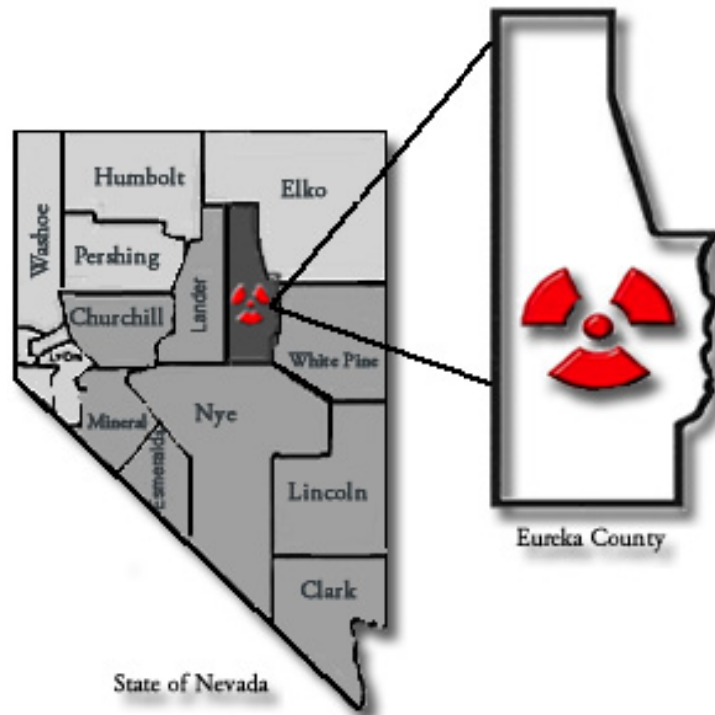


**Lessons Learned:
Summary of Findings and
Recommendations
For the Blue Ribbon Commission on
America's Nuclear Future**



Board of Eureka County Commissioners

March 2011

Eureka County, Nevada
Lessons Learned Regarding
U.S. Repository Siting Process:
Summary of Findings and Recommendations
For the Blue Ribbon Commission
on America's Nuclear Future

INTRODUCTION

The acronym for this Summary of Findings and Recommendations -- SOFAR -- is indicative of the endurance of both the Yucca Mountain nuclear waste repository program and its opposition. It is astounding that the Yucca Mountain spent fuel and high-level radioactive waste (HLW) repository project has been advocated for nearly two generations and the question of whether to proceed with its construction and operation remains unresolved. It has come so far, and yet has so far to go. And its future remains completely uncertain.

Eureka County is a Congressionally-defined Affected Unit of Local Government (AULG), recognized by the Secretary of Energy. Eureka County has participated actively in all aspects of the Yucca Mountain siting and licensing processes, and believes it has a unique and valuable perspective to offer on the conundrum of how such a heavily studied and long-favored repository site could founder in the way that Yucca Mountain has. As we will explain in more depth below, we believe a key factor contributing to the delay of repository licensing has been a lack of a strong decision-making process, well-protected from political pressures, which could be trusted by affected parties to yield a fair decision. Our view is well-illustrated by a recently recounted recollection, shared at the February 16, 2011 Nuclear Waste Technical Review Board (NWTRB) meeting by a former director of DOE's nuclear waste program. The official recalled discovering that the Yucca Mountain site did not meet a portion of the U.S. Environmental Protection Agency (EPA) standard. If it was out of compliance, the site would have failed, and he would have to go to Congress to tell them so. His response? He met with EPA officials and convinced them to weaken the standard so that Yucca Mountain would not be disqualified.

This anecdote exemplifies the "getting to yes" mantra that allowed the government to recommend the Yucca Mountain site to Congress despite the

significant technical impediments to its suitability, allowed the site to be studied for years as a candidate for licensing as a repository, and engendered the State's firm and consistent resolve to fight the project to the end. As a result, the Yucca Mountain project has been terminated by the President and its future is uncertain.

We have identified four areas in which the federal government's failure to establish a fair and trustworthy decision-making process for Yucca Mountain fatally hindered the process. Our conclusions address the following key areas, which are related to that overarching failure:

Public Trust and Confidence Must Be Established and Sustained

Throughout the process for siting and licensing the Yucca Mountain repository, DOE and the Congress failed to recognize the critical role of public trust and confidence or to establish decision-making processes that would ensure a fair and trustworthy result. Early in the process, public trust in the decision-making process was critically damaged by the 1987 Amendments to the Nuclear Waste Policy Act (NWPA), known in our State as the "Screw Nevada Bill", which abandoned the previously-established process for scientific assessment of a range of candidate repository sites and selected Yucca Mountain as the only repository site on purely political grounds. DOE's decision to change its siting guidelines when it became clear that Yucca Mountain would not meet the guidelines further eroded public trust. The public's lack of trust was deepened by legislative measures that invited bias and unfairness in the decision-making process in several key respects. First, Congress assigned DOE the conflicting roles of both license applicant and primary reviewer of the environmental impacts of the proposed facility and related transportation impacts. While Congress gave the U.S. Nuclear Regulatory Commission (NRC) ultimate responsibility for licensing the repository, it limited the scope of the NRC's review of the DOE's environmental analysis under the National Environmental Policy Act (NEPA). Thus, Congress effectively undermined the NEPA public participation process which Eureka County and other local jurisdictions relied on for resolution of their concerns. Second, Congress failed to establish clear legal procedures for raising and appealing local governments' concerns about transportation impacts. Finally, Congress responded to DOE efforts to change the EPA radiation dose standard by directing EPA to develop a Yucca Mountain specific standard that differed from the generic standard for high-level waste repositories.

