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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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May 24, 2001

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

Dear Secretary Abraham:

The Defense Nuclear Facilities Safety Board (Board) received your response, dated May 18, 2001, to Board Recommendation 2001-1, *High-Level Waste Management at the Savannah River Site*. The Board reviewed the proposed implementation plan, *Current Status of High Level Waste System Relative to DNFSB Recommendation 2001-1*, enclosed with your letter. The Board does not find this implementation plan responsive to all elements of our Recommendation, and does not accept the implementation plan.

The Board is encouraged by your acceptance of the recommendation and by the action already taken by the Department of Energy (DOE) Savannah River Operations Office to direct the contractor to remove waste from Tank 6 to a level below all known leak sites. The original decision by DOE and the contractor not to take this action was based on the erroneous belief that the Tank 6 leak sites were inactive, and reflected the acceptance of an unnecessary risk to rely on waste salts to serve as a safety barrier by plugging the leak sites.

While the removal of waste from Tank 6 is an important near-term step toward improving the safety posture of the Tank Farms at the Savannah River Site, it is not the primary concern. The fundamental issue addressed by Recommendation 2001-1 is the need to maintain the safety margin necessary for continued safe operation of the Tank Farms. DOE and its contractor need to aggressively pursue the initiatives identified in Recommendation 2001-1 to ensure continued safe storage of wastes while also maintaining operational flexibility and success in treating and removing wastes from the high-level waste tanks.

Other than taking action to remove waste from Tank 6, the proposed implementation plan presents no new information or commitments that were not already known by the Board at the time the recommendation was written. The course of action presented by these commitments reflects the status quo which led, in part, to the issuance of Recommendation 2001-1.

Additionally the proposed implementation plan assumes all actions are "fully funded," suggesting that these actions will be completed if funds are available. This is of course unacceptable. The Atomic Energy Act does not contemplate conditioning the Secretary's

implementation plan on the availability of funds without notice to the President and the Congress. Specifically, the Atomic Energy Act provides that if the Secretary:

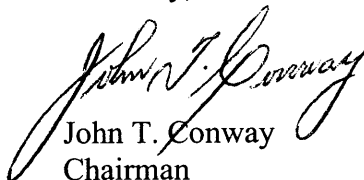
“determines that the implementation of a Board recommendation (or part thereof) is impracticable because of budgetary considerations, ... the Secretary shall submit to the President, to the Committees on Armed Services and on Appropriations of the Senate, and to the Speaker of the House of Representatives a report containing the recommendation and the Secretary’s determination.”

The proposed commitment provided in reply to Sub-recommendation 3 of Recommendation 2001-1 illustrates the need for a more thoroughly considered response by DOE. Sub-recommendation 3 called for DOE to develop and implement an integrated plan for high-level waste tank space management that addresses programmatic risks, accommodates contingencies, and enhances safety by restoring operating margin to the Tank Farms. The implementation plan states that the most recent revision to the annual *Savannah River Site High Level Waste System Plan*, dated March 2001, meets this need.

The Board agrees that the System Plan is essential to the planning of ongoing high-level waste operations at the Savannah River Site, but it does not constitute a complete response to Sub-recommendation 3. The System Plan relies on the continued operability of many aging systems and assumes the success of numerous key activities, despite ample evidence that this is not a good assumption (e.g., failure of the In-Tank Precipitation Facility, equipment failures and chemistry problems that have crippled two of the three high-level waste evaporators, and chronic funding shortfalls). Furthermore, the System Plan makes no commitments, and even its “base case” is inadequately funded in the fiscal year 2002 budget proposed to Congress by DOE. It is not a sufficient response to the Board’s Recommendation.

The Board has developed a suggested course of action for consideration by DOE during the formulation of a revised implementation plan. This course of action, enclosed, would address the concerns raised in Recommendation 2001-1 and produce meaningful assessments that would serve DOE in making prudent decisions for future safe operations in the Tank Farms.

Sincerely,


John T. Conway
Chairman

Enclosure

c: The Honorable Carolyn L. Huntoon
Mr. Greg Rudy
Mr. Mark B. Whitaker, Jr.

Enclosure

Expected Elements of an Implementation Plan for Recommendation 2001-1

1. Initiate actions to remove transferable high-level waste (HLW) liquid from Tank 6 to a level below all known leak sites.

Expectation.

- a) Remove HLW from Tank 6 to a level below all known leak sites.
 - b) Provide an inspection and action plan that will identify any future leaks in Type I tanks being reused and define action to be taken when leaks are found.
2. Reassess the schedule and priority for making a technology selection for a salt processing capability, and vigorously accelerate the schedule leading to operation of a salt processing facility.

Expectation.

- a) Provide milestone dates for technology selection and issuance of a request for proposal.
 - b) Complete an assessment of the schedule for the salt processing project that identifies the benefits of accelerating the facility and the impact of further delay.
 - c) Identify actions to be taken to accelerate the schedule for an operating salt processing facility.
 - d) After completion of (a) through (c), submit a revision to the implementation plan that includes milestones for achieving an accelerated schedule (e.g., DOE approval of conceptual design, start up of a pilot plant).
3. Develop and implement an integrated plan for HLW tank space management that emphasizes continued safe operation of the Tank Farms throughout its life cycle. This plan should include enough margin to accommodate contingencies and reduce overall programmatic risk. The plan should also restore operating margin to the Tank Farms by including action to:
 - a) Reduce or eliminate the Defense Waste Processing Facility (DWPF) recycle stream.
 - b) Recover former In-Tank Precipitation Facility (ITP) tanks for tank farm operations.
 - c) Assess the desirability of adding an additional HLW evaporator to support tank farm operations.

- d) Assess the feasibility of constructing new HLW tanks.
- e) Resolve waste compatibility and equipment degradation problems to allow unconstrained operation of the three existing evaporators.

Expectation.

- a) Perform a comprehensive assessment of the HLW system that weighs the pros and cons of various initiatives that could add operating margin to the Tank Farms. The assessment should evaluate the margin (and other benefits) that would be provided by each option; estimate the cost and schedule for design, construction, and operation; and arrive at a decision (with justification) for proceeding or not. The assessment should include, but not be limited to, evaluation of:

- Installing an evaporator in DWPF.
- Recovering ITP tanks for HLW service.
- Adding a new tank farm evaporator or increasing the capacity of existing evaporators.
- Adding new HLW storage tanks.

This comprehensive assessment should consider all available alternatives, rather than be limited to a narrow interpretation (e.g., consider all options for adding tank storage space, not just adding new 1.3 million gallon tanks).

- b) Conduct a programmatic risk assessment of the HLW system to identify risks that may impact the system and develop mitigation strategies to address these risks. Incorporate this assessment and the results of (a) into a new revision of the HLW System Plan. The plan should include commitments (with dates) for implementing the recommendations from the comprehensive assessment and the programmatic risk assessment.
4. Reassess contractor incentives to ensure that near-term production at DWPF is not overemphasized at the expense of safety margin in the Tank Farms.

Expectation.

Conduct an independent assessment of Westinghouse Savannah River Company HLW performance-based incentives (PBIs). Issue revised PBIs as necessary.