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October 4, 2001

Lake H. Barrett, Acting Director  
Office of Civilian Radioactive Waste Management  
U.S. Department of Energy  
Washington, DC 20585

Dear Mr. Barrett;

Thank you for the opportunity to respond to the DOE's request for comments regarding the Secretary's recommendation regarding developing and licensing the Yucca Mountain repository as a long term storage site for high level radioactive waste (HLW). It is critical that a safe geological repository be identified, licensed, and developed to manage the long-term, safe storage of HLW. We encourage DOE to continue to follow a reasoned path to remedy and fully evaluate the potential shortcomings identified at the Yucca Mountain site.

It is estimated that the United States has accumulated several tens of thousands of metric tons of HLW, which have been generated by the nation's nuclear power plants, experimental reactors, and weapons facilities. Undoubtedly, New Hampshire's Seabrook Nuclear Power plant is contributing to this nuclear waste stockpile.

The Yucca Mountain site was selected in 1987 for detailed exploration as a potential site for HLW storage because of its remoteness, exposure to previous nuclear weapons testing, relatively geologic and seismic stability, and potential for minimal hydrologic impacts. To date, Yucca Mountain is probably the most comprehensively studied geotechnical site of any kind in the world. However, even with the high level of site assessment and analysis that has been conducted at Yucca Mountain, there are still technological impediments to be overcome in order to develop a safe repository. For example, USGS Circular 1184, which is a briefing document prepared for USGS Director Charles Groat, presented a list of issues with the repository based on information released in DOE's report "Viability Assessment of a repository at Yucca Mountain". In the opinion of the senior scientists who drafted the report, the Yucca Mountain site remains promising as a geological repository for HLW. However, they also note that several earth science issues remain to be addressed, such as obtaining a greater understanding and quantification of the Quaternary climate and paleohydrology to better delineate potential water seepage into the repository, long-term ground water monitoring, and moisture and temperature controls and their effect on mineralogical and structural stability of the host rocks. The USGS report also recommends that a low-temperature design be tested and employed at the repository, which is a sentiment that is echoed in a letter dated

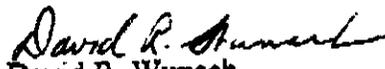
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December, 2000, to the U.S. Congress and then Secretary Richardson by the U.S. Nuclear Waste Technical Review Board. In light of the detailed analyses performed by the USGS, and the opinion of the oversight review Board, we concur with their findings and suggestions.

In addition to specific earth science issues that need to be addressed at the Yucca Mountain site, there are issues related to transportation and the potential for recycling spent nuclear fuels that are of great concern to the state governments as well. Title III of Senate Bill 1287, which was vetoed by President Clinton, would have established an Office of Spent Nuclear Fuel Research, within the Office of Nuclear Energy Science and Technology of the Department of Energy, to implement an integrated research, development, and demonstration program on technologies for the treatment, recycling, and disposal of radioactive waste. This program would have merit in that advanced technologies currently being developed, or perhaps developed in the future, may make it plausible to retrieve the spent fuel in the future for reprocessing to serve other potential beneficial uses. This avenue for disposal and management warrants further development, and we would encourage DOE to work with Congress to develop this infrastructure. This approach is supported in a report issued by the National Academy of Science in June 2001, which states that a reversible geological repository is still the best option for the long-term storage of HLW.

In closing, it is important to note that there will always be a significant amount of uncertainty regarding the long term integrity of any geological repository because of the unknowns related to the behavior of engineered systems, and unforeseen changes in geological conditions over time. However, in light of the recent acts of terrorism propagated against the United States, and the fact that HLW is temporarily stored at more than one hundred sites in 40 states, we would deem it prudent to continue a course of timely site evaluation to quantify the variables and issues described above, while concurrently recommending the site for licensure.

Sincerely,

  
David R. Wunsch  
State Geologist

cc: George Dana Eisbee, Assistant Commissioner

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