

May 10, 1999

COMMISSION VOTING RECORD

DECISION ITEM: SECY-99-074

TITLE: STAFF REVIEW OF U.S. DEPARTMENT OF ENERGY VIABILITY ASSESSMENT FOR A HIGH-LEVEL RADIOACTIVE WASTE REPOSITORY AT YUCCA MOUNTAIN, NEVADA

The Commission (with all Commissioners agreeing) approved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of May 10, 1999.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission, and the SRM of May 10, 1999.

Annette Vietti-Cook
Secretary of the Commission

Attachments: 1. Voting Summary
2. Commissioner Vote Sheets
3. Final SRM

cc: Chairman Jackson
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield
OGC
EDO
PDR
DCS

VOTING SUMMARY - SECY-99-074

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. JACKSON	X				X	3/26/99
COMR. DICUS	X				X	4/6/99
COMR. DIAZ	X					4/1/99
COMR. McGAFFIGAN	X				X	4/20/99
COMR. MERRIFIELD	X				X	4/1/99

COMMENT RESOLUTION

In their vote sheets, all Commissioners approved the staff's recommendation and some provided additional comments. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on May 10, 1999.

Commissioner Comments on SECY-99-074

Chairman Jackson

The staff has done a commendable job in its review of this voluminous, comprehensive snapshot of the high-level waste repository characterization and design. The staff use of Key Technical Issues and the associated Issue Resolution Status Reports has helped to focus this difficult task and provide a transparent, constructive, and systematic method for identifying, communicating, and resolving issues related to the candidate repository at Yucca Mountain.

I approve of the staff draft letter by which the six major issues will be transmitted to the Department of Energy. In addition, the results of the NRC review should be provided to the appropriate Congressional committees for information.

Commissioner Dicus

I approve the proposed letter to DOE that transmits NRC comments on the Viability Assessment, subject to the following modification. I suggest that the following paragraph be added at the top of page 2 of the letter to address the issue of defense-in-depth with respect to the repository.

The staff notes that in the TSPA-VA, DOE placed heavy reliance on engineered barriers (e.g., waste package performance, cladding credit, etc.) To achieve isolation. In addition, the discussion of "defense-in-depth" in the LA Plan considers additional engineered features (drip shields, backfill, ceramic coatings) to compensate for uncertainty and provide margin of safety. In the Statement of Considerations for proposed 10 CFR Part 63, the Commission stated its expectation that natural and engineered barriers would each make a definite contribution to the isolation of waste in order to provide reasonable assurance that the overall safety objective would be met. In any future license application, DOE is expected to demonstrate that natural barriers and the engineered barrier system work in combination to enhance overall performance of the geologic repository. Additional attention needs to be given to how this demonstration will be made.

Commissioner McGaffigan

I approve sending the proposed letter to the Department of Energy (DOE) to transmit staff comments on the Viability Assessment (VA). The ongoing cooperative effort between NRC and DOE staff is evidenced by the staff's ability to review and provide valuable comments on a voluminous document in a relatively short period of time. I join my fellow Commissioners in commending the staff for their effort and I encourage continued close coordination with DOE on these important matters. I offer the following comments for the staff's consideration.

In approving the transmittal of the staff comments, I am not independently judging their validity, but I consider the staff comments essential for fostering continued deliberations on certain key technical issues. For this reason, I do not offer specific edits to the staff comments, with one exception. I suggest that the discussion on "repository design" be edited as indicated on the attached to recognize that flexibility in design improvements during the pre-closure period is, as the Advisory Committee on Nuclear Waste (ACNW) points out in its April 8, 1999 letter to Chairman Jackson, "essential to achieve the best results." However, at the same time, the License Application and supporting information on the License Application design must be well developed to allow NRC to make a finding of reasonable assurance of safety. I should note that I am intrigued by both ACNW and the Nuclear Waste Technical Review Board (NWTRB) suggestions that a "low temperature" repository design may improve repository performance, reduce several uncertainties about repository performance, such as thermal effects, and simplify licensing.

Regarding staff comments on the "Volcanic Disruption of the Waste Package" section, I am concerned about the continued lack of consensus between the NRC staff and every other technical opinion expressed to date on whether the risk from volcanism during the time of compliance has been adequately addressed in the VA. In the April letter, the ACNW disagrees with the staff's concern about the need for more work on igneous activity and requests to review the staff's detailed justification for its position. In view of the ACNW comments, those of the Total System Performance Assessment Peer Review Panel in its February 1999 report on the VA and the 1997 letter report from the NWTRB stating that the issue of volcanism can be considered resolved for most purposes, I suggest that the staff critically evaluate its current position. The purpose of such a review would be to ensure that the NRC staff is not taking an overly conservative approach on this issue and thus inadvertently negatively impacting the process by diverting scarce DOE and NRC resources from more safety significant issues. The staff should also ensure that its position is transparent and well documented. I encourage the staff to work closely with DOE to resolve the issue of volcanism in a timely manner.

Also, I agree with Commissioner Dicus' suggested additional text on page 2 regarding defense-in-depth.

The ACNW is generally supportive of the staff's work to date and the staff's comments to DOE on the VA, and DOE may benefit from considering ACNW's comments. Therefore, I suggest that the recent ACNW letter be provided as an enclosure to the DOE letter.

Commissioner Merrifield

I approve the staff letter for transmittal of the comments on the Viability Assessment to the Department of Energy. I agree with the Chairman that the results of the review should also be transmitted to the appropriate Congressional committees for information.

I also want to commend the staff for an outstanding job in reviewing this voluminous, comprehensive snapshot of the high-level waste repository characterization and design. It is highly appropriate for the staff to focus its limited resources on the more risk significant issues associated with licensing the high-level waste repository. It is also appropriate to recognize that this review is just a snapshot of the DOE program; and the dedicated NRC staff and contractors will need to remain diligent in maintaining up-to-date knowledge of the latest DOE efforts in this important national program.