RICHARD H. BRYAN
Governor

STATE OF NEVADA

ROBERT R. LOUX
Executive Director

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AGENCY FOR NUCLEAR PROJECTS
NUCLEAR WASTE PROJECT OFFICE
Capitol Complex
Carson City, Nevada 89710
(702) 885-3744

February 2, 1988

Mr. Lando W. Zech, Jr.
Chairman, U.S. Nuclear Regulatory
Commission
1717 H Street, N.W.
Washington, D.C. 20555

Dear Chairman Zech:

I am enclosing, for your information and review and that of the Commission, a copy of a report entitled Conceptual Considerations of the Death Valley Groundwater System with Special Emphasis on the Adequacy of this System to Accommodate the High-Level Nuclear Waste Repository, written by Jerry Z. Szymanski, a physical scientist with the U.S. Department of Energy, Nevada Waste Management Project Office, dated November 1987, along with this Agency's summary of that report.

While the theory, findings, recommendations and conclusions of this report are not entirely new to the State of Nevada, nor to your staff, the existence of the report, and the fact that the Department of Energy (DOE) withheld it from Congress during its deliberations on and passage of the Nuclear Waste Policy Amendments Act of 1987, is both disturbing and shocking.

The evidence which gave rise to Mr. Szymanski's investigations and report first came to light in 1984 during a DOE-sponsored field investigation at the Yucca Mountain site with representatives of the State and of the Nuclear Regulatory Commission (NRC) staff present. It is our understanding that this information was immediately made known to the senior DOE officials in Las Vegas responsible for the Yucca Mountain project, and that they were informed that, should the evidence indicated on the ground lead to certain postulated conclusions, the Yucca Mountain site was almost certainly unsuitable for development as a high-level nuclear waste repository and should be abandoned.

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Despite that information, and in the face of repeated expressions of concern by us, and most significantly by the technical staff of the Commission, the Department has continued to adhere to a program of geologic and hydrologic study which, in the opinion of Mr. Szymanski, has to date yielded a very distorted, simplified, and highly optimistic view of the site's isolation capability. See, for example, pages 5-5 and 5-7 of the report. Of most serious concern to us, and we presume to the Commission as well, is that the Department's current plans for characterization are designed in such a way that a real understanding of the natural geologic forces which Mr. Szymanski believes are at work in the area, and their anticipated or even potential impacts on waste isolation, will be masked.

Mr. Szymanski proposes that the Department immediately conduct, prior to any underground site characterization activities, four relatively simple and straightforward technical studies, and that, if those studies disclose the presence of certain critical conditions, "serious consideration should be given to abandoning the Yucca Mountain site and declaring it as unsuitable for the purposes of permanent disposal of the high-level nuclear wastes."

The author concludes with the statement that:

> "In all sincerity, the U.S. Government would be well advised to perform the recommended investigations prior to the commitment of substantial resources, such as those associated with the Site Characterization Process and the in-situ testing in the Exploratory Shaft."

We commend the Szymanski report to the Commission for its consideration. We have concluded, as we are confident your staff has as well, that any Site Characterization Plan which does not encompass, as the first steps <u>prior to</u> any exploratory shaft work, the investigations recommended by Mr. Szymanski, is entirely inadequate, if not scientifically misleading, and should be rejected.

I look forward to discussing this matter with you further, as I believe we will be recommending that DOE initiate a study program similar to that outlined by Mr. Szymanski prior to the excavation of any exploratory shaft.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

Robert R. Loux
Executive Director

RL/gjb

Enclosures

cc: Commissioners, U.S. Nuclear Regulatory Commission