

STATEMENT OF KENNY C. GUINN GOVERNOR OF THE STATE OF NEVADA

BEFORE THE U.S. SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

May 22, 2002

Honorable Mr. Chairman and members of the Committee, my name is Kenny C. Guinn and I am Governor of the State of Nevada. These written comments are submitted for inclusion in the hearing record. The state of Nevada compliments Chairman Bingaman for holding this important hearing and providing an opportunity for every member of the Senate to review in detail an issue of profound national importance - whether to proceed with the development of Yucca Mountain in Nevada as a site for a national nuclear waste repository. This is an issue that will tangibly affect tens of millions of Americans and it is hurtling toward finality in a manner that is premature, unnecessary and ill-conceived.

As is widely known by this time, Nevada considers the Yucca Mountain project to be the product of extremely bad science, extremely bad law, and extremely bad public policy. With regard to Yucca Mountain, each of these elements is strongly negative on its own and when the three are combined, the totality of their weight cannot, and should not, be ignored. This project has failed to meet the scientific criteria established by this very body for a deep geologic repository, it has failed to meet the law in numerous instances and ways, and it would implement an unprecedented public transportation policy that literally puts tens of millions of Americans at risk on a routine basis.

Attached to this statement are three documents: 1) the Notice of Disapproval and an accompanying Statement of Reasons I filed with the U.S. Congress pursuant to Section 116 of the Nuclear Waste Policy Act; 2) a copy of a recent peer review report commissioned by the U.S. Department of Energy (DOE) and conducted for DOE by the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency of the Organization for Economic Cooperation and Development (OECD); and, 3) a copy of an affidavit from John W. Bartlett, DOE's former Director of the Office of Civilian Radioactive Waste Management, outlining his experience overseeing the Yucca Mountain project and his reasons for concluding that the Yucca Mountain site is unsuitable for use as a high-level nuclear waste repository. Please consider these attachments as part of my written testimony to the Committee.

For the reasons stated therein, as supported and augmented by the information in this written testimony, we in Nevada believe that the Senate should take no further action in support of the Yucca Mountain project.

The IAEA/OECD Report on the Unsound Science of Yucca Mountain

I would like to call the Committee's attention to a new document, a key document, which recently appeared from within the scientific community that excoriates the scientific work of DOE in connection with Yucca Mountain. Numerous independent scientific reviewers have now evaluated the project during the past year, and all have reached the same conclusion: There is nowhere near enough information to certify the suitability of the Yucca Mountain site for high-level nuclear waste disposal, and the information that is available suggests the site is woefully unsuitable geologically.

This latest report, the aforementioned peer review report commissioned by DOE from the International Atomic Energy Agency and the Nuclear Energy Agency (IAEA) of the Organization for Economic Cooperation and Development (OECD), reaches shocking new conclusions. These agencies assembled some of the world's leading scientists to evaluate, over several months, the total system performance of Yucca Mountain as represented by DOE and its computer models. Among other things, these leading scientists concluded that DOE lacks sufficient information even to build a model to predict the suitability and hydrogeologic performance of the proposed repository. According to the peer review group, the water flow system at Yucca Mountain is "not sufficiently understood to propose a conceptual model for a realistic transport scenario."

Moreover, according to the peer review group, DOE's level of understanding of the hydrogeology of the site is "low, unclear, and insufficient to support an assessment of realistic performance." DOE's sensitivity studies in its computer models "do not give any clues to the important pathways for the water in the system." Perhaps most troubling of all, in DOE's performance model of Yucca Mountain, "increased ignorance leads to lower expected doses, which does not appear to be a sensible basis for decision-making."

It is truly amazing to me, as an elected executive official, that DOE commissioned this peer review report many months ago, and then made a final "site suitability" determination to the President and the Congress in spite of its stunning conclusions. It shows once again, in my view, that politics has long prevailed over science when it comes to Yucca Mountain. This is another reason for Nevada to redouble its efforts to stop this project - government bureaucrats seem unable to pull the plug, even in the face of shocking independent evidence that the science is bad or nonexistent.

The PECO Solution and the Myth of One Central Storage Site

It is almost certain that, even if Yucca Mountain proceeds, every nuclear utility in the United States will nonetheless have to build an interim dry storage facility for their inventories of spent nuclear fuel, if they have not already done so. This is because Yucca Mountain will not be ready to receive high-level radioactive waste until long after spent fuel pools at reactor sites have been filled to capacity. Moreover, as I have explained in my Statement of Reasons, Yucca Mountain will not reduce the number of storage sites across America for 60 to 100 years, even if no new plants are built, and Yucca Mountain

will never reduce the number of storage sites as long as nuclear reactors continue to be built and operated.

In July 2000, the Department of Energy reached an agreement with PECO Energy Company, a division of Exelon Corp., the nation's largest nuclear utility, for managing spent nuclear fuel from PECO's Peach Bottom nuclear plant in Pennsylvania.

