

**PRESENTATION TO THE
NUCLEAR WASTE TECHNICAL REVIEW BOARD**

**STATUS OF THE CIVILIAN RADIOACTIVE WASTE
MANAGEMENT PROGRAM**

BY

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U.S. DEPARTMENT OF ENERGY

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Chairman Cohon and Members of the Board:

Thank you for the opportunity to provide my perspective on the status of the Civilian Radioactive Waste Management Program. We have made substantial progress since I spoke to you last June; most notably the Secretary submitted the *Viability Assessment of a Repository at Yucca Mountain* to the President and Congress last month. Later today, our Federal and contractor team will present details of the viability assessment, focusing on the programmatic areas you have requested. Prior to these detailed discussions, I would like to provide my thoughts regarding this significant milestone and update the Board on recent developments related to the waste management program. I also want to express my gratitude for the input the Board has provided in the last year, which contributed to the quality of the viability assessment.

Viability Assessment

The viability assessment provides all parties with a better understanding of the work done and the remaining technical work necessary to evaluate the site to support a decision by the Secretary whether to recommend the site to the President in 2001. Completion of the viability assessment effectively marks the midpoint of our five-year plan to finish site characterization under the revised program approach. This focused approach, along with our ongoing management improvements, trimmed almost \$2 billion from past estimates.

Program Budget

Congress appropriated \$358 million for the program for Fiscal Year 1999, less than the President's budget request of \$380 million. Within this amount, Congress appropriated \$5.5 million for the local counties and \$250 thousand for oversight by the State of Nevada. Congress directed the program to reduce management and administrative support service contractors by 10 percent. Congress further directed that \$4 million be used for a study related to accelerator transmutation of waste. Specifically, we are developing, with international collaboration, a road map to identify the benefits and issues regarding treatment of civilian spent nuclear fuel with accelerator transmutation technology. Issues that must be addressed are technical feasibility, time schedules, capital and operating costs, and the institutional challenges involved in such an endeavor.

The Fiscal Year 1999 funding will be adequate to continue implementing the revised program approach as refined by the viability assessment. We will maintain our schedule for issuing a draft environmental impact statement this summer, and completing necessary site activities to support a decision whether to recommend the site in 2001. Due to budget constraints, we are deferring work in the transportation area until after a site is recommended.

Waste Acceptance Litigation

As you are aware, the Department is in litigation with State agencies and utilities in several courts regarding the Department's delay in accepting commercial spent fuel. In 1996, the U.S. Court of Appeals for the D.C. Circuit held that the Department has an obligation to start disposing of utility spent nuclear fuel no later than January 31, 1998. In 1997, the same court held that the Department could not excuse its delay because it was "unavoidable." The court also held that the contracts between the Department and utilities provide a potentially adequate remedy for the Department's delay, and therefore, refused to order the Department to remove the fuel from reactor sites.

This ruling was appealed by both the utilities and State agencies, and the Federal government. The utilities and State agencies asserted that the court should order the Department to begin removing spent fuel from utility sites and sought a Supreme Court review of the ruling. The Federal government requested that the Supreme Court review the portion of the ruling which prohibited the Department from making a determination that the delay in removing utility spent fuel was "unavoidable." On November 30, 1998, the Supreme Court declined to accept either request for review and the appeals court ruling stands. The Department will comply with the lower court's ruling and process any claims presented to it under the standard disposal contract.

To date, ten utilities have filed claims for monetary damages in the Court of Federal Claims. The Department of Justice estimates that these claims could total as much as \$8.5 billion. On September 16, 1998, oral arguments were held in the lead cases. As of last week, no schedules had been established for hearing cases pending in the Court of Federal Claims. The results of the litigation could severely impact the funding and continuation of the program.

Board Report

In November, the Board issued its Report to Congress and the Secretary of Energy providing its views regarding the objectives and priorities for site characterization. This report also discussed the key remaining scientific and technical uncertainties related to performance of a repository at Yucca Mountain. We appreciate the Board's recognition of the considerable progress we have made characterizing the Yucca Mountain site and developing a comprehensive repository safety strategy. We also appreciate the Board's views on the specific scientific and technical activities undertaken by the program and its suggestions to improve them. We are in the process of preparing a detailed response to your report. In advance of that, I would like to briefly discuss how our plans for completing site characterization address the suggestions in your report.

