



September 8, 2003

Dr. William G. Kennedy
Office of Program Analysis and Evaluation (ME-20)
1000 Independence Ave. SW
Washington, DC 20585

Re: Comments on U.S. Department of Energy's Draft Strategic Plan

Dear Mr. Kennedy:

Public Citizen is a national, non-profit, consumer advocacy organization based in Washington, DC. Public Citizen was founded in 1971 and is supported by more than 150,000 members across the country. Our Critical Mass Energy and Environment Program works closely with local, state-level, and national organizations on energy policy issues. Our comments on the U.S. Department of Energy's Draft Strategic Plan, and its reliance on Yucca Mountain, follow.

Over-Dependence on Yucca Mountain Repository

The DOE lists as its seventh long-term general goal in the Draft Strategic Plan to "license and construct a permanent repository for nuclear waste at Yucca Mountain and begin accepting waste by 2010." It is an understatement to say it is premature to set a target date for the opening of the repository when the site has not yet been thoroughly studied and proven to be a safe place to store highly radioactive waste for tens of thousands of years. In fact, the scientific research that does exist indicates that the Yucca Mountain site is not a safe location for a permanent high-level nuclear waste dump.

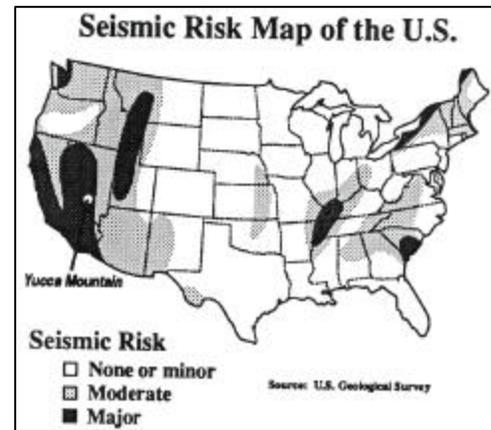
As the only site to undergo site characterization analysis, there is little precedent for study of the Yucca Mountain site and little else to compare it to in regards to its potential suitability as a permanent nuclear waste repository. For a decision with consequences that will be felt millennia from now, the rush to open the first site to be analyzed in depth is both unprofessional and irresponsible. The DOE is charged under the Nuclear Waste Policy Act of 1982 with selecting a site "that will provide a reasonable assurance that the public and the environment will be adequately protected from the hazards posed by high-level radioactive waste and such spent nuclear fuel as may be disposed of in a repository." Before formally settling on a particular location, the DOE has a responsibility to fully investigate multiple sites, as well as a responsibility to reject any or all of them should they not meet the highest safety criteria. Yucca

Mountain has been targeted, not studied. No respectable doctor would prescribe a medicine before making sure it is safe, determining that it cures the patient's ills, and verifying that there is no other medicine that will cure the ailment more cheaply and with fewer side effects. Likewise, Yucca Mountain has not been widely accepted as safe, will not eliminate our nuclear waste problem, and as a cure is worse than the disease itself. It is the height of irresponsibility to make permanent decisions about the health and safety of our country prior to careful scientific scrutiny. That the DOE continues this farce is antithetical to its duties of ensuring safe energy supplies and American values of honesty and accountability.

Yucca Mountain Repository Not Safe

Earthquakes

Public Citizen has gone on the record many times to oppose licensing and construction of the Yucca Mountain repository on the grounds that it is an unsafe area in which to build a facility designed to contain highly radioactive waste for tens of thousands of years. First, the area around Yucca Mountain is seismically active, giving rise to legitimate fears of an earthquake damaging even the sturdiest of underground containment structures or causing parts of the mountain to collapse and block access to casks. Since 1976, there have been over 600 seismic events with a magnitude greater than 2.5 within a 50-mile radius of Yucca Mountain. A 1992 earthquake with a magnitude of 5.6 caused damage to a DOE field office in the area. As recently as June 14, 2002, an earthquake with a magnitude of 4.4 was recorded just 12 miles from Yucca Mountain. Earthquakes also tend to go hand in hand with the possibility of volcanic activity.



