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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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April 23, 1993

The Honorable Hazel R. O'Leary
Secretary of Energy
Washington, D.C. 20585

Dear Secretary O'Leary:

The Board has reviewed the Department's Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 92-4. The Plan does not definitively address specific actions to be taken by the Department of Energy (DOE) to remedy the substantive issues delineated in the Board's recommendation. Of particular concern is the overly generalized description of the *possible* approaches DOE plans to consider to implement the Board's recommendation without specifically delineating the details and content of the steps that will be followed. The Board does note and strongly endorses the Department's effort to plan activities relating to the Multi-Function Waste Tank Facility (MWTF) in the context of being a subset of the Tank Waste Remediation System (TWRS), and to extend the principles outlined in the Board's Recommendation to the overall TWRS program.

The acceptability of an Implementation Plan is determined in accordance with the provisions of DNFSB Policy Statement No. 1: *Criteria for Judging the Adequacy of DOE Responses and Implementation Plans*, 55 Federal Register 43398 (October 29, 1990). An examination within this framework reveals that a number of weaknesses need to be addressed by the Department in its reevaluation and resubmittal of this Implementation Plan. Our comments are as follows:

1. The Plan neither specifically nor clearly describes the new project organization. When resubmitted, the Plan must show or explain how the proposed project organization will integrate DOE and contractor organizations into a single functional project management team. In particular, the resubmitted Plan must clearly define the roles of the Department (as Design Authority) and the project's prime contractor (as Design Agent). Furthermore, the resubmitted Plan should state what *specific measures and techniques* will be taken to integrate design, engineering, construction, quality assurance, and startup personnel directly into the project.
2. The Department's interpretation of the Board's intent with regard to MWTF project management mentions the necessity of having clear lines of responsibility and accountability. The Board wishes to emphasize, that inherent to establishing clear

lines of responsibility and accountability in a project organization, is the delegation of authority necessary to achieve technical and management objectives, the streamlining of the project organization to assure efficient execution of project activities, and continuity through all phases (conceptual design, preliminary design, final design, construction, testing and operation) of the project. The resubmitted Plan should incorporate these concepts in the project management organization for the MWTF project team, and explicitly demonstrate that clear lines of responsibility and accountability have been established.

3. The Board is concerned that the Department is allowing the "urgent need" for these new tanks to drive a program that is neither sufficiently defined nor organized to achieve a successful conclusion. In fact, recent changes in the MWTF mission (from *staging and processing... and pretreatment operations to primarily... dilution and storage of waste* per the Multi-function Waste Remediation Facility Justification of Mission Need, January 14, 1993 revision) and physical parameters (from *four tanks grouped together in a common weather protection enclosure to two tanks built as quickly as possible, with two to four more to follow* per Hanford Program Manager for the TWRS Program Office) indicate that the original MWTF concept is no longer relevant. These changing plans and priorities clearly indicate that a well defined project organization with clear lines of responsibilities and authority is mandatory. However, the Department is proceeding with the project using the current management team and organization. Clearly this is not desirable; the pace of events is overtaking the implementation of necessary changes. The resubmitted Plan must reflect this urgency in the proposed schedule of actions. Further, the Plan should provide for modification of the project organization to incorporate all management aspects of the project necessary to ensure adequate protection of public health and safety before the project proceeds any further.
4. The Implementation Plan discussion of DOE and contractor technical and managerial staff qualifications is not sufficient. The resubmitted Plan should specify a definitive implementation date for actions that will assure that both DOE and the contractor organization have personnel of the technical and managerial competence to assure effective project execution. The delay of final plans to address the subject until September 30, 1993, presented in the original Implementation Plan, is unacceptable. Action must be initiated immediately to ensure that DOE and contractor personnel are properly qualified for their roles and that any future staff additions are also properly qualified. Further, if the establishment of an effective project organization is indeed "limited by current personnel practices," it is then incumbent on the Department to change these practices.

5. The Plan does not address what process will be used to identify the design bases, engineering principles, and approaches that will provide data and rationale to show that safety goals of SEN 35-91 have been met. The Board is concerned that DOE is nearing completion of the Advanced Conceptual Design and that Title I is about to start when it has not been established that all of the basic parameters affecting the conceptual design have been defined and evaluated correctly. Further, it is not evident that the system engineering provision of DOE Order 4700.1, Chapter III, Part B are being invoked. Therefore, the resubmitted Plan should define the basic system engineering approach with schedules for completion of the principal element that include:

A. A Systems Engineering Management Plan that as a minimum will define:

- (1) Organizational functions and responsibilities that reflect consideration of factors set forth in Recommendation 92-4, particularly those emphasized by comments 1-4 above.
- (2) The relationship of the MWTF to the TWRS and other sub-components of TWRS, such as the Initial Pre-treatment Module (IPM).
- (3) The interface requirements with other sub-systems of the TWRS and the planned control over them.
- (4) The planned design development process - conceptual through final. The Board expects such process to result in the identification of:
 - a. The specific standards that the Department considers applicable to the design, construction, operation, and decommissioning of MWTF, including an assessment of the adequacy of the identified standards to provide protection of public health and safety.
 - b. A specific, detailed list of safety-related items at the MWTF *equivalent to that contained in commercial nuclear practice standard review plans and regulatory requirements.*
 - c. Project design bases, functional design criteria, and implementing project documents for MWTF that are *derived from and consistent with standards and commercial nuclear practices.*

- d. Data and rationale to show that the project design bases and functional design criteria for MWTF conservatively meet the quantitative safety goals described in SEN-35-91, including, but not limited to, the seismic and extreme external events.
- e. The series of safety analysis reports consistent with items 5.A.(4)a. through 5.A.(4)d. above.

(5) Quality Assurance provisions for each of the design stages.

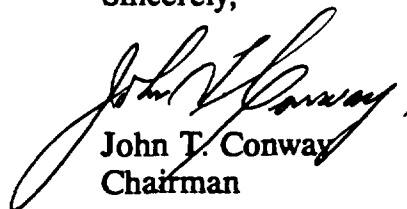
B. A Configuration Management Plan that embodies the use of:

- (1) Technical Baselines
- (2) System Descriptions
- (3) Change Controls

The Board requests that a fully responsive Implementation Plan be submitted within 30 days of receipt of this letter. Noting that those events prompting issuance of Recommendation 92-4, and subsequent Implementation Plan discussions, occurred primarily under your predecessor, the Board concurs with your suggestion to work together to address any discontinuities and shortfalls. Therefore, the Board staff has been instructed to make itself available to aid in the Department's understanding of these issues.

If you have any questions on this subject, I would be pleased to discuss this with you or your designer.

Sincerely,



John T. Conway
Chairman

c:
Mark Whitaker, Acting DR-1