilities Safety Board (Board) received your letter dated November 28, 2005, enclosing the Department of Energy's (DOE) revised Implementation Plan for the Board's Recommendation 2000-1, *Prioritization for Stabilizing Nuclear Materials*. This revision makes changes to your commitments regarding the removal and treatment of sludge from the K-Basins at the Hanford site. In formulating this newest revision to the Implementation Plan, DOE and its contractor appear to have applied improved project management techniques and to have conducted a detailed project risk assessment. The Board accepts this revision to the Implementation Plan. However, the Board remains concerned about several aspects of this project.

The Board has long emphasized the urgency of removing spent nuclear fuel and sludge from the K-Basins to mitigate the hazard to workers, the public, and the environment posed by these materials. In attempting to complete this effort, the K-Basins Closure Project and its predecessor projects have suffered several setbacks due to deficiencies in design, engineering, and project management, including poorly managed project risks. The recent project risk assessment provides a good foundation for improved performance within the project. As mentioned in your letter, however, the risk assessment is incomplete.

Since the design of the sludge stabilization and packaging system is not complete, there is insufficient project information to support the completion of an adequate risk assessment. This uncertainty has been addressed in the risk assessment by the inclusion of a large delay (282 days) in the schedule to account for potential contingencies in the stabilization and packaging subproject. The Board looks forward to completion of the system design and risk assessment, and a subsequent adjustment of the project schedule.

Additionally, the risk assessment—and the success of the project—are predicated on more than 20 specific assumptions that themselves represent significant risks. These appear to be treated as “enabling assumptions,” have not been factored into the risk assessment, and do not have corresponding risk mitigation strategies identified in the risk assessment report. It is very important that DOE and the contractor manage these assumptions carefully, and where appropriate pursue risk mitigation strategies to ensure the success of the project.

The Board remains concerned that difficulties with design, engineering, and project management may continue to delay the project. Although a number of corrective actions have been taken in the past year to address these problematic areas, little substantial evidence exists to indicate that the project is now healthy in these areas. The Board plans to continue its close observation of the project. A particular milestone of interest is the startup and operation of the hose-in-hose transfer line. The startup of this system, planned for late next year, should serve as an indicator of the health of the design, engineering, and readiness preparation processes within the project.

The Board believes DOE can do more to demand from the contractor quality products and services that will lead to timely risk reduction at the K-Basins. Therefore, pursuant to 42 U.S.C. § 2286b(d), the Board requests that DOE provide a briefing to the Board within 90 days of receipt of this letter that presents (1) the status of the design of the sludge stabilization and packaging subproject and provides an estimate for the completion of the corresponding project risk assessment; (2) DOE's strategy for managing the assumptions upon which the project's success rests; and (3) any additional actions DOE plans to take (e.g., use of additional oversight or contractual mechanisms) to ensure successful and timely startup of the hose-in-hose transfer line in particular, and completion of the K-Basins Closure Project in general.

Sincerely,



A. J. Eggenberger  
Chairman

c: The Honorable James A. Rispoli  
Mr. Keith A. Kline  
Mr. Mark B. Whitaker, Jr.