



## Department of Energy

Washington, DC 20585

December 17, 2003

Dr. Michael Corradini  
Chairman  
Nuclear Waste Technical Review Board  
2300 Clarendon Boulevard  
Arlington, VA 22201-3367

Dear Dr. Corradini:

Thank you for your letter of November 25, 2003, transmitting the Board's technical report, *An Evaluation of Key Elements in the U.S. Department of Energy's Proposed System for Isolating and Containing Radioactive Waste*. This report provides additional analyses to support the Board's October 21, 2003, letter, which summarized the Board's concerns relating to waste package corrosion during the thermal pulse. In addition, I have received your letter of December 4, 2003, announcing the Board's decision to conduct meetings of the Engineered System and the Waste Management System Panels, instead of a Full Board meeting, in January 2004.

With respect to the Board's technical report, we are in the process of reviewing this report, but I would like to provide some preliminary comments. While the Board has identified some valid issues with the technical basis for aspects of the U. S. Department of Energy's (DOE's) analysis of corrosion processes during the thermal pulse, I am concerned about certain conclusions in this report. As first noted in my October 27, 2003, letter, I am especially concerned about the Board's conclusions that under the conditions associated with our current design, "widespread corrosion is likely to be initiated during the thermal pulse" and this corrosion is "likely to propagate rapidly even after conditions necessary for initiation are no longer present." Our analyses do not suggest such results and I do not believe that the data presented in the Board's report support such strongly stated conclusions. The report also fails to acknowledge briefings on the DOE's ongoing testing and analysis program that is structured to address some of the issues raised by the Board.

I anticipate that our review of your report will be completed in February 2004. After we have completed this review, we would appreciate the opportunity to discuss the report during a Full Board meeting – perhaps in the March timeframe. The purpose of this discussion would be to develop a common understanding of the technical issues related to seepage, the in-drift environment, and localized corrosion. Instead of formal DOE



presentations, I propose a round table presentation and discussion of the issues as an appropriate forum to develop a common understanding of the Board's concerns and DOE's perspective on these issues. The Board used this approach in their meeting on multiple lines of evidence in April of 2001 and the results were well received.

The Board's letter of December 4, 2003, provides suggested topics for DOE presentations at the Board's panel meetings scheduled for January 20 and 21, 2004. With respect to the panel meeting on the waste management system, the DOE will provide the requested presentations on the status of DOE transportation planning and the interface between the transportation system and the Yucca Mountain surface facilities.

For the panel meeting on the engineered system, I believe it is premature, as noted above, for the DOE to address the Board's November report at that time. Given the critical nature of the Board's concerns, I believe this discussion should be addressed in a Full Board Meeting after the DOE has completed a technical review of the Board's report. Our respective staffs are discussing alternative presentations for that meeting.

Claudia M. Newbury of my staff will be working with Daniel Fehringer and Carl DiBella of the Board staff on the details and planning for these two panel meetings. I appreciate the time the Board has taken to develop and communicate its views, and I look forward to continuing our dialogue on important issues.

Sincerely,



Dr. Margaret Chu, Ph.D.  
Director  
Office of Civilian Radioactive  
Waste Management