Adequacy of Funding is Essential to Allow Effective Participation in Decisions

As a local government with limited resources, Eureka County depended on Congressionally appropriated funding in order to effectively monitor and participate in the decision-making processes for siting and licensing of the Yucca Mountain repository. Thus, adequate funding was key to our trust and confidence that the decision-making process would be responsive and fair. Throughout the Yucca Mountain siting and licensing processes, however, local governments have not had consistently available or sufficient funding, and restrictions have been placed on the use of funding to address County concerns.

Government Information Must be Accurate and Publicly Accessible

Public confidence in the Yucca Mountain decision-making process also depended on access to relevant information about the repository site and related transportation routes and impacts. However, the huge collection of relevant documents amassed by the DOE for the NRC licensing support network was organized poorly using antiquated methods that made it extremely difficult to use. In addition, DOE did not provide timely and accurate information at public meetings.

Government Must Respond to Transportation and Emergency Response Concerns

As discussed above, Congress established a flawed decision-making structure and process for the Yucca Mountain repository. As a result, significant concerns raised by Eureka County in the process of commenting on transportation-related environmental impact statements (EISs) for the proposed facility were never addressed, nor did the DOE propose any measures to mitigate the County's concerns.

SUMMARY OF RECOMMENDATIONS

With respect to future repository licensing decisions, Eureka County urges the Blue Ribbon Commission on America's Nuclear Future to recommend an approach that:

- Respects the legitimate interests of affected local governments and the host State by establishing legal frameworks and funding mechanisms to protect the integrity of the decision-making process;
- Promotes a coordinated and transparent process for evaluation of repository risks and related transportation impacts and mitigative measures under the National Environmental Policy Act (NEPA);
- Recognizes the value of and encourages the broad involvement of interested parties in the licensing process; and
- Supports ongoing publicly accessible responsible stewardship of public information related to the repository program, adapting to new technology for the life of the project.

BACKGROUND: EUREKA COUNTY'S PARTICIPATION IN THE YUCCA MOUNTAIN PROCEEDING

About Eureka County

Eureka County, located in east central Nevada, is small in population but large in area (4,180 sq. miles.) The County's 2010 census population is 1,987. The county seat, Eureka, in the southeast is 124 miles from the second largest population center, the unincorporated town of Crescent Valley in the northwestern part of the County. Agriculture and mining are the mainstays of the economy. Many of the most productive gold mines in the United States are located in Eureka County.

Eureka County's Interest in the Yucca Mountain Licensing Proceeding

Eureka County is traversed by several transportation routes that would carry spent fuel and HLW to the Yucca Mountain repository: Interstate 80, U. S. Highway 50, and the Union Pacific railroad which parallels the Humboldt River. Eureka County is also the potential host for the "Carlin" route, a proposed new rail spur that would take nuclear waste shipments from the main Union Pacific rail line to the repository site. If built, the Carlin route would leave the Union Pacific mainline in Beowawe, then cut southwest through Crescent Valley, less than a mile from the unincorporated town of Crescent Valley. Although it is a remote area, the Crescent Valley is the county's second largest population center.

Our concerns about the Yucca Mountain project primarily relate to the potential public health, safety and economic impacts of transporting spent reactor fuel and other high level radioactive waste (HLW) along these transportation corridors to the repository. The County is also extremely concerned about emergency response requirements for possible major transportation accidents or attacks involving spent fuel and HLW, including the availability and sufficiency of local, state and federal resources.

Eureka County's experience is also influenced by its history as a downwind area during above-ground and underground nuclear weapons testing at the Nevada Test Site. As much as outsiders might expect that those days are forgotten, frequent ads in the local newspaper seeking survivors eligible for compensation are a present-day reminder of a dangerous federally sponsored nuclear program that continues to affect the health of Nevadans. While the siting of a repository at Yucca Mountain does not fit the environmental justice definition of the Executive Order 12898, it is certain that the federal government initially found Nevada's Yucca Mountain to be a strong candidate for a repository because of its remoteness, previous nuclear bomb activity at the Nevada Test Site, and the small rural population that would be affected.

Eureka County's Participation in the Yucca Mountain Licensing Case

The federal government has designated Eureka County as an AULG under section 116 of the Nuclear Waste Policy Act as Amended (NWPAA). Section 116 entitles Eureka County to a share of AULG funding provided by Congress and administered by the DOE for monitoring and participating in the siting and licensing process for Yucca Mountain. AULG status also gives Eureka automatic standing to participate in the NRC licensing process.

At the outset of the repository siting process, the Eureka County Board of Commissioners (Board) considered taking a position regarding the repository but determined that the County could be most effective by remaining neutral. To support the project would risk undercutting the position of the State of Nevada, and to oppose it would jeopardize a working relationship with DOE on issues of mutual concern. Although many Crescent Valley residents opposed the project, the Board concluded, and over time reaffirmed, that taking a neutral position on the Yucca Mountain project was the most effective approach for the County. Nevertheless, the County established a proactive program that involved studying

all relevant aspects of the Yucca Mountain proposal, asking hard questions of government officials, submitting detailed and technically supported comments at all important junctures in the decision-making process, participating in the NRC hearing on the repository, and providing residents of the County with comprehensive and balanced information about the project.

From the start of its participation as an Affected Unit of Local Government, Eureka County set participation as a primary goal. We developed substantial technical expertise on the effects of a Yucca Mountain repository on transportation and emergency planning in the County. We also developed substantial legal expertise on NEPA, the principal statute used by DOE to disclose project impacts. We produced reports and analyses designed to inform ourselves about the proposed rail line and to develop information useful for impact assessment. To the extent possible, we reviewed and commented on environmental impact statements, proposed rules and regulations, and other documents from DOE, NRC, EPA and other relevant agencies. We attended meetings to glean information about the Yucca Mountain project and to comment when appropriate on the plans and proposals. The NWTRB was an especially useful forum for learning about DOE's technical challenges. We also participated in all stages of the DOE's process for the preparation of environmental impact statements under NEPA, and depended on that process to understand the project and to convey our concerns and those of residents of the County to the responsible federal agencies.

