

Statement of
**Dr. John E. Cantlon, Chairman
Nuclear Waste Technical Review Board**

before the

**Committee on Energy and Natural Resources
U.S. Senate**

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Mr. Chairman and members of the committee:

I am John Cantlon, Chairman of the Nuclear Waste Technical Review Board. I am pleased to be here today to discuss key issues of concern related to the costs and management of the civilian radioactive waste management program. I will provide a brief statement summarizing the Board's views on these issues, which are discussed in more detail in the Board's March *Special Report to Congress and the Secretary of Energy*; with your permission, I request that the full text of our report — some 20 pages — be entered into the record.

As you know, the Board's congressional mandate is to review the scientific and technical activities undertaken by the DOE to evaluate the potential suitability of a site at Yucca Mountain, Nevada, for the construction of an underground repository. This repository would provide a location for the permanent disposal of the nation's civilian spent fuel along with about 8,000 metric tons of high-level radioactive waste resulting from defense-related activities. Congress also charged the Board with evaluating the DOE's programs for packaging and transporting the spent fuel and waste that would be disposed of at the repository. We are required to report our findings and recommendations twice a year to Congress and the Secretary of Energy.

Our first six reports dealt primarily with the technical aspects of the DOE's program. However, as our review continued, it became clear that in certain cases it is very difficult to separate technical decisions from the policies and management that guide them. Consequently, in March of this year, the Board released a more broadly based *Special Report to Congress and the Secretary of Energy*. The Board's primary objective in writing a short special report was to make a timely and constructive contribution to the improvement and progress of the civilian radioactive waste management program. Indeed, the Board made its recommendations at a time it hoped would be most useful to the new Congress and the new Secretary.

We would like to thank the Chairman and members of this committee for giving us the opportunity to present our views on the status of the DOE's program, as expressed in the Board's special report. I will briefly summarize our views in one moment. But first, I want to emphasize that the Board believes there are many, very capable people working on this program. Also, based on currently available data, we see no technical or scientific reason for abandoning either the site at Yucca Mountain or its option of deep geologic disposal. Furthermore, the Board strongly believes that its concerns can and should be addressed without slowing the momentum of important site-

characterization activities currently under way at Yucca Mountain. That said, I will briefly summarize the three observations the Board made in its *Special Report*.

First, the Board believes that it is highly unlikely that the DOE will meet the 1998 date for waste acceptance at an MRS or its 2010 date for beginning repository operations. The Board is concerned that continuing to try to meet these unrealistic schedules may cause the DOE to make important decisions without performing sufficient long-term testing and scientific analyses. This could result in licensing problems, increase the overall program costs, and ultimately delay the program.

Therefore, recognizing the need for a schedule to measure progress and maintain program momentum, the Board recommended that the DOE concentrate on establishing and meeting important intermediate goals — such as getting underground, determining site suitability, and completing essential scientific testing. Adopting this approach could help the DOE avoid costly errors, save money, and speed *real* program progress in the long run. It also could facilitate the licensing of the facility, should the site be found suitable. Secretary O'Leary has recently indicated that final deadlines will not be permitted to compromise technical requirements. The Board welcomes this assurance and looks forward to seeing the program accommodate this amended policy.

The Board's second major concern relates to the coherence of DOE's overall plan for managing civilian spent fuel and defense high-level waste. Since it issued its first report, the Board has repeatedly recommended that the DOE approach the management of spent fuel and high-level waste as an integrated system that effectively meshes their storage, transport, and disposal. Many advantages to this approach are enumerated in the Board's *Special Report*. Unfortunately, the DOE's current plan is not well integrated and contains significant gaps.

The DOE has recognized the existence of problems in this area and in 1991 hired an M&O contractor to integrate the various activities and entities involved in the program. The M&O has made some progress in meeting this objective. However, the Board believes that more work on developing an overall system framework for the program is needed.