The PECO alternative is simple: If DOE is unable to take PECO's spent fuel by a date certain, PECO will build a specially-constructed dry cask spent fuel storage facility at the Peach Bottom plant for storage of their spent fuel until such time as a permanent federal repository, or alternative, is operational. PECO will be allowed to reduce its contributions to the Nuclear Waste Fund (a \$9 billion fund collected from the nation's nuclear plant operators through annual assessments), and use those funds to pay for the new facility.

At PECO's request, DOE must become the title holder, owner, operator, and NRC licensee of the Peach Bottom independent spent fuel storage facility and its contents no later than five years after permanent shutdown of the Peach Bottom station, but no sooner than five years after the full 40-year license term of the station.

As explained in my Statement of Reasons, the PECO deal is the safe, practical, economic alternative to a severely flawed Yucca Mountain project. It represents what utilities are planning to do, and will have to do anyway, in the real world. I urge the Committee to explore the PECO deal carefully, and to question DOE and the nuclear industry as to why it has recently been ignored, or even hidden from public view.

So the cat is out of the bag - opening Yucca Mountain will not reduce from 131 to one (1) the number of sites where high-level waste and spent nuclear fuel is stored in America. As long as nuclear reactors continue to operate, which is the main purpose of developing a waste "solution," there will continue to be waste stored above-ground at reactor sites across the nation. In fact, at current rates of spent fuel production, if Yucca Mountain were to open and be filled to capacity by around 2036, there would still be just about as much spent fuel stored at reactors sites as there is today. And that amount would continue to pile up for years to come, even if no new reactors are built, because nuclear plants generate about 2,000 tons of spent fuel each year, and will continue to do so regardless of what happens with Yucca Mountain.

To borrow a popular phrase, "Do the Math." Today, approximately 46,000 tons of spent fuel is stored at the nation's reactor sites. By the time shipments start in 2011, DOE's earliest predicted date, there will be at least 64,000 tons. Yucca Mountain is being designed and licensed to hold only 77,000 tons, and is probably physically incapable of holding more. The law precludes it from holding more.

DOE hopes to be able to ship 3,000 tons of waste per year to Yucca Mountain. But nuclear plants will continue operating on renewed licenses for decades beyond 2011, so

spent fuel inventories will continue to grow at the rate of 2,000 tons per year. Thus, the net depletion rate will be only 1,000 tons per year.

If DOE meets its shipping targets, it will take approximately 25 years to fill Yucca Mountain with 77,000 tons of waste and spent fuel. But by then, operating reactors will have produced an extra 50,000 tons, leaving approximately 37,000 tons of spent fuel still sitting at reactor sites across America - a mere 9,000 tons less than we have today.

In short, on the day Yucca Mountain is filled to the brim, we would largely be right back where we started. Indeed, the 131 sites identified by DOE will not be reduced to one, but will in fact have risen by one. And in the interim, at least 50,000 shipments of highly radioactive waste will have been made through 43 states, almost every major city, and thousands of towns in between.

Transportation Issues

The main thing I want to bring to your attention are the issues and concerns associated with the proposed massive campaign to transport 77,000 tons of nuclear waste across the nation for up to 38 years. Some have accused Nevada of fear mongering simply for honestly and sincerely raising the many questions that these shipments to Yucca Mountain pose for our nation's citizens. But these are extremely legitimate questions, and they deserve legitimate answers.

In its Environmental Impact Statement for Yucca Mountain, DOE's own numbers point to as many as 108,000 high-level waste and spent nuclear fuel shipments to Yucca Mountain. Almost every state, and most major metropolitan areas, will be affected by these shipments. More than 123 million citizens reside within one-half-mile of the proposed transport routes. The modes and methodologies for shipment have not yet been determined, much less analyzed. For example, we recently learned from DOE that as many as 3,000 barge shipments may be involved, traversing numerous port cities and harbor areas. According to DOE's own analyses, a single accident scenario could produce thousands of latent cancer fatalities and lead to many billions of dollars in cleanup costs.

Secretary Abraham testified last week that DOE now believes most spent fuel shipments would take place by rail, but that suggestion raises its own set of questions about practicality and physical possibility. For example, many reactor sites do not have rail access, and there are no known plans to create such access, so some form of truck or barge transport and transfer will still be necessary for many shipments. Additionally, in Nevada alone, DOE is proposing to construct more than 400 miles of new rail lines - that is more new rail capacity than we have built in the entire United States in the last century. My point, which I think is well illustrated by the Secretary's testimony announcing yet another change in approach, is that the transportation issue is a major concern - it is one that will affect literally millions of Americans, but it has not been well thought out. We are being asked to accept DOE platitudes and industry assurances in response to our questions and concerns, but that is not good enough, and it will not be good enough when the first problems arise, and we know they will.

