



UNITED STATES
NUCLEAR WASTE TECHNICAL REVIEW BOARD
2300 Clarendon Boulevard, Suite 1300
Arlington, VA 22201

January 24, 2002

Honorable John Shimkus
Committee on Energy and Commerce
U.S. House of Representatives
Rayburn House Office Building
Washington, DC 20515-1320

Dear Mr. Shimkus:

Enclosed are responses to the questions posed in your letter of December 5, 2001. As you know, the Board provides independent advice on the technical issues associated with the management of the country's commercial spent nuclear fuel and defense high-level radioactive waste. The Board offers its technical views to help inform the larger consideration of issues that face the Department of Energy and Congress in their evaluation of the suitability of the Yucca Mountain candidate repository site.

The Board is keenly aware that many of the issues that must be considered in making decisions in this policy area are technical ones but that other issues are not. We believe that Congress and the Secretary will find it useful to have our views on the technical and scientific information related to a possible site recommendation. As noted in our responses, policy-makers will decide how much technical certainty is acceptable for a site recommendation.

Please let me or the Board's staff know if we can provide you or your staff with additional information on the enclosed responses.

Sincerely,

{signed by}

Jared L. Cohon
Chairman

Enclosure

**NUCLEAR WASTE TECHNICAL REVIEW BOARD
RESPONSE TO QUESTIONS FROM
REPRESENTATIVE JOHN SHIMKUS
JANUARY 24, 2002**

Are you aware of any technical issues or concerns applicable to the site recommendation phase of the Yucca Mountain Project, that directly and negatively impact human health and safety, that could not be mitigated prior to the closure of the repository, which under current design, would occur 100-300 years after its opening?

At this point, no individual technical or scientific factor has been identified that would automatically eliminate Yucca Mountain from consideration as the site of a permanent repository. However, the DOE uses a complex integrated performance assessment model to project repository system performance. Performance assessment is a useful tool because it assesses how well the repository system as a whole, not just the site or the engineered components, might perform. However, gaps in data and basic understanding cause important uncertainties in the concepts and assumptions on which the DOE's performance estimates are now based. Because of these uncertainties, the Board has limited confidence in current performance estimates generated by the DOE's performance assessment model. This is not an assessment of the Board's level of confidence in the Yucca Mountain site.

The Board believes that confidence in performance estimates can be increased. Future scientific investigations may show that components of the repository system perform better than or not as well as the DOE's performance assessment model now projects. It is impossible to know with absolute certainty whether issues or concerns that cannot be mitigated might arise in the future. This would be the case at any potential repository site.