Comments to the Blue Ribbon Commission – Disposal Subcommittee
Judy Treichel, Executive Director – Nevada Nuclear Waste Task Force
July 7, 2010

1) *Is a disposal facility (or facilities) needed under all foreseeable scenarios?*

2) *If so, what are our alternative approaches for disposal?*

3) *What should the disposal system development process look like?*

1) At some point permanent, passive disposal is needed. It could be deep geologic, or not. Yucca Mountain was not what I would call "deep geologic" and it was referred to as an MGDS – a mined, geologic disposal system. The elevation of the emplacement drifts would have been 1,000 feet above the heads of the farmers, down slope and down gradient from the site.

A suitable repository site would be in a stable geologic setting capable of isolating the waste. Engineering would certainly be necessary in order to emplace waste in the facility but would not be relied upon for waste containment or to meet radioactive release standards. As an added measure of safety, a repository should not be connected to potable water sources or subject to human intrusion.

The waste is, and will continue to be, in pools and dry cask storage for the foreseeable future which will require maintenance and monitoring. If this system is to be used for up to 300 years, all dry cask facilities should be hardened to make them safer in terms of radiation exposure and as secure from attack as possible. If dry casks are the long term storage choice, there will likely be a need to re-containerize all of the waste. We know that a dry cask can be loaded but there is no evidence that one can be unloaded and the contents placed in another cask either for continued storage, transport or disposal. My assumption is that this will be harder than we think and so use of this option should be limited. Waste transfers should also be minimized because waste handling adds to worker doses and possibly to waste degradation. The need for pools for waste transfers should also be eliminated.

I believe that it would be prudent for current licensees and regulators to undertake the unloading and reloading of a dry cask that has been in use for at least a decade. We should be aware of any unexpected problems or consequences needing to be considered if there is to be an ever increasing numbers of dry casks.

2. Alternatives for disposal – who knows? This Commission was kicked off with Secretary Chu advising the members to keep open minds and to be flexible because it was impossible to know what technologies would be discovered in the future for waste reduction and disposal. Deep borehole disposal has been suggested and the Nuclear Waste Policy Act established an Office of Subseabed Disposal Research which was minimally funded for a short time. In my opinion, one of the reasons we are here today

and experiencing the frustrations regarding waste disposal, time and money spent, public opposition, and an array of other problems, is that serious consideration was only given to one approach, at one site. I have enough experience with Yucca Mountain to know with certainty that it provided a clear example of a bad approach.

The misguided approach at Yucca Mountain was "decide, announce, defend" – the DAD approach. In addition to it being a project forced on a very unwilling host, all efforts at public "education" in hopes of acceptance failed because there was little or no understanding of the views or values of the people who would be impacted.

When Yucca Mountain was singled out by the Nuclear Waste Policy Amendments Act – the Screw Nevada Bill – the people of the intermountain West had been educated for 30 years about the effects of radiation. Nearly every longtime resident in Nevada and Utah knew of someone who had been harmed by atomic weapons testing at the Nevada Test Site. And most importantly, those who had suffered had heard the assurance over and over: "There is no danger." In addition to the physical and economic harm, it was heartbreaking when a lawsuit they won in 1984, to receive compensation, was overturned by the Appeals Court. That decision was described in the film, "The Downwinders" by Lance Brittan as follows:

> *The decision was based on a broad interpretation of the 'discretionary function' doctrine, which is an exception in the Federal Tort Claims Act that exempts claims for damages caused by policy decisions made by high officials even if those officials abused their discretion. The appeals court however didn't overrule the underlying findings of the case; i.e., the government's negligence.*

Amazingly, the government was unprepared for the widespread official and public opposition to the Yucca Mountain Project. The court decision, denying any compensation and vividly pointing out that the residents could legally be victimized came at about the same time as the singling out of Yucca Mountain.

In a bizarre effort to gain public acceptance, a few years later the commercial nuclear industry created the "Nevada Initiative" seeking to use local well-known people to change opinions. The document was leaked before it was implemented and became a local joke.

