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Dr. Jane R. Summerson, EIS Document Manager
U.S. Department of Energy
Office of Civilian Radioactive Waste Management
Yucca Mountain Site Characterization Office M/S 010
P.O. Box 30307
North Las Vegas, NV 89036-0307

Re: Supplement to 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 DOE/EIS-0250D-S

Dear Dr. Summerson:

Thank you for your letter of May 4, 2001 inviting the National Association of Regulatory Utility Commissioners to comment on the Supplement to the Yucca Mountain Repository DEIS. NARUC provided both written and oral comments on the DEIS and continues to be most interested in the possible development of a geologic repository at Yucca Mountain to safely dispose of spent nuclear fuel from commercial nuclear power plants along with other high-level radioactive waste from Department of Energy facilities.

Our review comments are attached to this letter. We thank you for the opportunity to comment on the document.

Sincerely,

Charles D. Gray
Executive Director

Attachment

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1. General Comments

Overall Environmental Impacts of the Proposed Action

1 The Draft Environmental Impact Statement issued in July 1999 stated that, "The analyses in this EIS did not identify any potential environmental impacts that would be a basis for not proceeding with the Proposed Action." The Supplement, which compares impacts associated with certain changes in the evolving repository design process since 1999 compared with the impacts in the Draft EIS, provides nothing to alter that same conclusion, in our opinion.

Need for Supplement for the Yucca Mountain DEIS

The Council on Environmental Quality guidelines on supplements to environmental impact statements (Section 1502.9) gives latitude to a federal agency on the need to prepare a supplement to an EIS. The threshold considerations are:

"c. Agencies

1. Shall prepare supplements to either draft or final environmental impact statements if:

   (i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or

   (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

2. May also prepare supplements when the agency determines that the purposes of the Act will be furthered by doing so."

There is little question that the Yucca Mountain repository is a significant proposed action, as the comprehensive DEIS published in 1999 made clear. It was also explained in the DEIS that the repository design process was continuing to evolve as more scientific studies and data became available. DOE has conducted an open and well-documented site characterization process for the repository. It would have been adequate to have examined the changes in environmental impacts due to design changes (for the SE&R flexible design) in the Final Environmental Impact Statement. While it is helpful to have this Supplement now, our review leads us to conclude that none of the environmental impacts in either the short or long-term suggest the repository should not proceed.

Comment on Intent to Address Environmental Impacts of the S&ER Flexible Design in the Final EIS Instead of the DEIS Design

2 The Supplement on page S-2 and 1-3 invites comments on DOE's proposal to evaluate only the S&ER flexible design in the Final Environmental Impact Statement.

We agree with the approach. The Final EIS should evaluate the impact of the design that most accurately describes the repository that is proposed to be built.

Design Options, Operating Modes and Sequence of Future Decisions

3 It appears that DOE is maintaining flexibility in the operating modes for the repository and thus its expected performance. The discussion on page S-1 makes sense but the general reader who may be unfamiliar with the repository design process may have difficulty grasping the significance of the message. We understand that DOE is approaching the design with flexibility because there are other decisions that will follow that have a bearing. The Environmental Protection Agency had not released its final regulation for radiation standards for Yucca Mountain at the time the Supplement was issued. Further, there are technical reviews and discussions between the DOE program managers and the U.S. Nuclear Waste Technical Review Board that continue as the site characterization process continues. The flexible design approach also recognizes that there will be a lengthy and detailed license application review process conducted by the Nuclear Regulatory Commission that will examine more closely the design that emerges from consideration of all of the above and other factors related to having a repository that meets the various performance requirements and regulatory standards.

2. Specific Comments

[We use a coding system for ease of reference.]

NARUC S-1 Page S-3 Table S-1 Spent Fuel Aging Under the Lower-Temperature Operating Mode

4... Footnote d to Table S-1 refers to an assumption for the lower-temperature operating mode over a 50 year period ending in 2060. We understand the purpose for the additional aging before emplacement is to reduce thermal loading in the drifts. Does that affect the waste acceptance rates for commercial spent fuel or does it mean that the fuel will be stored at the fuel aging area that is part of this operating mode alternative?

4 cont.

Spent nuclear fuel from commercial nuclear plants was supposed to have begin acceptance by DOE in January 1998, according to the mandate of the Nuclear Waste Policy Act and under terms of the contracts DOE required plant operators to enter into in 1983. The earliest that DOE indicates spent fuel would be accepted is 2010, on the presumption of the proposed action that Yucca Mountain is found suitable for the repository and that a license authorizing construction is issued sometime in 2005.