DOE Environmental Review Process

Eureka took an active part in the DOE's extended environmental review process for the Yucca Mountain repository, conducting studies, attending meetings, and submitting detailed comments on the County's transportation-related environmental concerns. In its comments, the County pointed out land use conflicts that complicated what appeared on the map to be a simple north-south route to the proposed repository. A new rail line could significantly disrupt ranching and mining activities in the Crescent Valley.

In the course of reviewing the 1999 Draft Repository EIS (DOE/EIS-250F) which included comparative discussion of new rail corridors, the County found that DOE lacked basic information about the Carlin rail spur. Eureka County filled the void for residents by using oversight funds to commission a study to describe the likely layout and engineering of a rail spur from the mainline in Beowawe through

Crescent Valley. The County also used its Geographic Information Systems (GIS) capability, partially developed with oversight funds, to provide comments on the Draft EIS about the significant land use conflicts in Crescent Valley. A pattern of public/private checkerboard lands combined with many small real estate speculator “dream in the desert” private parcels meant that in order to construct the Carlin rail corridor as proposed, it would be necessary to negotiate with many absentee owners of private property residing throughout the United States. This research also formed the basis for the County’s Impact Assessment Report (2001) submitted to the State of Nevada and the DOE in 2001, prior to the Secretary of Energy’s site recommendation to the President in 2002.

In its Impact Assessment Report, the County proposed a variety of mitigations, including a special escrow fund for prompt and complete compensation of persons affected by routine shipments of SNF and HLW and by transportation accidents (Impact Assessment Report, August, 2001.) Eureka County also conducted a study to determine the cost of a fully staffed and funded regional emergency response center (Report on Eureka Co. Hazardous Materials Emergency Response: Requirements for Hazardous Materials Team and Evacuation Planning, April 2003.)

NRC Licensing Process

While the NRC’s licensing proceeding did not formally commence until 2008, preparation of the government’s document collection, known as the NRC’s Licensing Support Network (LSN), began years in advance. Eureka County hired a consultant to assist the County in assembling its own LSN document collection. Eureka County also hired an attorney who specializes in NRC proceedings.

Once the NRC’s formal licensing proceeding began, Eureka County had to decide whether to participate as a full party or as an Interested Governmental Participant (IGP). The County recognized from the outset that its participation in the Yucca Mountain repository licensing proceeding could be constrained by its limited resources and by the unknown ultimate status of the Carlin rail corridor. Because of inconsistent directions from the Federal Government, it was also unclear to Eureka County whether the NRC licensing proceeding was the appropriate venue for addressing its concerns about transportation impacts and mitigation measures. Therefore the County chose to participate in the Yucca Mountain licensing proceeding as an IGP rather than as a full party. The issues of concern to the County regarding transportation impacts and emergency planning

had not yet gone to a hearing when the DOE moved to withdraw its license application.

Surface Transportation Board

The Surface Transportation Board (STB) must issue a permit for any new rail access line to a repository that is usable for general commerce as well as for transportation of nuclear waste. The permit must address potential impacts of the rail line and identify mitigation procedures. Thus, the STB plays a key role in socioeconomic and environmental analysis and decisions related to transport of spent fuel and HLW to Yucca Mountain. Eureka County and other AULGs tried to obtain a public hearing on the merits of the DOE permit application but were initially resisted by STB. Eventually, the Board agreed to take testimony from potential intervenors in the STB permitting process. This resistance created the perception that the STB interest in impact identification and mitigation was perfunctory.

Public Education

Section 116 of the NWPA provides funding of AULGs for the purpose, among other things, of informing their constituents about the Yucca Mountain project. Eureka County therefore sought to provide balanced, accurate and accessible information to the public on a consistent basis. The County developed the website (<http://www.yuccamountain.org>) in the mid-1990's to serve as an ongoing communication tool with the public. Eureka County has produced a newsletter since 1993 to keep the Eureka County public updated on Yucca Mountain issues and developments. It is mailed to all postal addresses in the County, is archived on the County's website, and serves as a reference for project milestones and setbacks.

ANALYSIS AND RECOMMENDATIONS

Public Trust and Confidence Must Be Established and Sustained

In the Yucca Mountain siting and licensing process, Congress repeatedly took inequitable political actions and set up administrative decision-making processes that effectively guaranteed bias and uncertainty, and thereby undermined public trust in the likelihood of a fair outcome. Future repository siting and licensing should avoid these pitfalls.

Congressional Action

Equity in Political Decisions

The NWPA authorizing amendments of 1987 created conditions that predisposed the State and many of its citizens to oppose the Yucca Mountain project. Two key actions contributed to this outcome. The first was the decision by Congress to cancel the second repository planned for the Eastern half of the country, removing the last vestiges of equity from the original NWPA. This action raised questions of regional fairness regarding sharing the burden for waste disposal, with the East being perceived as getting most of the benefits from nuclear power generation and the West becoming a dumping ground for the wastes. The second was Congress' decision in 1987 to select Yucca Mountain as the preferred site on political grounds rather than on demonstrated technical merit. The "Screw Nevada Bill" intensified Nevadans opposition to the repository and created a hostile environment for the project that unified Nevada politicians of both major parties. The strength of this political opposition led to the current decision by the Obama Administration to terminate the facility.

Recommendation: Congress must develop legislation that is fair to the host community and incorporates provisions that address the community's concerns, including the state as a whole, rather than authorizing a top down decision process that is motivated by political expediency.

