

2010 REPORT AND RECOMMENDATIONS OF THE NEVADA COMMISSION ON NUCLEAR PROJECTS

A SUMMARY OF KEY POINTS



Prepared by the Nevada Agency for Nuclear Projects

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2010 Report of the Nevada Commission On Nuclear Projects: Summary of Key Points

“The continuing uncertainty that permeates the Yucca Mountain program is especially troubling for the State of Nevada Nevada now finds itself in a legal and procedural limbo. It will likely be well into 2011 or beyond before developments in the licensing, legal and political arenas will have been sufficiently sorted out to know whether Yucca Mountain is to go forward in licensing or is to be terminated, as DOE proposes. ... [T]he Governor and Legislature must remain vigilant and be prepared to continue aggressive opposition to Yucca Mountain until its fate is ultimately determined.”

Richard H. Bryan, Chairman
Nevada Commission on Nuclear Projects

Overview

- While the Commission is cautiously optimistic that the Yucca Mountain project will ultimately be terminated for good, the fate of the program remains uncertain as the NRC and the federal courts struggle with the legal issues surrounding DOE’s proposed withdrawal of the license application and as the Blue Ribbon Commission on America’s Nuclear Future looks for workable alternative solutions to the eternally vexing problem of spent nuclear fuel and high-level radioactive waste.

NRC Licensing

- DOE submitted a license application (LA) for authorization to construct a Yucca Mountain repository in June 2008.
- Nevada challenged the application and submitted 235 challenges or contentions addressing serious deficiencies in the LA, ranging from flaws in the overall performance assessment model and calculations to specific geotechnical issues, such as the potential for renewed volcanic activity at the Yucca Mountain site, corrosion of the waste disposal packages, the implications of DOE’s proposed use of drip shields to shelter waste packages from water in the tunnels, and other key site suitability issues.
- The NRC licensing board (known as the Construction Authorization Board or CAB) eventually accepted 224 of Nevada’s challenges for adjudication in the proceeding.
- In all, 296 contentions were accepted by the CAB from all parties in the proceeding. This represents the largest, most complex, and most contested licensing proceeding in NRC’s history.
- Just as the discovery phase of the proceeding was about to begin in February 2010, DOE filed a motion with the CAB to withdraw its application, announcing that it intended to terminate the Yucca Mountain program.

- DOE's announcement and motion prompted a reaction by pro-Yucca interests.
- The states of Washington and South Carolina (states where DOE defense waste is currently being stored) and several other entities (a South Carolina county, the Nuclear Energy Institute, the National Association of Regulatory Utility Commissioners, and three individuals in Washington State) immediately petitioned the CAB for admission to the licensing proceeding for the purpose of opposing the withdrawal motion. They also filed suit in the DC Circuit Court of Appeals to stop DOE from terminating the program.
- On June 29, 2010, the CAB issued a ruling denying DOE's motion to withdraw the license application.
- Nevada and several other parties immediately appealed the decision to the full Nuclear Regulatory Commission.
- As of the date of this report, NRC had not acted on the appeal.
- The Circuit Court of Appeals and the NRC may both direct the licensing process to continue.
- Ultimately, Congress will make the final decision on whether or not to go forward and fund the Yucca Mountain project.

DOE Actions to Terminate the Yucca Program

- Despite the decision of the NRC licensing board denying DOE's motion to withdraw the Yucca Mountain license application, DOE is moving ahead with actions indicative of terminating the program.
- As of October 1, 2010, the Office of Civilian Radioactive Waste Management (OCRWM), the organization within DOE responsible for the Yucca Mountain program, has been formally disbanded, with responsibility for waste disposal activities transferred to DOE's Office of Nuclear Energy.
- Decisions regarding alternative approaches for managing waste were delegated to the newly-established Blue Ribbon Commission on America's Nuclear Future, which was established by Presidential Order in January 2010.

The Blue Ribbon Commission on America's Nuclear Future

- The BRC has 15 members appointed by the President and representing a wide range of expertise and diverse backgrounds.
- It is co-chaired by two well-respected individuals, former congressman and vice chair of the 9/11 Commission, Lee Hamilton and former National Security Advisor, Brent Scowcroft.
- The BRC is charged with conducting a comprehensive review of policies for managing the back end of the nuclear fuel cycle, including alternatives for the storage, processing, and disposal of civilian and defense spent nuclear fuel, high-level waste, and materials derived from nuclear activities.
- The Commission is specifically directed NOT to consider Yucca Mountain as an alternative because the Energy Secretary has determined the Yucca Mountain project to be unworkable.
- The BRC is scheduled to issue a draft report in June 2011 and a final report in January, 2012.

- The Nevada Agency for Nuclear Projects is providing input into the Commission's process by making available information regarding lessons learned from the failed Yucca Mountain program.

Nuclear Waste Transportation

- The Nevada Commission on Nuclear Projects found that, despite years of effort and extensive input from Nevada, state regional groups, and a wide range of stakeholder groups, organizations and entities, DOE has made scant progress in addressing, much less resolving, key transportation issues.
- Nuclear waste transportation remains a major concern and a key driver of impacts that would be associated with any future processing, storage, and disposal facilities regardless of where such facilities might be located.
- Each year, DOE does ship more than one thousand loads of *low level* nuclear waste to the Nevada National Security Site (formerly the Nevada Test Site) for burial.

