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

Re your letter, August 28, 2001, Request for Comments

Dear Mr. Barrett:

Thank you for allowing me an opportunity to address this most serious question. I must admit that until your letter arrived I was basically concerned only with the transportation angle of this matter. Radioactive materials of all kinds will be routinely routed through America via every known mode of transportation, a prospect that is alarming. It would not be quite so alarming if one could have trust in those who will be doing the transporting, but knowing that "familiarity breeds contempt" and that profits would be higher using the least shielded conveyances, the least trained operators, and other cost cutting measures those who gain contracts to handle the hazardous cargos are likely to devise, the possibility of accidents involving nuclear waste will not only be greatly increased, but possibly kept quiet so as not to alarm the public. Since I received your request for my input into the matter of Yucca Mountain, I have done quite a bit of research (mostly via the internet and the telephone) and will try to respond to the situations you posed in your attached "Suggested Topics for Public Comment on Yucca Mountain."

**YOUR TASK FOR ME:** Please provide your views concerning whether the Yucca Mountain Preliminary Site Suitability Evaluation (PSSE) and other scientific documents produced by the Department provide an adequate basis for finding that the Yucca Mountain site is suitable for development of a repository. If you believe that certain aspects of the PSSE are inadequate, please detail the basis for this belief and indicate how the documentation might be made adequate with respect to these aspects.

**MY RESPONSE:** First of all, I am mystified as to the determination by an "Act" ordering that Yucca Mountain be the only site considered for the repository of nuclear waste. If our science regarding both nuclear waste disposal and possible safe sites for their storage has not progressed greatly in fourteen years, our country has even greater problems than storage of radioactive materials. That such progress would not be used to determine safe storage of those materials is unthinkable. Arbitrary selection of one site and then producing documentation to support that arbitrary selection is far from the kind of governance I expect from either the Nuclear Regulatory Commission or the Department of Energy.

Since my immediate personal concerns dealt only with my fear of encountering poorly shielded hazardous cargo on the highway (a possibility of which already exists), I decided to see what the people of Nevada felt about the Yucca Mountain Preliminary Site Suitability Evaluation (PSSE). I did this via the internet. Oddly, I found that almost no one from Nevada seemed to approve of the selection of Yucca Mountain as a storage point for high level nuclear waste. Reasons differed, but they ran the gamut. One of the more interesting stated that there was no scientific or legal basis for the PSSE and concluded by saying that the PSSE was sadly lacking in the information required to allow the public to draw intelligent conclusions on the subject. This places the PSSE in the position of a report manufactured to prove one side or another of the argument for the use of Yucca Mountain as a repository. That alone makes the PSSE questionable.

Even the Nuclear Waste Technical Review Board's report to the Secretary of Energy and Congress in April 2001 sounded unconvinced when they said, "The Board realizes that any projection of long term performance of a potential repository at Yucca Mountain is inherently uncertain; eliminating all the uncertainties will never be possible (although they can be reduced). The board also realizes that policy makers can make a decision on whether to recommend the site at any time, depending in part on how much uncertainty they find acceptable." The lack of enthusiasm in their statements is almost palpable.

**YOUR TASK FOR ME:** If the Secretary determines that the scientific analysis indicates that the Yucca Mountain site is likely to meet the applicable radiation protection standards established by the Environmental Protection Agency and Nuclear Regulatory Commission, do you believe that the Secretary should proceed to recommend the site to the President at this time? If not, please explain.

**MY RESPONSE:** My research in this matter tells me that while the U. S. Environmental Protection Agency has issued a decision of a 15 millirem total and a 4 millirem limit for radiation in ground water, the Nuclear Regulatory Commission has not adopted the standards, and are even under litigation in this regard. Apparently the nuclear industry feels that the standards are too strict. This sentiment on the part of those engaged in the nuclear industry is reason enough to make haste very slowly in recommending the site to the President. This is one time when over-caution should be required. The State of Nevada and even California which if my map is correct will be close enough to Yucca Mountain to be concerned cannot in this case survive mistakes. If the State of Nevada holds that the standards of protection of its citizens are not stringent enough, then every effort should be made to make the standards tougher or convince the Nuclear Regulatory Commission to adopt the standards issued by the Environmental Protection Agency before making a recommendation to the President.