Empowerment of AULGs

Section 116(c) of the NWPA authorized the recognition of AULGs and empowered the local governments to monitor the siting process, identify potential impacts, comment on siting activities, and conduct public outreach. This oversight responsibility not only contributed to a better understanding of unresolved technical questions, but also helped assure local citizens that impacts were being identified and communicated to DOE for eventual mitigation or compensation. However, in the years following the passage of the Act, the Congress vacillated in its commitment to "consultation and cooperation" with local communities. Subsequent congressional bills sought (mostly unsuccessfully) to preempt or constrain the role of affected governments. Appropriators created a lengthy list of prohibitions and provisos governing the use of oversight funds and in FY1996 and 1997 provided no funding at all for the oversight programs

altogether. These actions hampered meaningful monitoring of and participation in the Yucca Mountain siting and licensing processes and undermined AULG confidence in the process.

Funding of public participation at a local level is essential to ensure that local jurisdictions like Eureka County can advocate for their own particular interests. While the State of Nevada did a great deal to advocate for the protection of its citizens, its priorities and focuses were sometimes different in critical respects. Regarding transportation impacts, for example, the State has been concerned about avoiding Las Vegas. Eureka County, in contrast, seeks to ensure that transportation of nuclear waste would be safe enough so that it can be transported through a city *or* a rural area. If rural areas are the preferred routes due to urban safety concerns, then the shipping campaign is not safe enough.

Recommendation: A consistent national policy that recognizes and supports the value of participation by affected local governments in a repository siting and licensing process must be adopted by Congress and maintained throughout the siting, construction and operation of any nuclear waste facility.

Unfair Manipulation of Siting Criteria

Congress also undermined public trust in the federal government by passing legislation that required the establishment of public health protection standards based on the characteristics of the Yucca Mountain site rather than public health needs. Thus, Congress instructed the EPA to develop a radiation dose standard specific to Yucca Mountain when the site could not meet the generic repository release standard previously promulgated by EPA and used at the WIPP site in New Mexico.

Recommendation: Radiation protection standards should be developed in concert with stakeholders and adhered to by the agency, even to the extent of abandoning a site if it cannot meet those standards.

Fairness of DOE Actions

Conflicts in DOE's Roles

One of Congress' chief errors was to give DOE the internally inconsistent roles of license applicant and primary reviewer of the environmental impacts of the proposed repository and associated transportation routes. Congress further eroded public confidence in the decision-making process by failing to give the NRC, the ultimate licensing authority, clear authority to reverse DOE's environmental findings in its EISs.

During the siting process, DOE demonstrated its bias toward promoting the Yucca Mountain site by changing its own siting guidelines when the site could not meet the qualifying conditions and did meet some disqualifying conditions in the original guidelines. DOE's public information materials and tours of Yucca Mountain lacked balance and primarily advocated for the project rather than discussing the flaws in the site. During the environmental review process, DOE purported to seek comments on the environmental impacts of spent fuel and HLW transportation, but then completely disregarded comments by Eureka County and other AULGs proposing actions to mitigate the environmental impacts of proposed transportation routes. Ironically, while the Yucca Mountain project was considered the largest public works project in the United States, the Draft EISs for the facility contained -- as one Yucca observer quipped -- less mitigation than for a fast food restaurant in Las Vegas.

Throughout the Yucca Mountain siting process, DOE's approach to transportation was frustrating to the County. The DOE gave transportation a very low priority and was also dismissive of its impacts on Eureka County. DOE set budget priorities that resulted in transportation research and planning being a low priority, and did not have a coherent approach to transportation of nuclear waste. For example, at Draft EIS hearings in Crescent Valley, DOE staff could not answer the public's questions about who would own the track of the Carlin spur, who would own the land under the track, or whether commercial users would be allowed to use the spur. DOE officials were asking the public to trust that the repository site and transportation were safe on their long watch, but they couldn't answer basic questions about their plan.

Congress' assignment of an internally conflicted role to DOE only served to deepen an already significant and longstanding level of public mistrust in the Federal Government and particularly the DOE (and its predecessor the Atomic

Energy Commission). Public mistrust in DOE dates back to the time when Nevadans willingly acceded to the use of the Nevada Test Site for atomic bomb testing as a contribution to national defense, based on false government assurances that they would not be harmed by the fallout. Nevadans also took part in the Sagebrush Rebellion of the 1970's and 80s, which reflected local concerns about federal control over 87 percent of Nevada. And they resisted the siting of the MX Missile project, which would have imposed nuclear weapons installations and missiles near rural communities. Finally, the legacy of environmental contamination at DOE defense sites around the country undermined confidence in DOE's ability to protect the environment and assure long term repository safety.

Recommendation: In any repository siting or licensing process, DOE should be replaced by an independent federal agency that is responsive to the political process and subject to appropriations review. As the license applicant, that agency should not have responsibility for reviewing the acceptability of a site or repository design.

Recommendation: Congress should entrust NRC, as the licensing authority, with the responsibility for preparing all environmental reviews for a proposed repository and ensure that NRC has the responsibility and authority to mitigate impacts;

Recommendation: An agency other than the applicant agency should be given responsibility for management of relevant government documents, management of public meetings, administration of participant funding, and coordination of relevant permitting agencies (such as NRC, EPA, STB).

Lack of Clarity in Procedures for Redress of Concerns

Throughout the proceeding there was a lot of confusion regarding what venues were available to Eureka County to ensure that its interests in minimizing the environmental impacts of spent fuel and HLW transportation through the County were adequately addressed. When DOE published a series of draft EISs regarding the environmental impacts of the repository and associated transportation routes, Eureka County expended considerable resources to prepare comments on the inadequacy of those documents as a response to its concerns. Government agencies gave the public inconsistent information regarding what legal process

was available to challenge DOE if and when the final versions of the EISs did not respond to the County's concerns. In 1988, for example, the NRC declared that most complaints about the adequacy of the DOE's EIS must be taken directly to the U.S. Court of Appeals without any opportunity for an NRC hearing. The NRC hearing would only consider whether there was significant new information that was disregarded in the DOE's EIS or whether NRC's proposed action differed significantly from DOE's proposed action.