Another very troubling aspect of this issue is that DOE has never done an analysis of the terrorism risks associated with mass transport to Yucca Mountain. In a recent brief filed in NRC license proceedings by nuclear utilities for the proposed Private Fuel Storage facility in Utah, the nuclear industry took the position that it is essentially no one's jurisdiction, other than the U.S. military, to evaluate terrorism risks in spent fuel transport. According to the utilities, this is not a proper subject for analysis by DOE, the NRC, the Department of Transportation, or the industry itself. In short, if you believe the industry, this is an area that only Congress can now evaluate, or direct others to evaluate. Put another way, if Congress does not order such an analysis to be done, none will be done. In the wake of September 11th, failure to perform such an analysis would appear unwise.

And there is something else our experts now tell us: DOE has never done an evaluation of the nuclear criticality risk of a spent fuel cask getting struck by a state-of-the-art armor-piercing weapon. In recent nuclear industry advertisements and press statements, it was suggested that if a warhead penetrated a cask, authorities would simply dispatch an emergency crew to "plug it up." This assumes the dose rate in the vicinity of the cask is not a lethal one. It assumes that the warhead does not essentially liquefy the contents of the cask, if it is not already liquid. It assumes that any inner explosion in the cask would not so alter the geometry of the contents that the contents would go critical, obliterating the cask. It assumes that the cask is not over a river or on a barge and will not subsequently fill with water, a neutron moderator. It assumes that the cask is not filled with U.S. or foreign research reactor spent fuel, which is usually comprised of highly-enriched, or weapons-grade, uranium.

Finally, there are questions regarding the casks that will be used for shipping high-level waste and spent nuclear fuel to any repository. First of all, very few casks exist today, so the ones that would be used for a 38-year shipping campaign to Yucca Mountain are still in various stages of development. That might be acceptable if we knew they were going to be subjected to rigorous physical testing prior to use, but that is not intended. Instead, computer- and some limited scale-model testing is the planned method of assessing cask integrity. Those ancient tapes we have all seen of discarded shipping casks being dropped from helicopters, run into cement walls and hit by trains - none of that is planned for the new generation of casks. NRC Commissioner Greta Dicus recently testified that NRC does now plan to physically test one cask, but that is the first time such an announcement has been made, and we therefore remain, respectfully, skeptical about what will actually be done.

So for now, we are being asked to believe recent industry claims that the new, not-yet-built casks can withstand "all but the most advanced armor-piercing weapons" and a "direct hit by a fully fueled Boeing 747." These wild claims are not based on actual testing, and we know from tests conducted at Sandia National Laboratories in the 1980s and by the U.S. Army at Aberdeen Proving Grounds as recently as 1998 that even very robust casks are vulnerable to attacks from small missiles. Shouldn't the new generation of casks be subjected to full-scale physical testing under a range of conceivable scenarios, including an attack by terrorists willing to give their own lives?

The Role Of the Nuclear Regulatory Commission

The final issue I will raise is the notion being promoted here in Washington, and adopted by some mainstream media organizations, that Congress can responsibly move DOE's Yucca Mountain site selection forward because all remaining issues related to the site's suitability would be reexamined and resolved in licensing proceedings before the NRC. That is not the case.

In fact, under current rules for licensing Yucca Mountain, which Nevada is challenging in court, NRC will not be examining or determining the geologic suitability of the Yucca Mountain site at all. Under the Nuclear Waste Policy Act, this critically important task was supposed to have been performed by DOE. But DOE recently revised the rules, and in doing so virtually abdicated this function. NRC will essentially be determining only whether DOE's man-made waste packages can keep radiation emissions to within standards set by the Environmental Protection Agency.

In simple terms, NRC will be determining the suitability of the waste containers that DOE will put inside the mountain, but it will not be examining the suitability of the mountain itself at all. That's like making sure every deck chair on the Titanic can hold the heaviest passenger, without ever bothering to make sure the ship can float.

Under this approach, DOE is both the promoter and arbiter of the suitability of the Yucca Mountain site. There is no independent government oversight. That's how we used to regulate things nuclear until we learned the hard way that it was necessary, indeed vital to the protection of public health and safety, to separate the promotional and regulatory aspects of the government's involvement in nuclear energy. (For example, witness the \$250 billion cleanup bill taxpayers now face for the nation's mismanaged nuclear weapons complex.) But that's exactly happening with Yucca Mountain, and the result is a site recommendation that was made prematurely and against the strong concerns of virtually the entire scientific community and the U.S. General Accounting Office.

Conclusion

Today, the President's recommendation to move forward with Yucca Mountain is heading down the path to finality, and only the Congress can stop it by choosing not to override my Congressionally-authorized site veto. If the matter of site suitability really were up to the NRC, Nevada and the scores of independent scientists alarmed by DOE's premature and falsely based site recommendation would be considerably reassured. But such is not the case.

If Congress overrides my veto and simply punts to the NRC, the suitability of the Yucca Mountain site will never be independently reviewed by any government authority, barring a court order. We will seek that court order, but we believe Congress should accept its responsibility, recognize that the Yucca Mountain project is fatally flawed on numerous fronts, and not act to override my veto.