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## United States Senate

COMMITTEE ON  
ENERGY AND NATURAL RESOURCES  
WASHINGTON, DC 20510-6150

April 7, 1992

Dr. Don U. Deere  
Chairman  
Nuclear Waste Technical Review Board  
1100 Wilson Boulevard, Suite 910  
Arlington, Virginia 22209

Dear Dr. Deere:

I want to thank you for your testimony on March 31, 1992 before the Committee on Energy and Natural Resources on the Department of Energy's Civilian Nuclear Waste Program.

As a follow-up to that hearing, I am enclosing questions to be provided for the printed record. I am requesting that the answers to these questions be provided to the Committee no later than April 22, 1992. If you have any questions about this request, please contact Mary Louise Wagner, of the Committee staff, at (202) 224-7569.

Thank you again, and I look forward to working with you in the future.

Sincerely,

J. Bennett Johnston  
Chairman

Enclosures

FOLLOWUP QUESTIONS  
TECHNICAL REVIEW BOARD

1. The Board has been a strong advocate of getting underground at Yucca Mountain as quickly as possible. What is your opinion of the decisions made to date with respect to the priorities in this program? In your opinion, has the Department developed the appropriate priorities for getting the job done?
2. The Technical Review Board was very involved in the decision to change plans for construction of the underground facility at Yucca Mountain. Could you explain to the Committee your perspective on the decision to change from shafts to ramps? What can be accomplished by using ramps that could not have been accomplished otherwise? Does this shift mean that we have wasted all the of the money
3. A significant amount of money is spent in the waste program on so-called pre-licensing activities and interaction with NRC. In your opinion, is this interaction necessary at this juncture? Why couldn't this be delayed until after the hole is dug?
4. In your opinion, is there undue emphasis on the regulatory activities at this point, or is it the appropriate amount of emphasis?
5. The Department's current schedules envision a decision on the suitability of the Yucca Mountain site and submission of a license application to NRC in 2001. Does this mean that we will not know until 2001 even if the site is unsuitable? How can this program be structured better to ensure that disqualifying factors are discovered as early as possible?
6. In your opinion, what could be done to speed up the process of completing site characterization at Yucca Mountain and making an ultimate decision on the suitability of the site?
7. Current regulations will require a judgment on the suitability of the site to isolate radionuclides for 10,000 years. How will it be possible to prove the performance of Yucca Mountain for 10,000 years? Is it possible to prove anything for that long? In your opinion, what portion of the site characterization activities are attributable to satisfying this standard as opposed to a standard providing for reasonable protection of the public health and safety?
8. Have we designed regulatory requirements for storage and disposal of nuclear waste that are so stringent that we are destined to fail? Have we designed requirements that cannot be proved? Is the existing regulatory framework too

stringent? Does the existing regulatory framework require more than is necessary to assure reasonable protection of the public health and safety? Would it be desirable to reevaluate what standards need to be met to assure protection of the public health and safety?

9. Given the existing regulatory framework, do you believe we can resolve sufficiently the uncertainties about the suitability of any site? Does any particular type of site, or type of media, give us better chances for success in resolving uncertainties, or does each bring with it some uncertainties?
10. You talk in your statement about the need for greater emphasis on engineered barriers. Could you explain this a little bit more? In your opinion, why has the Department not put a greater emphasis on this? In your opinion, will greater emphasis on engineered barriers improve the chances for successful licensings of a repository at Yucca Mountain?
11. At the hearing, you made the recommendation that a policy decision be made to delay the final closure of the repository and to provide for a 100-year period for monitoring its performance prior to any decision on closure. Please explain what the benefits of such an approach would be. How would such a policy shift change the regulatory framework and requirements for determining the suitability of the Yucca Mountain site? How would such a policy shift change the costs of this program?
12. At the hearing, the suggestion was made that if it costs \$6 billion to study the suitability of the Yucca Mountain site and only \$2 billion to build a repository at the site, then why not go ahead and build a test facility and see if it works. Should we be looking more seriously at an approach to nuclear waste disposal that focuses more on resolving the uncertainties as we go along rather than requiring that all uncertainties be resolved up front? Would such an approach be more rational given the first-of-a-kind nature of geologic disposal and given the difficulty in predicting the performance of anything thousands of years into the fixture?