Later, in a lawsuit brought by the State of Nevada regarding an EIS for Yucca Mountain, the NRC announced that the State of Nevada would not be foreclosed from "raising substantive claims against the FEIS in administrative proceedings," *i.e.*, in the NRC licensing hearing. To date, the NRC's Yucca Mountain licensing board has followed that rule. Uncertainty remains however whether that ruling could be overturned.

It was also unclear whether DOE's NEPA process would address Eureka County concerns about effects of the rail corridor on the County or whether it was necessary to go to the Surface Transportation Board. The federal government provided no direction. Overall, it is uncertain whether the NRC hearing process can effectively be used to protect its interests in avoiding significant adverse impacts from the licensing of Yucca Mountain.

Recommendation: The legal process to resolve NEPA concerns should be clearly defined in the Nuclear Waste Policy Act.

Distortion of NEPA Process

Eureka County has had many years of experience with commenting on draft EISs for federal projects in the County, and has regularly worked with federal agencies to ensure that its concerns were addressed by mitigative measures. Anticipating that the Yucca Mountain decision-making process would be similar to previous NEPA proceedings in which Eureka County had participated successfully, the County expended considerable time and resources in commenting on various drafts of the Yucca Mountain EISs, and participated actively in DOE meetings. The County identified many significant transportation impacts of the proposed repository, but those comments were completely ignored in the final versions of the EISs. And there was no Record of Decision to indicate that a final decision had been made or what it was. Thus, the DOE recommended the site as suitable for further study in July, 2002, and the President recommended the site to Congress.

Congress overrode the Nevada Governor's veto of the site, and Congress's action became in effect the Record of Decision.

Recommendation: Congress should refrain from authorizing exceptions to NEPA that distort the public participation process. In a normal siting process, the project proponent should work with the affected state and local communities to ensure that they remain whole and have their legitimate concerns fully addressed and mitigated.

Adequacy of Funding is Essential to Allow Effective Participation in Decisions

AULG Funding

Because transportation of spent fuel and HLW to a repository at Yucca Mountain could have significant impacts on Eureka County, County's receipt of federal oversight funding for AULGs under Section 116(c) of the NWPAA has been critical to the County's ability to participate in the siting, environmental review and licensing proceedings for the Yucca Mountain repository. Without federal funding, the County would not have been able to undertake the tasks necessary for participation in the licensing proceeding. Outside funding was necessary, for instance, to prepare the LSN document collection, which was a prerequisite to admission to the NRC hearing. The County has also needed outside funds to hire consultants to help it meaningfully evaluate the license application and make comments on important environmental documents. And without federal funding the County would not have been able to hire an attorney who could navigate the complex procedures for participation in the Yucca Mountain proceeding. This was essential because the County does not have any significant experience with federal government licensing proceedings.

Except for the hiatus in FY1996 and 1997, Congress has generally provided a reliable source of funding for AULG participation in the Yucca Mountain proceedings. However, there has been constant tension between the AULGs, DOE, and Congressional authorities regarding the sufficiency of funding and the conditions under which it can be expended. In addition, throughout most of the Yucca Mountain proceeding, DOE has attempted to meddle with funding for AULGs. For example, DOE unsuccessfully tried to block Inyo County, California and Esmeralda County, Nevada from becoming AULGs. DOE lost in federal court,

and these counties and five others were permitted to develop oversight programs for the repository. Among other actions, DOE recommended a zero budget for AULG oversight in FY 2004 and tried unsuccessfully to withhold a portion of appropriated funds for AULGs in FY 2000.

Recommendation: Adequate federal oversight funding for local governments to monitor and participate in siting, environmental review, and administrative proceedings related to a proposed repository is essential and should be continued. Funding should be sufficient to enable AULGs to undertake independent oversight responsibilities on behalf of their citizens. Oversight funding should be distributed and managed by an entity other than the project sponsor.

Although federal oversight funding was essential, it was insufficient in enabling the County to protect its interests fully. As an AULG, Eureka County was not allowed to spend federal funds on “litigation,” i.e., to appeal DOE and/or NRC decisions in federal court where challenges to agency actions are decided. Only the State had sufficient resources to take the federal government to court, but often the State was focused on issues that differed from the County’s concerns. By depriving AULGs of funding for litigation, the government effectively deprived them of a meaningful way to disagree with DOE or NRC decisions and to seek redress from a higher authority.

Recommendation: If host communities are unable to defend themselves in court, the voluntary siting process is weakened. This inequity should be recognized and addressed as new legislation is crafted.

Government Information Must be Accurate and Publicly Accessible

Meetings and General Public Information

The County took a very active role in keeping residents informed about Yucca Mountain, in part because the DOE could not be relied on to do a consistent and competent job of informing the public about the project. As we discussed above, when DOE representatives held public meetings in northern Eureka County in the vicinity of the proposed Carlin rail spur, during the period from 1999-2002 in conjunction with the NEPA process, they could not tell the public who would own the track, the land under the track, who would operate the rail line, and whether

the line would be shared use or dedicated only to the trains headed to Yucca Mountain. These are basic questions in the eyes of the public.

Recommendation: The project sponsor should view the NEPA process as an opportunity to build trust and confidence in the project and the sponsoring agency through full and effective disclosure. If the sponsor fails to provide complete information, there will be adverse consequences for trust and confidence which will decline rapidly.

For each NRC hearing, Eureka County requested the NRC to provide, at a minimum, public access to its proceedings via web-streaming. At the beginning, the NRC seemed to assume that if an oral argument or other live proceeding were held in Las Vegas, it would be easily accessible by everyone in Nevada, including residents of Nevada jurisdictions located hundreds of miles distant, such as Eureka County. When NRC constructed a high-tech hearing facility in Las Vegas, it neglected to wire the building for web-streaming, which resulted in claims that it would be too expensive to provide public access in this manner. After numerous motions by Eureka County and other local governments, the NRC did begin to web-stream its live proceedings, although the agency was very slow to avail itself of generally accepted and available electronic broadcasting methods.

