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A U.S. Department of Energy Site-Specific Advisory Board

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Ms. Jane R. Summerson, EIS Document Manager
Yucca Mountain Site Characterization Office
Office of Civilian Radioactive Waste Management
U.S. Department of Energy
P.O. Box 30307, M/S 010
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Dear Ms. Summerson:

Enclosed for your consideration are written comments regarding the Yucca Mountain Supplemental Draft EIS. The Savannah River Site Citizens Advisory Board is a 25 member board comprised of citizens from South Carolina and Georgia who provide recommendations to the Department of Energy regarding SRS environmental management issues.

We appreciate your thoughtful consideration of the enclosed comments and look forward to the release of the Record of Decision regarding this matter.

Sincerely,

Karen K. Patterson

Karen Patterson
Chairperson

Savannah River Site

Citizens Advisory Board

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Recommendation No. 139

Supplement to Yucca Mountain Draft EIS

Background

In August 1999, DOE issued the "Draft Environmental Impact Statement (Draft EIS) for a Geologic Repository for the Disposal of Spent Nuclear Fuel & High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada" (Ref. 1). The Draft EIS addressed the impacts of its proposed action "to construct, operate, monitor and eventually close" the Yucca Mountain repository. At that time, the sources of the waste to be deposited at Yucca Mountain were spent nuclear fuel and high level wastes currently in storage or to be generated in the future from 72 commercial and 5 DOE sites in the United States. The repository design was described in the Viability Assessment of the Repository at Yucca Mountain (viability design). DOE based its EIS analysis on this design.

Since the Draft EIS was issued, the DOE continued to analyze alternative design and operation modes which would improve the performance of the repository and enhance its efficiency and safety for thousands of years after closure. The results of this analysis are detailed in the "Supplement to the Draft Environmental Impact Statement" (Supplement), released May 2001 (Ref. 2). The Supplement discusses the Science & Engineering Report (S&ER) flexible design and its evolution from that originally evaluated in the Draft EIS.

The basis for the analytical scenarios presented in the Draft EIS was the amount of commercial spent nuclear fuel and its associated thermal output or load that DOE would emplace per unit area of the repository (called areal mass loading). In contrast to focusing on thermal loads, the S&ER flexible design focuses on managing the temperature of the rocks between the tunnels (drifts), tunnel (drift) walls and the surface of the waste packages and ventilation throughout the repository. By meeting a temperature performance standard, the waste packages can be varied by spacing, cooling/aging period (for dissipation of heat), and blending of high and low temperature waste. Using this approach, DOE can emplace waste packages in phases, which allows scientific evaluations to continue during construction and emplacement.

In addition to commenting on the Supplement, DOE invites comments on its intention not to address the Draft EIS design (viability design) in the Final EIS. DOE plans to consider only the S&ER flexible design and any enhancements developed as the result of ongoing analyses. DOE still has the mandated requirement and a planned goal to submit its recommendation to the President by the end of 2001.

Comments

The SRS Citizens Advisory Board (CAB) has previously provided comments on the Draft EIS (Ref. 3). The primary comment of the CAB centered on the need to open Yucca Mountain on schedule to isolate nuclear wastes and minimize their exposure to people and to conditions that could cause deterioration. The CAB also commented on the federally mandated weight limit of 70,000 metric tons of heavy metal (MTHM), the assumption that sealed sources will always be placed in standard waste packages, and the anticipated schedule and order of shipment of materials to the repository.

By changing the design and operating parameters to meet temperature performance standards for the entire repository instead of thermal outputs of MTHM, DOE can place waste packages in phases which allows scientific evaluations to continue during construction and emplacement. The Nuclear Waste Technical Review Board (NWTRB) has encouraged DOE to further develop a low temperature repository operation scenario (flexible design options). The NWTRB is an independent government agency with the sole purpose to provide independent scientific and technical oversight of the U.S. program for management and disposal of high level waste and spent nuclear fuel from civilian nuclear power plants.

1 The NWTRB believes and the CAB concurs that an established methodology to incorporate changes as additional scientific data emerges would help mitigate any uncertainties remaining after site approval. However, the CAB believes that any ongoing evaluations or ongoing analyses should not interfere with the recommendation to open Yucca Mountain.

In addition, the CAB believes the S&ER flexible design promotes more efficient operations, contributes to repository integrity, and improves long-term performance and safety.

Recommendation

The SRS CAB recommends that DOE:

2 1. Open Yucca Mountain on schedule and not allow any ongoing analyses to delay or impede this decision.
3 2. Continue in-depth evaluations of priority issues as raised by NWTRB to lay the scientific foundation for a positive Yucca Mountain site recommendation.
3. Incorporate a surface aging area for commercial spent nuclear fuel into the surface facilities plan for Yucca Mountain.
4. Conduct an in-depth investigation of a low temperature repository design, as an operating mode with optimum flexibility.
4 5. Consider only the S&ER flexible design in the Final EIS and not address the viability Draft EIS design.

References

1. Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel & High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada (DOE/EIS-0250D), July 1999.

2. Supplement to the Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel & High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada (DOE/EIS-0250D-S), May 2001.

3. Citizens Advisory Board Recommendation No. 108 (adopted January 25, 2000), "Yucca Mountain Draft Environmental Impact Statement".

4. United States Nuclear Waste Technical Review Board, Cohon to Barrett, March 30, 2001.