To that end, the Board recommended in its *Special Report* that the DOE place a high priority on developing a comprehensive, well-integrated plan for managing *all* of the spent fuel and high-level waste that eventually may find its way into a permanent repository. Such a plan should

take into consideration the interdependent nature of the system and subsystem components involved in storage, transport, and disposal of spent fuel and radioactive waste. Secretary O'Leary has recently called for the appointment of a chief scientist for the Yucca Mountain Project Office; this is one step that could improve the integration of site-characterization activities.

The third and final issue raised in the Board's *Special Report* focuses on the organizational structure and program management of the Office of Civilian Radioactive Waste Management. As I mentioned before, there are many, very capable people working on this program. However, the large number of organizations involved, the program's multilayered organizational structure, and the fact that the entities are geographically dispersed create substantial challenges for program managers. In addition, responsibility for decision making seems to be shared among people at headquarters, the project office, the M&O contractor and other private contractors, the national labs, and the U.S. Geological Survey. In the Board's view, the M&O contractor, which was hired to integrate the program, is not being used as effectively as it could be.

The Board also is concerned about the allocation of program funds. The very high overhead and infrastructure costs for the program leave limited amounts for actual site work and other important research and development requirements. One good example is the level of funding for waste package research. For years the Board has recommended that research into the development of robust, long-lived waste packages be funded adequately and predictably. Until recently, funding in this area has been reduced consistently. Now, the Board is happy to say, emphasis is finally being placed on the development of a robust, multipurpose waste package.

In light of these concerns, the Board recommended that an *independent* evaluation of OCRWM's management and organizational structure be undertaken. Such an independent management evaluation would, by definition, *not* be an internal review conducted by the DOE. I would also like to clarify that the Board is *not* suggesting that the overall objectives or policies underlying the development of a deep geologic repository be reconsidered. The Board does believe, however, that streamlining the program's organizational structure and making management more efficient would contribute to improved program integration and probably reduce program costs.

The Board notes with interest that several issues raised in its *Special Report* — specifically the optimistic nature of the schedule, the risk of short-circuiting important scientific tests, and the relatively small amount of funding available for site-characterization activities — are consistent

with the findings in the GAO report that also will be discussed today. However, there are differences in the bases for the findings in the two reports that are worth noting. For example, the conclusion in the GAO's report that site investigation may take 5-13 years longer than currently scheduled is based primarily on the GAO's evaluation of the differences in DOE's cost estimates and its program funding requests; whereas the Board arrived at its observation that the current schedule is unlikely to be met by estimating the actual time that will be required to complete critical scientific tests in the underground exploratory studies facility.

Although we have said that adequate and predictable funding should be provided for the program, the Board believes that simply increasing program funding will not ensure that the DOE will meet its 1998 and 2010 deadlines. In addition, in making its observation about the limited availability of funding for site work and research and development, the Board considered only the impact of the Yucca Mountain project's infrastructure costs. The GAO considered in its calculations the funding requirements for transportation casks and for siting a centralized monitored retrievable storage facility.

As pointed out in the GAO report, the funding priorities given to siting a monitored retrievable storage facility and transporting spent fuel to such a facility by 1998 have substantially shifted support away from activities related to site characterization. This is another example of how decisions made about one component of the waste management program may have significant consequences for another part of the program. It also demonstrates the importance of resolving the policy issues associated with initiating the DOE's acceptance of spent fuel from the utilities. These difficult issues need to be addressed by Congress, the DOE, the utilities, and the other stakeholders.

In closing, I would like to emphasize that the spent fuel and waste management job the Congress has given the DOE is important and necessary, but it is also very complex. This is true not just because of the scientific and technical questions associated with the development of this first-of-a-kind geologic repository, but also because of the many political, institutional, and public acceptance considerations that are involved. The Board firmly believes, however, that without a strong and defensible scientific and technical underpinning the other challenges facing the program will be even more formidable.

We are all working toward the same objective — finding a safe and environmentally acceptable long-term option for managing the nation's spent fuel and high-level waste. The Board looks forward to continuing to play a role in this important national effort.

Thank you once again for inviting the Board to present its views. I will be happy to respond to any questions you may have.