Recommendation: The federal government should maximize public access to information through use of distance communication technologies and interactive technology currently available at the time of the proceedings.

Licensing and Information Access and Retrieval

The NRC's licensing proceeding should bring together all of the key and relevant information to determine whether DOE should be allowed to construct and operate a repository at Yucca Mountain. While the highly regulated and procedural process is new to Eureka County (Nevada has no nuclear power plants) we have learned that a key to effective participation is being able to track the large amount of information that has been generated over the history of the Yucca Mountain project including scientific and technical reports, memos, legal documents; all types of communications produced by federal agencies as well as the State of Nevada, affected local governments, tribes and various interested entities all with their own particular systems. The challenge remains in locating, accessing and retrieving this information.

In 1987 when Congress designating Yucca Mountain as the sole repository site to be characterized, websites were uncommon and access to information was limited to physical paper copies. Slowly websites created by the NRC and the DOE began to provide digital data accessible to the general public. However, the organization of this information has remained a challenge, at times a mystery, for the County to locate and access. Twenty-four years later information surrounding the proposed site is still proliferating despite the project hiatus.

Recommendation: The World Wide Web offers the best medium for dissemination of public data. However, to facilitate access to these data, a common portal with an easy-to-use interface is required. This portal is necessary to ensure that local governments and the general public know about the existence of such data and can easily and quickly access the data.

Licensing Support Network Participation and Use

Although a significant attempt by the NRC to create a portal of information for the proposed Yucca Mountain site began in 1988, and went online in 2002 when the NRC LSN Web Site (<http://www.lsnnet.gov>) became publicly available, the LSN's purpose was limited to those documents that may be used as evidence in the licensing hearings.

In order to be a participant in the NRC licensing proceeding, Eureka County was required to establish a Licensing Support Network site, as a non-negotiable prerequisite for being admitted as a party to the proceeding. The greater challenge has been to use the collective LSN to access DOE documents. DOE's LSN document collection started at 1.3 million pages. In 2004, when the State of Nevada successfully challenged DOE's LSN certification, citing missing documents, DOE responded by dumping 3.5 million documents onto the LSN. Insufficient guidance in NRC's regulations allowed the DOE to use obsolete techniques, presenting the information in a non-searchable image format, limited to 100 pages of searchable text at a time. (10 C.F.R., Part 2, Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders, Subpart J. 2.1003 Availability of material). Instead of using modern and consistent document access protocols, DOE's digital files were in a non-searchable TIFF image format making it nearly impossible to find documents.

DOE has removed most of its programmatic documents from its agency website as part of the closeout of the Yucca Mountain program. The website had

contained historical, scientific and technical information that formed the information foundation of the program. Information management has turned out to be as much of a challenge to determining the competency of the Yucca Mountain site as radionuclide migration rates, young volcanoes and drip shields.

Recommendation: An independent agency or entity should develop and maintain a publicly accessible on-line library of information related to the development of the nation's high-level nuclear waste repository and should solicit strong support and feedback from the end users early in its development. This library should be independent of the discovery documents used in the licensing process which have different restrictions. The design and development of the library should not be left to IT experts and special distribution staff but should be developed with the public's support and input.

Recommendation: The on-line library should maintain a detailed history and link to the technical reports and scientific data in one place for public access closer to acquisition or publication. It must be easy to find the desired data inside the on-line library and the response time must have high priority with comprehensible search and navigation. The fully functional search feature should manage a comprehensive search through the huge amount of data available, support logical operators and provide relevant output.

Recommendation: Long-term options to retain critical information should be developed and supported.

Recommendation: The 10CFR Part 2, Subpart J deserves a closer examination to fine tune acceptable format and continuity of the material to be part of any future licensing hearings. Regulations need to adapt to current accepted technology.

Recommendation: Current license support networks or the equivalent need to change with advancing technology and production of data while ensuring that both advanced and basic users can use the technology. Users must be able to download data into their own technical environment for post-processing. The data should be provided in well-accepted standard format.

Government Must Respond to Transportation and Emergency Response Concerns

In order to protect the health and safety of its residents, Eureka County studied rail and highway transportation and emergency response issues related to the proposed Yucca Mountain repository. In addition to the County's specific concerns, DOE's lack of timely and specific information about its transportation plans resulted in decreased trust and confidence with the public, especially in the vicinity of the proposed Carlin rail corridor.

NEPA and Transportation Issues

The NEPA review process was presented to Eureka County as a legitimate means for addressing its concerns about the environmental impacts of spent fuel and HLW transport through the County, both on the proposed Carlin Corridor and existing transportation routes. Therefore Eureka County invested considerable time and resources in commenting on the draft EISs relating to transportation issues. However, the process was frustrating in numerous respect discussed below, and also failed to yield any resolution of the County's concerns.

For instance, DOE's environmental impact assessment of the proposed Carlin Corridor did not accurately identify environmental impacts of the proposed route due to insufficient design information. Significant fill material would have been required to achieve the necessary grade to climb out of the valley. DOE never identified potential sources of this fill material. In addition, the substantial fill required would have significantly increased the barrier to movement across the rail line. DOE never identified potential road crossings, grade separations, cattle underpasses, etc. due to the inadequate design information. Significant additional facilities would have been required at the connection of the proposed rail line to the main Union Pacific line at Beowawe. DOE never identified these facilities, or assessed the potential impacts that these facilities would have on Crescent Valley.

Recommendation: Environmental impact assessment of a proposed rail line should be based on adequate design of the proposed rail line to accurately identify and quantify impacts of the proposed action.