Key Lessons Learned from the Failed Yucca Mountain Program

- While Yucca Mountain failed for many reasons, a critical element was unquestionably the forced nature of the siting process.
- In 1987, when Congress directed that Yucca Mountain be the only site to be studied, DOE used that directive as the basis for pushing ahead with the project even when the data showed serious flaws in the site and in the face of strong and determined opposition from the state.
- If DOE had been required to obtain the State's informed consent to continue with the project, Yucca Mountain would have been disqualified years earlier (saving billions of dollars and years of effort) and DOE would have had to move on to identify a truly suitable location.
- Underlying everything was the fact that Yucca Mountain was a scientifically bad site from the beginning, with fast groundwater pathways, an oxidizing and corrosive subsurface environment, unacceptably high level potential for escaping radioactive gasses, recent volcanism, high levels of seismicity, and other serious flaws.
- The U.S. Department of Energy was probably the wrong entity to implement the federal high-level radioactive waste program and placing the program within DOE may have doomed it from the start.
- The very character of DOE, with its culture of secrecy, its 'we know best' decision-making, its schedule-driven approach, and its historical inability to work in a cooperative manner with states and communities, made it the worst possible entity to implement a program that required the level of sophistication needed to effectuate the difficult compromises embodied in the Act.
- Because of the heavy-handed manner in which DOE has implemented the Yucca Mountain program and the history of instability in leadership, mismanagement, faulty science and data irregularities, and a host of other serious problems over the years, it would be next to

impossible for a similar siting program implemented by DOE to obtain the level of trust and confidence necessary for a successful program.

Lessons for Future Nuclear Facilities Siting

- A successful facility siting program must be fully voluntary and must obtain the fully informed consent of the host state, tribe (if applicable) and local community.
- Any future siting effort must be based on and motivated by irrefutably sound science.
- A scientifically credible repository siting effort must have as its foundation objective and rigorous criteria against which the geotechnical suitability of a site would be evaluated.
- The criteria must be established in advance of the siting effort and not structured so as to apply only to specific sites. The application of the criteria to candidate sites must be objective and above reproach, and criteria cannot be changed based on conditions found when studying or characterizing various sites.

Findings and Implications for Nevada

- The Commission finds that the decision by the Secretary of Energy to terminate the Yucca Mountain program and withdraw the license application was appropriate, necessary, and more than justified by the weight of evidence indicating that the Yucca Mountain site is unsafe and unsuitable for a high-level radioactive waste repository.
- It is by no means a certainty that DOE will be able to obtain a license to construct a repository at Yucca Mountain. In fact, given the nature and seriousness of the contentions filed, a rejection of DOE's application by the NRC licensing board had to be considered a strong possibility.
- The shift away from the narrow focus on geologic disposal and Yucca Mountain to forward-looking technologies like dry storage, reprocessing and transmutation may, in the long run, be extremely beneficial for the nation and for the nuclear power industry.
- Politics continue to be a preeminent factor in the Yucca Mountain program.
- It is possible that, based on actions by the courts and the outcome of the 2010 elections, decisions could be made resurrecting the Yucca Mountain program and restarting the licensing proceeding. Such a possibility would require intensive efforts by the State of Nevada to quickly and substantially ramp up efforts to again challenge the Yucca Mountain license application before the NRC.
- If, however, the decision to terminate the project is sustained, much work on the part of the State of Nevada would be required to oversee the shut down and decommissioning of the site and to oversee and participate in the work of the Blue Ribbon Commission to assure Nevada's interests are protected with respect to future waste management alternatives that might be identified.

Recommendations of the Commission

- *The Governor and the Legislature must continue to reject any proposal to negotiate for benefits in exchange for agreeing to the Yucca Mountain project or that would have Nevada consider reprocessing and/or interim storage facilities at the site.*
 - There are insurmountable problems with any calls for negotiation. First among them is the fact that the same geotechnical, transportation, environmental, and economic risk factors that made Yucca Mountain unsafe and unsuitable as a repository site also make it unsafe and unacceptable for other nuclear facilities. Second, there are no financial or other benefits to be had. The State does not own the waste, the land or the transportation routes proposed for this project.
- *The Nevada Agency for Nuclear Projects continues to be vital to the State's ability to oversee the Yucca Mountain program and assure that Nevada's interests are protected with respect to the activities and subsequent recommendations of the Blue Ribbon Commission on America's Nuclear Future.*
 - The Agency has developed information and expertise regarding the program that is unique and not available anywhere within or without state government. While the Nevada Attorney General is responsible for overseeing the legal aspects of the State's licensing efforts, it is crucial that the Agency continue to have the resources to provide the technical and policy support indispensable to a successful licensing intervention.
 - The effort on the part of the Agency to effectively provide technical, scientific, and policy support in the NRC licensing proceeding is and will continue to be critical for protecting Nevada's interests and successfully opposing DOE's license application.
 - The Agency, through massive restructuring, has reduced its general fund budget by more than 65% since 2009.