Statement of Don U. Deere

Chairman

Nuclear Waste Technical Review Board

before the

Committee on Energy and Natural Resources

United States Senate

March 21, 1991

Mr. Chairman and Members of the Committee:

I am Don U. Deere, Chairman of the Nuclear Waste Technical Review Board (the Board). On behalf of the entire Board, I would like to thank you and the committee for the opportunity to comment briefly on important issues relating to the proposed site at Yucca Mountain, Nevada. This site is being characterized by the Department of Energy (DOE) for the development of a mined geologic repository for the disposal of commercial spent fuel and defense high-level radioactive waste.

Background

Mr. Chairman, as you know, the Board was established by the Nuclear Waste Policy Amendments Act of 1987 to evaluate the technical and scientific validity of the DOE's civilian radioactive waste management program. (A more detailed statement describing the Board and its mission is attached.) Our charge includes the evaluation of activities related to the characterization of the candidate site at Yucca Mountain and to the transportation and packaging of the waste.

As part of its review of the DOE program, the Board has identified many aspects of site characterization and repository development about which questions have been raised. In its two completed reports to the U.S. Congress and the U.S. Secretary of Energy, the Board made a number of recommendations to the DOE in some of these areas and identified subjects the Board wished to explore further.

The Committee's Questions to the Board

Today, the Board has been asked by the committee to respond to two questions relating to the Yucca Mountain site. First, is the DOE prepared to begin site characterization? And second, does the Board know of any reason to disqualify the site at this time? On behalf of the Board, I am pleased to respond to these questions.

1) Is the DOE prepared to initiate site-characterization activities?

In the Board's view, the DOE is prepared to begin a progression of site-characterization activities as soon as it has gained access to the site. The DOE is ready to expand surface-assessment activities, such as exploratory drilling, trenching, and performing additional environmental and soil studies. While awaiting site access, the DOE has been able to further refine the design of underground facilities (including the layout of openings and exploratory tunnels) and related testing programs.

In its *First and Second Reports to the U.S. Congress and the U.S. Secretary of Energy,* the

Board recommended that the DOE's site-characterization program give highest priority to those tests and studies that provide the data necessary for an early determination of site suitability, that is, finding out as soon as possible if there are disqualifying conditions at the site. Recent efforts by the DOE have refocused its site-characterization program along these lines.

The Board is in agreement that the DOE should proceed with its assessment of the Yucca Mountain site.

2) Is there any reason to disqualify the Yucca Mountain site at this time?

Given existing data, there appear to be no *scientific* or *technical* reasons to abandon the site at this time. Until site-characterization studies, particularly subsurface exploration (including boreholes, shafts, and tunnels), have progressed sufficiently, it will be impossible to tell whether or not the site is suitable for repository development. It is conceivable that disqualifying conditions may be identified as the site is being characterized.

It is important to remember that Yucca Mountain has not been chosen as the site for a repository. Rather, it is the single site designated by the Congress for characterization. The Board strongly believes that a candidate site for repository development will have to undergo both surface and underground characterization before its suitability can be adequately evaluated. The critical portion of the data necessary to evaluate the suitability of the Yucca Mountain site has yet to be collected.

Conclusion

Mr. Chairman, the Nuclear Waste Technical Review Board accepts its responsibility for reviewing the technical and scientific validity of DOE activities relating to the management of civilian high-level waste. However, there is no question that the resolution of technical and scientific uncertainties is made substantially more difficult by nontechnical problems.

I would like to reiterate that the early evaluation of the suitability of the Yucca Mountain site has been, and continues to be, a prime concern of the Board. From the time it issued its first report, the Board has voiced its concern over the impasse between the DOE and the State of Nevada over access to the Yucca Mountain site.

It is clear that the progress of the DOE's site-characterization activities depends directly on access to the site. Continuing delays in site characterization will result in further cost increases and comparable delays in arriving at both a judgment about site suitability and in moving toward safe management of the Nation's high-level radioactive waste.

Mr. Chairman, this concludes my prepared remarks. I would be pleased to address any questions that you or other members of the committee might have.

About the Board

The Nuclear Waste Technical Review Board (the Board) was established as an independent agency within the Executive Branch of the Federal government by the Nuclear Waste Policy Amendments Act (NWPAA) of 1987, which was signed into law on December 22, 1987.

The Board is charged to evaluate the technical and scientific validity of nuclear waste disposal activities undertaken by the Secretary of Energy, including

(1) site-characterization activities, and

(2) activities related to the packaging or transport of high-level radioactive waste or spent nuclear fuel.

The Board is required to report its findings, conclusions, and recommendations no fewer than two times each year to the U.S. Congress and the Secretary of Energy. The Board's first two reports were released in March and November 1990, respectively. Its third report will be released in May.

The Board conducts its evaluation through discussions; briefings to both the full Board and its panels; reviews of Department of Energy (DOE) studies; reviews of selected literature by members and staff; and through participation in field trips. Four full Board meetings and 10-12 panel meetings and technical exchanges are held each year.

At full strength, the Board is composed of 11 members who are eminent in a field of science or engineering, including environmental sciences, and are selected solely on the basis of distinguished service. The law stipulates that members shall represent a broad range of scientific and engineering disciplines related to nuclear waste management. Members are appointed by the President from a list of candidates recommended by the National Academy of Sciences. The Board members serve part time for terms of four years.

Support for the Board's activities is provided by about ten senior professionals and 12 administrative staff, located in Arlington, Virginia.