DOE stated early on that the agency had not decided whether the proposed rail line would be a single use spur, available only for access to the repository, or a joint use line available for other commercial uses. DOE did not indicate its preference for a joint use line until well after the Yucca Mountain EIS was final

(and thus did not tap the expertise of the Surface Transportation Board in preparing the EIS.) This made it impossible to adequately assess the impacts or mitigation requirements of the proposed rail line.

Recommendation: Establish early in the process whether or not the proposed rail line will be a single use spur for the facility or a joint use line available for other uses.

Impact analysis has suffered from lack of coordination with other federal agencies, especially concerning transportation. For example, although BLM was a cooperating agency with DOE in the preparation of the Caliente Rail Alignment EIS, DOE provided insufficient information for BLM to assess the impacts of the right-of-way request on forage production. The EIS, therefore, stated that BLM would conduct a separate analysis at a future date because BLM had used a different methodology to determine impacts on forage production. In addition, the STB did not participate in the development of mitigation programs for the rail line impacts during the Yucca Mountain EIS process because DOE never specified whether that rail line would be a private spur or common carriage. If DOE decided to make the rail line available for other uses, the STB would have to act on it. This would have required an additional assessment by the STB.

Recommendation: The preparation of an environmental impact statement should be coordinated with all appropriate federal agencies to ensure that it adequately addresses issues appropriate to each agency's jurisdiction.

In the Caliente rail alignment rail EIS, DOE proposed creating impact mitigation boards to develop mitigation strategies for impacts of rail line construction.

Recommendation: The environmental impact statement should contain a complete description of the actions to be taken to mitigate environmental impacts identified through the impact assessment, rather than the promise of possible mitigation in the future.

Highway Routing

Routing for highway route controlled quantities (*i.e.* spent nuclear fuel and high level waste) requires motor carriers to operate over preferred routes, which are Interstate highways or state designated alternatives. Carriers are required to select routes based upon minimizing the time of travel from the origin to the

destination. Using this criterion, multiple routes are possible from a single origin. When many shipments originate at many sites, the possible routes end up, in essence, being almost the entire Interstate system. Since DOE is required to provide training to emergency responders along any route used, this would result in training responders in many, many jurisdictions throughout the country. In contrast, the WIPP transportation program consolidated routes to optimize training along only a few routes, making limited training resources available to adequately train and prepare responders along these limited routes. WIPP required their carriers, by contract, to use these routes. Since the DOT routing requirements do not allow for this flexibility in routing highway route controlled quantities, this valuable routing method is not available for shipments of spent nuclear fuel.

In addition, because of the multiple routes possible from any origin, it was not possible to accurately determine the number of highway shipments that would pass through Eureka County. This problem was compounded by Nevada's failure to designate alternative highway routes, as discussed below.

Recommendation: The U.S. Department of Transportation (DOT) routing criteria for highway route controlled quantities of radiological materials (49 CFR 397.101) are not appropriate for a repository or interim storage facility where shipments from many origin points are to a single destination. DOT should develop appropriate regulations for shipments to a repository or interim storage facility.

Nevada completed a routing study early in the Yucca Mountain process. Nevada also made it known that its preference was to avoid the Las Vegas metropolitan area with highway shipments of spent nuclear fuel. Although this routing study identified several alternative routes, Nevada never designated an alternative route to Yucca Mountain because it did not want to facilitate the repository (implied consent.) This made it difficult, if not impossible, to accurately estimate the number of highway shipments that would pass through Eureka County. The failure of Nevada to finalize alternative state preferred routes to the Interstate System was an obstacle to accurately identifying transportation impacts.

Recommendation: Repository sites should be identified in states that support the facility in order to facilitate planning for state preferred routes.

Rail Routing

The most feasible alternative for rail access to Yucca Mountain was the Valley Route near Las Vegas. Although this option was identified early in the process, DOE did not take the necessary steps to ensure that the right-of-way would be available when needed. Land use constraints that developed after the corridor was identified later eliminated this preferred route as a viable alternative.

The remaining five corridors identified by DOE remained in consideration for many years. This placed a cloud of uncertainty over land near the corridors, adversely affecting potential development and property values.

Recommendation: The rail corridor for a spur connecting to a facility should be identified early in the process to remove alternatives from consideration so that the possibility of a rail line going through an area does not adversely affect other development in the area of alternative corridors. Steps should be taken to ensure that the preferred corridor can be used for the rail line.

DOE's primary criterion for selecting rail corridors was avoidance of privately owned land. This criterion ignores the way ranching operations are typically configured and operated in western states. Most ranches consist of a combination of private land and grazing leases on federal lands. By selecting the rail corridors to avoid private lands, the selection criteria actually may have increased the impact on ranching operations by dividing the operation into pieces too small to be managed effectively. In addition, most private land was obtained by homesteading valley bottoms where water was more available. By avoiding private land, the rail corridor was often moved out of the more gentle terrain onto steeper slopes. This makes construction of the rail line more difficult, and increases the overall environmental impact by requiring larger cuts and fills to maintain proper grade for the rail line. Ironically, for the Carlin route, DOE did not initially identify major private land conflicts in the Crescent Valley. Eureka County's NEPA comments and independent analysis ultimately informed DOE's NEPA consideration of rail corridors, with Caliente selected for detailed study. Had Eureka County been granted NEPA Cooperating Agency status by DOE, the private land conflicts may have been identified early in the process.

Recommendation: Criteria for selection of rail corridors should consider actual land use patterns. Project sponsor should invite local governments to participate as NEPA Cooperating Agencies.

After years of delay and indecision, DOE eventually specified that dedicated trains would be the preferred method of shipping spent nuclear fuel. (This delay also contributed to a further loss in trust and confidence.) However, DOE reserved the option to ship by common freight - that is, in trains consisting of many different types of cars with many different destinations. The rail industry committed to developing new, state of the art rail cars to haul spent nuclear fuel casks. The significant safety enhancements that these new cars could provide would not be available for shipments by common freight.