Water Supplies

In addition to lying in a major earthquake zone, the proposed Yucca Mountain site sits atop a freshwater aquifer, an important source of water for much of the surrounding area, including Las Vegas and parts of California. Some scientists believe that an earthquake could raise the water table and flood the repository, most certainly leading to groundwater contamination. Others suggest that this has already happened in the past, bringing the water table to the land surface (Szymanski, 1989). The DOE has previously acknowledged¹ the opinion of Davies and Archambeau, who suggest that a moderate earthquake at the site could result in a water table rise of about 150 meters (490 feet) and a severe earthquake could cause a rise of about 240 meters (790 feet) in the water table, which would flood the repository. Even absent an earthquake, the possibility for accidental contamination of surface water exists and has not been adequately addressed.

¹ U.S. Department of Energy; *Draft Environmental Impact Statement for a Geologic Repository for Nuclear Waste at Yucca Mountain, Nevada*; 2000.

Above the Law

Too many rules and regulations have been bent, changed, or simply tossed aside to allow the Yucca Mountain plan to comply with regulations. The presidentially appointed Nuclear Waste Technical Review Board advised Congress in a letter dated January 24, 2002, that “the technical basis for the DOE’s repository performance estimates is weak to moderate.” Though long-term repositories are required to contain radioactivity with “natural barriers,” the Yucca Mountain site continues to rely on “engineered barriers,” indicating that should these engineered barriers (i.e. casks) degrade over time, radioactive contamination of the surrounding area is certain.

A lawsuit, in which Public Citizen is a plaintiff, is pending against the Environmental Protection Agency for loosening safety standards to squeeze the expected radioactive contamination of groundwater under the acceptable limit, as well as a reliance on dilution and dispersal of radioactive contamination rather than containment. The case before the D.C. Circuit Court of Appeals was recently postponed so it could be reclassified as “complex,” an acknowledgement of the thorny issues surrounding the charges. Other lawsuits by the state of Nevada are pending against the Nuclear Regulatory Commission and the DOE. It is clear that public health and environmental concerns have taken a back seat to the almost ideological drive to open not the safest waste repository, but Yucca Mountain and only Yucca Mountain.

Yucca Mountain Repository Doesn’t “Solve” the Waste Problem

Despite giving the impression that opening a central waste dump will somehow consolidate all our irradiated nuclear fuel in one easy-to-manage location, the Yucca Mountain repository’s capacity is capped at 70,000 metric tons. This limit does not even provide a final resting place for all waste that will be produced by currently operating commercial reactors, let alone any new reactors that may be built. Now, to counter this dilemma, Energy Secretary Spencer Abraham recently asked in a letter to House Speaker Dennis Hastert for Congress to redefine certain types of nuclear waste as “incidental,” thereby freeing large quantities of radioactive material from a permanent geological storage requirement. Calling highly radioactive material something else doesn’t make it safe; but it does conveniently avoid a potential public relations problem for the DOE. Already, the DOE sets out in its strategic plan a proposal to approach the President and Congress with the need for a second repository before Yucca Mountain could even conceivably open.

Aside from the fact that there is just too much high-level waste to fit inside any Yucca Mountain facility, the repository could be infinite and it still wouldn’t solve the problem of having large quantities of waste at hundreds of sites around the country. Irradiated fuel must cool on site for at least five years before it can be transported anywhere. No matter how large or how numerous repositories get, there will always be significant amounts of radioactive waste dotting the American landscape.

Transportation of Nuclear Waste Not Safe

We live in trying times. Terrorists are undoubtedly thinking of ways right now in which they can inflict massive numbers of casualties on Americans and wreak havoc on the country’s economy.

Reports have indicated that possible targets have included nuclear plants and others that would result in the release of dangerous quantities of radiation.

Any plan to permanently store large quantities of radioactive waste from around the country at a single repository will necessitate thousands of shipments to transport the waste from storage pools at nuclear sites in dozens of states. Yucca Mountain's location in the far western United States, while most of the commercial nuclear reactors are located east of the Mississippi River, increases exponentially the number of miles waste must travel compared to a potential repository in the East or several regional repositories. This massive shipment campaign does little more than multiply the number of potential targets for terrorists and increase the geographic area in which an accident or attack could affect local communities. Opposition from the communities along the proposed transport routes—in 44 states and the District of Columbia—is strong; there are 50 million people living within a half-mile of those routes.