Both your report and our revised program approach explicitly recognize that site characterization cannot resolve all uncertainties and provide absolute proof of repository performance. We agree that the acceptable level of uncertainty for decision making is ultimately a policy question. Our experience has shown that the significance of uncertainties, as they relate to our understanding of natural and engineered processes, cannot be determined in the abstract. These uncertainties can only be meaningfully evaluated within the context provided by a specific geologic setting, a coherent repository design, and a comprehensive assessment of its performance. Only then can we ascertain what an acceptable degree of uncertainty may be. For the viability assessment, we assembled the information collected in more than 15 years of site characterization into a workable repository concept and a reasonable assessment of its cost and performance. This process illuminated several issues with uncertainties and impacts to repository performance. The plans we developed address and potentially reduce these uncertainties and provide the underlying logic for the decision process. We look forward to receiving the Board's views on these plans.

The work plan we have established for completing characterization retains the basic tenets of our revised program approach by seeking convergence of the technical work and completion of key milestones. We have set forth an integrated approach that will produce comprehensive technical documentation to support a possible site recommendation. This body of information will enable policy makers to evaluate both the suitability of the site and the significance of residual uncertainties to the national decision on whether to proceed with designating the site and licensing a repository at Yucca Mountain.

The Board's report highlights the need to continue focused studies of both natural and engineered barriers to develop a defense-in-depth repository design and to increase confidence in predictions of repository performance. Our efforts to streamline the site characterization program centered on the importance of the information sought to the performance of the repository. The logical evolution of this approach is to identify methods to reduce uncertainty in repository performance and to develop defense-in-depth. In addition to providing estimates of potential doses in the future from a Yucca Mountain repository, the total system performance assessments that we have prepared over the past several years have also helped identify those areas where uncertainty significantly affects repository performance. This information, in turn, supports the prioritization of future activities. As we proceed, I expect that decisions on these issues, and ultimately repository licensing, will center much more on the underlying confidence in our analyses than on the absolute value of the results.

The Board's report also highlights the need to investigate alternative waste package and repository designs, including those that may provide commensurate repository performance with reduced uncertainty. I agree that the repository design should not be prematurely fixed and potential design enhancements should not be foreclosed. Our design approach balances the need to develop and maintain a coherent working concept with the recognition that such a design concept will invariably change over time.

In response to the suggestions of the Board, our Management and Operating contractor has undertaken an evaluation of design alternatives. On Monday, a panel of this Board received a detailed briefing on its status. I hope that those discussions helped address the Board's

concerns. I believe that it is essential that we complete a fair and unbiased evaluation of alternatives with the insights gained from site characterization before we select the appropriate reference design for the site recommendation evaluation and license application. The reference design is envisioned to continue to evolve throughout site recommendation, licensing, and construction.

I am closely following the evaluation of design alternatives and am pleased with the questions being raised in the process. I am also pleased that the process has enabled us to look individually and collectively at previously identified design features with a new perspective. I urge the Board and other interested parties to follow this important activity. I believe it is important for the program and interested parties to develop a common understanding of the reference repository design concept for Yucca Mountain. General agreement on the concept will ensure that we have considered the facts objectively and reached a sound position for this point in the program. The public interest deserves the constructive input of all knowledgeable participants in the evolution of the reference design for the repository.

Program Direction

On several occasions over the last three years, I have discussed the status and plans for the radioactive waste management program with the Board. In those discussions, I emphasized that our focus was on completing the viability assessment. Assembling the enormous volume of data into a coherent and workable repository concept was a significant challenge and accomplishment for the program. I also noted that our plan called for a substantial effort after the viability assessment to complete site characterization, to continue our design evolution activities, and to complete the site activities necessary to determine site suitability. We are now commencing the post-viability assessment work.

We plan to publish a draft Yucca Mountain environmental impact statement later this year. In general, the environmental impact statement will describe the environmental impacts of a Yucca Mountain repository under a range of implementing alternatives. Following public hearings and consideration of comments as required by the National Environmental Policy Act, we are scheduled to publish a final environmental impact statement in 2000, provided necessary Fiscal Year 2000 funds are appropriated. Should the technical information assembled by the program indicate that geologic disposal at Yucca Mountain is an environmentally sound approach to the management of radioactive wastes, we will complete the evaluation of the site and prepare the technical documentation necessary for a site recommendation in 2001. Should the site be designated under law, we will submit a license application in 2002 for construction of a repository.

Conclusion

The viability assessment clarified the remaining work required and illuminated those technical issues that should be further addressed prior to determining suitability of the site. We are addressing those issues and have commenced work on assembling the information required to support national decisions on geologic disposal at Yucca Mountain.

Thank you for the opportunity to share my thoughts with you today and I will be happy to answer any questions.