Shipments by dedicated train could be switched onto the rail spur to the repository from the main line without any delay. The train would simply continue on. Shipments in common freight, however, would need to be switched out of a train before being dispatched to the repository. This would require switch yards near the spur. DOE did not evaluate the impact of not using dedicated trains with respect to the switching requirement. In addition, most rail incidents occur in switch yards. A dedicated train bypasses switch yards, reducing the risk of an incident.

Recommendation: Shipments of spent nuclear fuel should be by dedicated train.

Emergency Response Capability in Rural Areas

For repositories or interim storage facilities located in remote areas, it must be recognized that the nearby communities will undoubtedly be very small, with limited existing emergency response capabilities.

Recommendation: Special provisions should be made to adequately staff, equip, and train emergency responders in communities closest to the proposed facility, or provide emergency responders if sufficient capability is not present at the local level. This includes communities along transportation corridors where virtually all shipments end up “funneled” through communities along the end of the route.

Most communities in remote areas will undoubtedly have only volunteer emergency response departments.

Recommendation: Special consideration should be made to accommodate the unique needs of volunteer departments and to

recognize that they may not have the volunteer staffing to be first responders for shipments of spent nuclear fuel.

Although the Nuclear Waste Policy Act requires the Secretary to provide funds for training emergency responders, the amount of available funds has never been quantified. DOE consistently maintained that emergency response training needs would be met through the provision of Section 180(c) training requirements. However, as discussed above, these funds would be required for training responders in many jurisdictions across the country. Therefore, in all probability, there would not be adequate funds available to adequately meet the training needs, particularly for those departments at “the end of the funnel” who would see virtually all shipments pass through their jurisdiction.

Recommendation: Revise Section 180(c) or its equivalent to ensure that communities at the draining end of the transportation funnel receive adequate funding, commensurate with the burden and responsibility of all shipments, recognizing that the existing 180(c) is inadequate.

CONCLUSIONS

The termination of the Yucca Mountain program can be attributed to a failure by DOE and the Congress to recognize the critical role of public trust and confidence in the siting of nuclear waste facilities. Top-down decision processes create resistance from local citizens and have been demonstrated in a half dozen countries to be counterproductive to siting goals.

It is the hope of Eureka County that the Blue Ribbon Commission on America’s Nuclear Future will recommend an approach that:

- respects the local governments and the host State,
- encourages volunteer siting,
- promotes a coordinated and transparent NEPA process,
- considers the challenges of transportation and emergency response to be integral to the project
- recognizes the broadened involvement of parties in the licensing process, and

- supports ongoing, publicly accessible, responsible stewardship of public information related to the repository program, adapting to new technology for the life of the project.

SUPPORTING DOCUMENTATION

Eureka County's Nuclear Waste Website: www.yuccamountain.org

Eureka County's Licensing Support Network Website: <http://lsndocuments.org/>

Eureka Sentinel, March 3, 2011, cancer screening notice (provided at end of this report.)

Nuclear Waste Technical Review Board transcript of February 16, 2011 meeting, page 146. <http://www.nwtrb.gov/meetings/2011/feb/11feb16.pdf>

Eureka County Presentation to the Nuclear Waste Technical Review Board, October, 2010 <http://www.nwtrb.gov/meetings/2010/oct/johnson.pdf>

Nuclear Energy Institute v. U.S. Environmental Protection Agency, 373 F.3d 1251, 1312-14 (D.C. Cir. 2004).

http://www.epa.gov/radiation/docs/yucca/dc_circuit_ruling.pdf

Report on Eureka County Hazardous Materials Emergency Response: Requirements for Hazardous Materials Team and Evacuation Planning, April, 2003 <http://www.yuccamountain.org/hazard.htm>

Letter to Secretary of Energy Spencer Abraham providing comments on the Yucca Mountain Final EIS (April 19, 2002) <http://www.yuccamountain.org/letter25.htm>

Eureka County Impact Assessment Report, August, 2001
<http://www.yuccamountain.org/impact01.htm>

Eureka County submittal of Impact Assessment Report to U.S. DOE October, 2001
<http://lsndocuments.org/Documents/baileycomments.pdf>

Comments of Eureka County, Nevada, dated February 28, 2000, on the Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada (U.S. Department of Energy, July 1999)

<http://www.yuccamountain.org/eis200.htm>

53 Federal Register, 16131-16142 (May 5, 1988).

EIS REFERENCES

Yucca Mountain FEIS (DOE/EIS-250F)- <http://nepa.energy.gov/finalEIS-0250.htm>

Final Supplemental EIS - Nevada Rail Transportation Corridor and Final Environmental Impact Statement for a Rail Alignment for the Construction and

Operation of a Railroad in Nevada to a Geologic Repository at Yucca Mountain, Nye County, Nevada(DOE/EIS-0250F-S2 and DOE/EIS-0369).

Final Supplemental EIS for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada.

[DOE Environmental Impact Statements](#)

LIST OF ACRONYM

AULG - Affected Unit of Local Government

DOE - Department of Energy

EIS - Environmental Impact Statements

EPA - U.S. Environmental Protection Agency

GIS - Geographic Information Systems

HLW - high-level radioactive waste

LSN - Licensing Support Network

NRC – Nuclear Regulatory Commission

NEPA - National Environmental Policy Act

NWPAA – Nuclear Waste Policy Act as Amended

NWTRB - Nuclear Waste Technical Review Board

SO FAR - Summary of Findings and Recommendations

STB - Surface Transportation Board

WIPP – Waste Isolation Pilot Plant

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For more information about Eureka County's Lessons Learned: Summary of Findings and Recommendations Report, please contact Ronald Damele, Jr., Eureka County Public Works, P.O. Box 714, Eureka, Nevada 89316(775) 237-5372.