



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

June 6, 1990

Note to: John J. Linehan, Director, HLPD  
From: Ronald L. Ballard, Chief, HLGP  
Subject: HYDROLOGIC TRANSPORT SECTION REVIEW OF "CONCEPTUAL CONSIDERATIONS OF THE YUCCA MOUNTAIN GROUNDWATER SYSTEM WITH SPECIAL EMPHASIS ON THE ADEQUACY OF THIS SYSTEM TO ACCOMMODATE A HIGH LEVEL NUCLEAR WASTE REPOSITORY" BY J.L. SZYMANSKI

As requested by the Project Directorate August 9, 1989, the Hydrologic Transport Section has completed its review of "Conceptual Considerations of the Yucca Mountain Groundwater System with Special Emphasis on the Adequacy of this System to Accommodate a High Level Nuclear Waste Repository" by J.L. Szymanski, which is a revision of Mr. Szymanski's draft report prematurely released in 1987. The staff's summary, and a focused review of Mr. Szymanski's mathematical formulations and conclusions that was prepared by the Center for Nuclear Waste Regulatory Analysis, are enclosed.

The staff has found no significant new information that would suggest modification of its current positions on issues pertaining to the proposed Yucca Mountain repository. The staff report does provide an excellent summary of the siting issues that confront DOE and a useful background document to aid the staff in its continuing review of DOE's site characterization activities.

As a related matter, the National Research Council Board on Radioactive Waste Management has approved the formation of a Panel of Experts to conduct a generic evaluation of the issue - "Coupled Hydrologic/Tectonic/Hydrothermal Systems for Applicability to the Proposed Geologic Repository at Yucca Mountain" in response to a DOE proposal. The panel has been formed with 17 experts covering a broad range of disciplines relevant to the topic. The panel met for the first time on April 12, 1990, and is to complete its evaluations and final report in about 24 months. The staff's review of the report prepared by Mr. Szymanski provided it with a substantial background for following the work of this panel as it progresses.

The staff's preliminary conclusions and recommendations will be revisited after the Panel of Experts completes its deliberations and publishes its own generic finding on coupled processes. If the staff's reassessment of its initial review and information from DOE's site characterization activities indicates a need, follow-up recommendations will be prepared and forwarded for management consideration.

King Stablein's note to Mr. Browning of 11/17/89, indicated a commitment to provide H. Thompson with the results of a more thorough review upon completion by the Hydrologic Transport Section of their review. The attached report should suffice to meet that commitment.

  
Ronald L. Ballard, Chief, HLGP

Enclosures:  
As stated

cc: R.E. Browning  
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