The nuclear utilities have been placed in a bind by the delay in waste acceptance. Many have already had to make investments to expand reactor site storage that should not have been necessary if DOE had met the 1998 milestone or had taken other steps to move spent fuel per the waste acceptance schedule to other DOE-managed sites on a temporary basis. As a consequence, many utilities expanded their on-site storage capacity and others will need to before waste acceptance begins in 2010 or later. Many utilities have entered into litigation seeking waste removal and cost recovery for damages from DOE's breach of contract.

We raise this question in the context of the need to move the spent fuel from reactor sites in a timely fashion as move spent fuel accumulates. This must be a priority regardless of whether the lower or higher temperature-operating mode is the one selected. Therefore, the aging facility needs to be sized accordingly if the lower-temperature mode is adopted.

NARUC S-2 Page 1-2 Scope of the Supplement is on Changes from the DEIS and Not a Duplication of Elements in the DEIS that are Unchanged.

The Supplement focuses on aspects of the design that have changed since DOE issued the Draft EIS. We agree with that approach and suggest that oral and written comments that are outside that defined scope need not be reconciled in the record of this review and these hearings.

NARUC S-3 Page 2-12 North Portal Operations Area- Waste Handling Building

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One of the changes from the DEIS design is to have one canister transfer line instead of two, based on "further waste stream requirements analysis," and a reduction from three to two assembly transfer lines. We have not read the reference for those changes but we are curious about reducing redundancy to account for maintenance or equipment malfunction. We recommend that redundancy of equipment be a design parameter, as we understand it is one of the hallmarks of the nuclear industry's excellent safety record.

NARUC S-3 Page 2-18 Electric Power

6 The Supplement introduces the plan to add renewable energy sources to the repository. These would be supplementary to upgrading the existing electric transmission and distribution service from the Nevada Test Site. These additions should help reduce off-site electricity requirements during periods when the renewables can meet some of the repository requirements.

7 The solar generating facility has some site impacts that are analyzed in the Supplement, although exact site is not identified yet. The possible development of a 436 MW wind farm on the Nevada Test Site, however, is not part of this proposed action. That may also contribute electricity to the repository but we gather it is an independent decision.

NARUC S-4 Page 2-30 Potential Future Design and Operational Evolution

8... This section well describes what lies ahead in terms of further evolution of the design process, which is aimed at reducing uncertainty about long-term performance of the repository. The S&ER flexible design described in the S&ER itself and the environmental impacts evaluated in the Supplement show further reductions in the most critical factor of the repository program, no release of radiation above the standard for the established period of the final regulation issued by EPA.

We support the evolving and refining design process which is aimed at reducing uncertainty about repository performance and we accept the premise that the environmental impacts considered in the DEIS and the Supplement sufficiently and accurately bound the analysis of impacts. As with transportation, examined in generic terms in the DEIS, there will be ample opportunity for further environmental impact assessment when design choices are narrowed to specific details.

NARUC S-5 Pages 3-3 to 3-19 Short-term Impacts May Require Additional Analyses When Design Options are Determined

Chapter 3.1 examines the changes in short-term environmental impacts for eight primary impact indicators for both higher and lower temperature operating modes. While there are changes in most impacts, none seem to us to change the conclusion of the foregoing DEIS that the environmental impacts of the repository are not a basis to not develop and operate the repository. There would be a substantial amount of additional construction to build the lower temperature operating mode repository with commensurate increases in construction impacts and risk of non-

8 cont.

radiological accidents, but whether the benefits achieved in long-term performance outweigh those added costs is a judgment that has yet to be made.

Likewise, there are added environmental impacts related to ventilation that were examined but seem to be minimal and would likely be acceptable to obtain the benefits in repository performance.

We note that additional casks are called for in the lower-temperature design along with an aging facility that was not part of the DEIS design. The Supplement does not provide details on that facility. Will there be additional environmental analysis of the aging facility if the lower-temperature mode is selected for the license application design basis?

NARUC S-6 Pages 3-19 to 3-22 Long-term Impacts

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While the evidence must be in supporting documentation, this section states that the peak of the mean annual dose to a receptor at 20 kilometers from the repository for both the higher and lower temperature-operating mode would be zero. This would be lower than the lowest peak dose of any of the thermal loading scenarios under the Draft EIS reference design. This seems to be the benefit in long-term impact reduction that justifies the slightly increased impacts in the short-term. If these benefits are what the public seeks for the long term, then the costs seem to us to be worthwhile, including the estimated $11 billion. We realize that cost considerations are outside the scope of the EIS, but program cost is no small consideration to those who are being asked to pay for the commercial spent fuel portion of the repository costs through their electricity bills.