



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

JAN 10 1991

NOTE TO: J. Linehan, Director, HLPD

FROM: *King Steblein*
K. Steblein, HLPD

SUBJECT: NRC STAFF REVIEW OF THE SZYMANSKI REPORT

In July 1989 DOE transmitted to NRC Mr. Jerry Szymanski's report entitled "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". DHLWM management requested that the staff conduct a limited review to determine: (1) if the report identified any significant new information or data related to the site; and (2) whether DOE's proposed site characterization program was adequate to address hypotheses, models, and points raised by Mr. Szymanski that were of possible merit. The latter item was associated with the NRC staff comment on the CDSCP that the site characterization program should be based on a broad range of alternative conceptual models.

The scope of the review requested of the NRC staff was in keeping with NRC's role in pre-licensing, which is not to critique in detail or accept or refute hypotheses or conclusions in reports such as Mr. Szymanski's, but rather is to determine if the reports raise any significant new issues and if DOE's studies appear adequate to address them. It is DOE's responsibility to critique the reports and to address significant matters that are raised therein. NRC will of course keep abreast of DOE's actions with respect to such reports.

Despite the scope of the review requested by DHLWM management and the respective roles of DOE and NRC discussed above, the Hydrologic Transport Section initiated a rather extensive technical review of Mr. Szymanski's report in its area of expertise. This review included involvement by CNWRA personnel.

When both the general staff review and the more detailed hydrologic review were completed, the two reviews arrived at these key conclusions: (1) the staff found no significant new information that would suggest the need for modifications of its current positions on issues pertaining to the Yucca Mountain repository; and (2) the DOE site characterization program is very extensive and either encompasses or can be adjusted to incorporate significant studies or analyses recommended by Mr. Szymanski.

Attached for your information is a chronology of the events that have transpired since Mr. Szymanski's draft report was first released by the State of Nevada in 1988.

Enclosure: As stated

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CHRONOLOGY OF EVENTS
RELATED TO THE SZYMANSKI REPORT

12/22/87 322 page draft Szymanski report received by DOE management

1/88 Draft report released by Governor Bryan of Nevada

02/02/88 Date of letter from Loux transmitting draft Szymanski report to NRC

02-03/88 Staff considers Szymanski report in evaluating DOE's CDSCP, esp. alternative conceptual models (subject of CDSCP Objection I)

03/15/88 Letter from Stello to Loux mentioning upcoming Alternative Conceptual Models Workshop and affirming NRC position that both surface-based and underground testing are needed to address major site concerns at Yucca Mountain

04/11-13/88 NRC-DOE Alternative Conceptual Models Workshop; Szymanski presents his model and evidence for it; Szymanski acknowledges DOE's site characterization program would likely provide most of the data needed to evaluate his theory.

07/89 133 page review by 40 DOE scientists of draft Szymanski report released by DOE

07/89 911 page Szymanski final report released by DOE

08/89 Staff requested to do limited review of Szymanski report

11/89 Note to REB summarizes results of staff's familiarization review and notes Hydro's intent to do a more detailed review

06/06/90 Ballard to Linehan memo attaches staff and CNWRA reviews of Szymanski report; memo and attachments sent to PDR. (It's our understanding DOE YMPO obtained a copy through the PDR sometime between 6 and 9/90)

11/18/90 NY Times Sunday Magazine article published

11/90 Staff reviews NY Times article for new information, etc.

1990 (scheduled) Report by five person independent expert panel (two picked by Szymanski, three by DOE) on Szymanski report due

1991 (scheduled) Interim report by 17 member group from the National Academy of Sciences on issues related to Szymanski report

1992 (scheduled) Final report by NAS group due