Throughout the decades of the Yucca Mountain battle, tactics were used by the government and nuclear industry that made residents and environmental activists feel as though they were under siege and they reacted accordingly. It was a bad site with persistent watchdogs.

3. The **most** important element of developing a new system for disposal is: establish rigorous, publicly understood and accepted rules, regulations and standards **before** any sites or even a siting process is undertaken. These new rules should be written after more research is done on the waste products and a far better understanding exists regarding the

materials to be disposed. The new regulations would not be suggested guidelines but rather hard and fast rules that systems or sites would have to fully comply with before being selected for further study.

The rules would also require transparency so that regulators and the public could see how the site complied with the regulations. In the case of Yucca Mountain, compliance was supposedly shown through a total system performance assessment (TSPA) that relied on a computer code, combining multiple models, that was so complicated that it was doubtful whether or not results could be duplicated. The regulator and the public had to take a leap of faith if they were to believe that the repository complied with the standards because a computer code so big and complex that it had to be run on over one hundred linked computers, said it did.

An important lesson learned at Yucca Mountain was how expensive it is in terms of time, money and public confidence to have rules changed to fit the site. If DOE had abandoned Yucca Mountain when the first evidence appeared that the original EPA standard could not be met, we would not now be mourning the waste of money **and** DOE could have begun again with the public having clear evidence that if a new site did not provide the expected or required amount of public safety, it would not go forward.

The need for informed public consent is now recognized to be very important to the success of a project. The state, tribe and/or community must be willing volunteers, willing to host the facility **and** be guaranteed the right to opt out. At the very onset of the search for volunteer sites, a process must be established to avoid the problems that arise when the implementer begins with definitions of the "problem," the "solution" and the goals and objectives to be met by the program, and assumes that the public shares or agrees with those definitions. Early in the Yucca Mt. project, people were told that nuclear power was a separate topic, not to be included in the nuclear waste conversation. This created confusion and frustration that is easy to understand now when waste disposal is linked to a nuclear power renaissance. Just as was suspected long ago, the "problem" for the commercial nuclear industry is not the waste but rather the public relations associated with new plant siting and no place for the new waste to go. When people want to know how much waste will need to be disposed, there is no clear answer because if a "solution" to the waste problem (a disposal site) is found, then new waste can be generated without concern for how much there will be. There are over a thousand organizations nationwide that believe that the first answer to the problem of high-level nuclear waste is to **stop making it.** That widely held view should at least be discussed. If communities or states are asked to volunteer to host a waste facility, they have to be able to share in the initial identification of the issues and definitions of the matters or topics of discussion.

High-level nuclear waste and irradiated commercial nuclear fuel disposal in the U.S. **must not** be done by, or the job of, a private or public-private entity. Corporate profit is not an appropriate incentive when assurance of public safety for a million years is the ultimate goal. Any state or tribe who may, in the future, be hosting a national disposal facility will be at an overwhelming disadvantage. They will not have the power,

access or financial resources that are available to either a corporation or the federal government. If private industry becomes the implementer of the program they have little responsibility to the community and also enjoy the support and in some cases, the protection of the federal government. Corporations can shed liability and walk away from losses with little or no recourse for a community.

Even though Nevada had almost continuous battles with the federal government throughout the decades of the Yucca Mountain Project, there were rules that applied to the government that allowed access to information and an accounting of activities that may not have been available from a private entity. Assuming that any future repository decisions would begin with a willing host, it would be expected that many of the tools used to challenge the project would be unnecessary. However, it should be expected that any disposal decision, regardless of public acceptance, will have opponents – and it should. Those who question the site should have the right to do so. It is healthy to have all parties able to be heard and all information available. Fast-tracking a nuclear waste disposal system is wrong, regardless of attitudes and perceived need.

High-level nuclear waste and irradiated fuel have unimaginably long, dangerous lifetimes and the most serious national and international security implications. The responsibility and accountability must be that of the federal government.