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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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April 5, 1995

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

Dear Secretary O'Leary:

Last July the Defense Nuclear Facilities Safety Board (Board) received the Department of Energy's (DOE's) Implementation Plan for Recommendation 93-6, *Maintaining Access to Nuclear Weapons Expertise in the Defense Nuclear Facilities Complex*. DOE committed to retain access to and capture the unique, and as yet undocumented knowledge of individuals who have been engaged for many years in the assembly, disassembly, and testing of nuclear weapons. In accepting the DOE's plan in August 1994, the Board noted DOE's commitment to address these serious issues on an urgent basis before key individuals are lost. The Board was particularly encouraged by DOE's commitment to establish an ongoing program of skills and knowledge identification and capture.

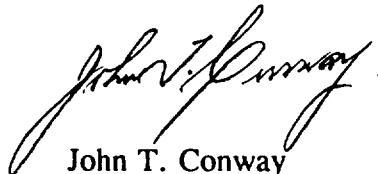
The Board has reviewed the two DOE quarterly progress reports for Recommendation 93-6 dated December 6, 1994, and March 9, 1995, respectively. Staff observations on these reports are provided in the enclosure. Some progress has been made in certain areas; however, little progress is evident in completing several key, overdue commitments of the DOE Implementation Plan for Recommendation 93-6. For example:

- The commitments related to establishing an ongoing program to identify and capture skills and knowledge are several months overdue. Little progress appears to have been made in this critical area. The Board understands that some information capture activities are underway at certain sites. However, these efforts lack the integrated technical guidance and coordination, as committed to by DOE, necessary to ensure that the appropriate degree of safety-related information is being captured.
- Efforts to remove administrative obstacles to gain needed access to retirees, originally due in October 1994, appear to have stalled. Even though this issue was also raised by Congress in the National Defense Authorization Act for Fiscal Year 1995, actions to address this urgent issue have yet to be taken by DOE.

- The commitment to establish processes for development of safe dismantlement and modification procedures was due in October 1994. While activities in this area are in progress, few actions have been completed concerning this commitment. Recent problems with the conduct of dismantlement operations have occurred that could possibly have been minimized or avoided by the application of such processes. Problems of the kind recently encountered could occur on upcoming weapon dismantlement programs, such as the W-79 program, if delay in completing this commitment continues.
- Over time, the Board has expressed concern on hazards from degradation of remaining weapons and the potential impact on weapon operations. The Board has also noted that surveillance programs need to focus on derivation of hazard information that would be used in weapon dismantlement and modification procedure development. The DOE Implementation Plan for Recommendation 93-6 states that the current Stockpile Evaluation Program and the accelerated aging evaluations address this issue. However, DOE's December 1994 description of these programs showed no clear incorporation of this objective nor a clear description of the use such information provides for dismantlement or modification activities.

The Board considers that the delay in completing these and other important commitments has jeopardized the overall schedule and effectiveness of the DOE's implementation of Board Recommendation 93-6. These delays continue to indicate that the necessary level of management attention at DOE Headquarters, field offices, and contractors organizations is not being applied in meeting the commitments to the Board. The Board would like to be informed of additional actions DOE plans to take to address the examples cited above, of failure to meet the commitments in the Implementation Plan, and to minimize further adverse impact to the overall implementation of Recommendation 93-6.