**YOUR TASK TO ME:** Are there any reasons that you believe should prevent the President from concluding that the Yucca Mountain site is qualified for the preparation and submission of a construction license application to the Nuclear Regulatory Commission?

**MY RESPONSE:** Clearly submission of a construction license application would not be proper at this time. There seem to be gaps in the data that the Department of Energy has in its possession regarding this matter. According to some authorities, not all source documents are reliable and there are errors in calculations. Since the fuel repository is for 77,000 tons of material, our country even the world, cannot afford errors. The project done by the students at the Columbia School of Journalism considered two very important items—the ground water flow and evidence of seismic activities. Already the NRC is concerned about ground water travel time. There is Chlorine-36, a radioactive isotope from the Pacific Island atomic weapons test present 1,000 feet inside Yucca Mountain, at the repository level. There is also the discovery of a plug of magma less than 1,000 feet from the proposed repository. Nuclear chain reaction, potential earthquakes, ground water contamination and even climate change are all possible problems for Yucca Mountain. More study is needed before any construction license application to the DOE should be allowed.

**YOUR TASK TO ME:** If you believe that the Secretary should not proceed with a recommendation to develop a repository at Yucca Mountain, what mechanism should be utilized to meet the Department's legal obligation to begin accepting spent nuclear fuel and high level radioactive waste?

**MY RESPONSE:** The Secretary must go to Congress to request an amendment to the "Act" so as to allow further storage of spent nuclear fuel and high level radioactive waste in their present environment. Congress must be made to understand that the construction of a repository at Yucca Mountain is still questionable, and that further research is needed. The Nuclear Regulatory Commission's approved dry-cask storage at nuclear reactor sites will allow surface storage. The DOE should provide dry casks to utilities for their use until a completely safe site is assured.

**YOUR TASK TO ME:** If you believe that the Secretary should not proceed with a recommendation to develop a repository at Yucca Mountain, what measures should the Nation consider for assuring safe disposal of spent nuclear fuel and high level radioactive waste?

**MY RESPONSE:** Some of the most interesting information about measures to manage nuclear waste that I found was "transmutation," a technology proven since WWII which has been improved within the last three years by the DOE's own national laboratories at Los Alamos and Argonne. An advanced accelerator program using a design developed by the Russians to create enough energy to convert radionuclides with long half-lives to less toxic materials that need to be kept out of the environment for about 300 years is exciting to say the least. About four accelerators placed near operating commercial reactors could convert 1,000 tons of waste a year, generate enough electricity to pay for the accelerators, and produce radioisotopes for medical treatment and research. While a repository would still be required, the resulting smaller amounts of waste could be buried at a licensed landfill, such as those in Utah and in South Carolina. The technology is

expected to be ready by 2015. While the Yucca Mountain repository is scheduled to open in 2010, slipping the deadline for five years should provide us with better science and less expenditure.

**YOUR TASK FOR ME:** Please provide any other comments concerning any relevant aspect of the Yucca Mountain site for use as a repository, or that are otherwise relevant to the consideration of a possible recommendation by the Secretary.

**MY RESPONSE:** It should be noted that the residents of Nevada do not seem to want the proposed repository at Yucca Mountain. Sounder science (the transmutation discussed above) is on the horizon. A decision to construct a repository for high-level radioactive waste at Yucca Mountain would be premature at this time. It has already been revealed to most of us that nuclear mistakes are costly, not only in money, but in the health and lives of the citizens of this country and even the world. The decision as to where to site a repository should not be made because someone decided it would be convenient, or that there were fewer voters at that site, or even lesser population. Ground water flows in mysterious ways, and the winds blow where they will. Nature has always been in flux and appears less reliable than usual these days.

I hope I have answered your request.

Most sincerely,



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