Despite the obvious dangers, the casks relied upon to contain lethal amounts of radiation have not been tested to adequately ensure their safety. The standards the casks must meet are woefully inadequate, and include no provisions whatsoever regarding ability to guard against a terrorist attack. While no official analyses by the DOE have been performed, tests done by the Sandia national laboratories and the Army's Aberdeen proving ground have indicated that a shoulder-fired missile is capable of penetrating the shipment containers – an event that would invariably lead to contamination of the surrounding environment.

Even if the standards were adequate to guarantee public safety, those standards seem to be treated more like recommendations. In July 2000, as an employee of Exelon, Oscar Shirani led a quality assurance audit of Holtec, a lead manufacturer of casks used to transport and store irradiated nuclear fuel, and its supplier, U.S. Tool & Die. Shirani uncovered nine quality assurance violations indicating that casks made by Holtec may not match the licensed design specifications. Violations included unacceptably brittle materials, neutron shields riddled with holes, welding done by unqualified individuals, and falsified quality assurance documents. Many of these problems give rise to the potential for the cask to not perform as expected in the case of an accident or attack. All the DOE conclusions regarding the safety and viability of the Yucca Mountain site assume that safety standards will invariably be met. It is clear that this assumption is faulty; this problem needs to be addressed before a final decision is made, and any decision must acknowledge and incorporate the potential for human error.

Finally, many of the cities and towns along the proposed transportation routes may not be adequately prepared for an accident involving high-level nuclear waste. In May, 2003, 175 Indian Point-area first responders signed onto a petition to the Federal Emergency Management Association and the Nuclear Regulatory Commission expressing their concerns that “even [their] best efforts may not be enough to adequately protect the public health and safety of the citizens of this region.” Similarly, in July, 2003, a train loaded with radioactive waste shipped from the West Valley Demonstration Project in western New York to the Idaho National Engineering and Environmental Laboratory. This particular shipment raised eyebrows due to its extraordinarily secretive nature. While state-level officials were notified in the 11 states through which the shipment traveled, this information did not always filter down to the grassroots level. Bill King, Supervisor of the Town of Ashford, NY, where the West Valley facility is located, was

particularly critical of the method by which the waste was shipped. As the town official charged with overseeing both the local police and firefighters, Mr. King was rather dismayed that he was not informed the shipment would be taking place. Many crucial first responders, most of whom are volunteers, were left in the dark and unprepared for the type of catastrophe that could occur with such dangerous cargo. Until these communications and training lapses are remedied, any plans to perform thousands of similar shipments should be put on hold.

Conclusion

In light of the situation detailed above, it is clear that there are many hurdles that must still be overcome before a sound case for any permanent nuclear waste dump can be made. The DOE's goal of opening the Yucca Mountain repository at all, let alone in only seven years' time, is preliminary considering the preponderance of evidence indicating the site's complete unsuitability for such an important purpose.

The DOE should abandon its effort to submit a license application for the Yucca site and revise its seventh long-term general goal to instead call for full site characterization of other potential sites so as to get a more complete picture of the alternatives as well as to find a site that is more qualified than Yucca Mountain to permanently contain large quantities of radiation. It should also cancel all plans to provide either direct or indirect subsidization of the nuclear industry; such subsidies serve only to exacerbate the nuclear waste problem absent a clear and viable solution. They also unfairly hurt the competitiveness of cleaner, healthier, renewable energy alternatives such as wind, solar, and geothermal. This is in direct conflict with the strategic plan's fourth general goal, which states that we should "allow the market to decide how much of each energy source is actually used."

I appreciate your attention and considered response to these comments. Should you have any further questions or desire more information, please do not hesitate to contact me at (202) 454-5130. Thank you.

Sincerely,

Brendan Hoffman
Organizer, Nuclear Energy & Waste
Critical Mass Energy and Environment Program