Sincerely,



John T. Conway
Chairman

c: The Honorable Victor H. Reis
Mr. Mark Whitaker

Enclosure

Staff Observations on DOE Progress in Implementing Recommendation 93-6

1. As discussed in the first and second DOE quarterly progress reports for Recommendation 93-6 (dated December 6, 1994, and March 9, 1995, respectively), commitments have been completed in (1) identification of senior DOE management for the archiving mission, (2) information on the Stockpile Evaluation and accelerated aging programs, (3) readiness exercise/activity schedule at the Nevada Test Site, and (4) identification of key safety-related positions associated with nuclear testing. Overall, however, 21 commitments (out of 24 total commitments) were to be completed by February 1995, per the DOE Implementation Plan for Recommendation 93-6. Only the four completed deliverables indicated above have been submitted to the Board, taking into account previously rejected deliverables addressed in the Board's letter of September 14, 1994.
2. The staff has observations regarding DOE's progress on the following key commitments to the Board:
 - a. Identification and Capture of Skills and Knowledge - Several commitments related to development of an ongoing program to identify and capture skills and knowledge are several months overdue and DOE has not provided definitive schedules for completion:
 - (1) Definition of Critical Functional Areas (commitment 1.1, due August 1994): An initial list of Critical Functional Areas to be considered in the development of safe dismantlement and modification procedures was submitted by DOE in August 1994. This list was rejected by the Board in their letter dated September 14, 1994, as the list did not address apparently applicable Critical Safety Elements developed during DOE's implementation of Recommendation 93-1. The final list is to form the outline for follow-on identification of skills and knowledge, yet DOE has not resolved the deficiencies identified by the Board and submitted a revised list.
 - (2) Tasking to Identify Skills and Knowledge (commitment 1.2, due September 1994): This commitment requires tasking to Headquarters and field personnel to initiate identification of skills and knowledge as matched to the identified Critical Functional Areas. While initial tasking letters were issued in August 1994 and work in this area has evidently proceeded, this commitment cannot be completed until the Critical Functional Areas list of Commitment 1.1 is finalized.
 - (3) Compiled Skills and Knowledge Report (commitment 1.3, due November 1994): This commitment requires a report on compiled skills and knowledge as matched to the Critical Functional Areas and any immediate actions needed.

This information will be used in identification of personnel to be accessed for information capture. As with commitment 1.2, completion of this commitment depends on finalizing the Critical Functional Areas list.

- (4) **Structured Information Recovery Program (commitment 5.2, due September 1994):** This commitment calls for development of a coordinated program by DOE Headquarters for eliciting and documenting experience, knowledge and other information from individuals on a priority basis. Such an information capture program is central to meeting the intent of Recommendation 93-6. The second quarterly report states that efforts are on-going at the weapons design laboratories. However, there is no evidence that a structured program with appropriate milestones, performance metrics and methods to ensure consistent and usable capture of information, as committed to by DOE, is being developed.
- b. **Policy Statement to Assure Access to Retirees (commitment 4.1 due October 1994):** While a draft policy statement that appeared to meet this commitment was discussed between DOE Headquarters Staff and the Board Staff several months ago, no policy statement has been issued to date nor has a schedule been provided for completion. Recent discussions with DOE Headquarters Staff indicate that DOE may be considering alternate administrative methods for assuring access to retirees.
 - c. **Dismantlement and Modification Procedure Development Process (commitment 6.3, due October 1994):**
 - (1) The second quarterly report indicates that efforts are ongoing to develop the directives and engineering procedures that will be used to guide development of weapons dismantlement and modification procedures. None of these documents for governing dismantlement or modification procedure development are final at this time. Only guidance on readiness reviews of new or restarted weapon assembly/disassembly programs has been completed. Schedules for completion of these efforts have not been provided.
 - (2) Technical criteria have recently been developed for designing dismantlement processes and procedures. The delay with putting in place a coordinated program to identify and capture skills and knowledge (as discussed above) adversely impacts incorporation of such knowledge into dismantlement and modification procedure development, as committed to by DOE. Such technical criteria and available knowledge of past technical issues were not systematically employed in development of the recently started W-48 dismantlement program. Use of such technical criteria and knowledge may have avoided recent problems associated with this dismantlement activity.

d. **Stockpile Evaluation and Accelerated Aging Programs (Commitment 6.1, due September 1994):**

- (1) **The DOE Implementation Plan for Recommendation 93-6 states that the Stockpile Evaluation Program and accelerated aging programs address analyses for the possibility of hazards from the degradation of weapons remaining in the enduring stockpile with time. DOE committed to provide a description of these programs to address the Board's concern that hazard information be derived that could be used in weapon dismantlement and modification procedure development.**

- (2) **In December 1994, DOE submitted their description of these programs to the Board. This description indicates that the primary objective of these programs is to ensure War Reserve material conforms to design and reliability requirements. The description also states that design laboratory organizations involved in weapons dismantlement and modification are involved in investigation of anomalies found during these activities. There does not appear to be, however, a clear, specified objective in these programs to determine the hazards from the degradation of weapons that may impact the safety of dismantlement or modification efforts, nor a clear description of how such information would be used.**