

MAY 04 1992

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Mr. John P. Roberts, Acting Associate Director
for Systems and Compliance
Office of Civilian Radioactive Waste Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Mr. Roberts:

SUBJECT: PHASE I REVIEW OF U.S. DEPARTMENT OF ENERGY STUDY PLAN FOR "WATER
RESOURCE ASSESSMENT OF YUCCA MOUNTAIN, NEVADA"

On September 20, 1991, DOE transmitted the study plan, "Water Resource Assessment of Yucca Mountain, Nevada" (Study Plan 8.3.1.9.2.2), to the U.S. Nuclear Regulatory Commission for review and comment. NRC has completed its Phase I Review of this document using the Review Plan for NRC Staff Review of DOE Study Plans, Revision 1 (December 6, 1990).

The material submitted in the study plan was considered to be consistent, to the extent possible at this time, with the NRC-DOE agreement on content of study plans made at the May 7-8, 1986, meeting on Level of Detail for Site Characterization Plans and Study Plans.

Among the references listed for this study plan are several which have not been provided to NRC and are not readily available in the public domain. We therefore request that DOE provide the NRC with the documents which are listed in the Enclosure.

A major purpose of the Phase I Review is to identify concerns with studies, tests, or analyses that, if started, could cause significant and irreparable adverse effects on the site, the site characterization program, or the eventual usability of the data for licensing. Such concerns would constitute objections, as that term has been used in earlier NRC staff reviews of DOE's documents related to site characterization (Consultation Draft Site Characterization Plan and the Site Characterization Plan for the Yucca Mountain Site). It does not appear that the conduct of the activities described in this study plan will have significant adverse impacts on repository performance and the Phase I Review of this study plan identified no objections with any of the activities proposed.

After completion of the Phase I Review, selected study plans are to receive a second level of review, called a Detailed Technical Review, based on the relationship of a given study plan to key site-specific issues or NRC open items, or its reliance on unique, state-of-the-art test or analysis methods. We have decided not to proceed with a Detailed Technical Review of this study plan.

However, there is one concern that the NRC staff has. On page 1-1 of the plan, it is stated that groundwater is the only resource expected to have the potential for future inadvertent human intrusion. This statement is premature given that Yucca Mountain is located in a geologic setting that includes current gold production and exploration for hydrocarbon resources. For example, five new mines and prospects have been located within 48 km of the

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proposed Yucca Mountain site between January 1988 and July 1990 (Raney, 1990)¹. Recent oil exploration has occurred within 25 km of the proposed site (State of Nevada, 1990)². Based on the information provided in the Site Characterization Plan, the potential for these resources to occur at the site will be addressed as part of Study Plan 8.3.1.9.2.1 (natural resource assessment). We are concerned that this early conclusion concerning water resources may impact the work being planned with respect to the natural resources assessment study plan.

If you have any questions concerning this letter, please contact Charlotte Abrams (FTS 964-3403, 301-504-3403) of my staff.

Sincerely,

JSI

Joseph J. Holonich, Director
Repository Licensing and Quality
Assurance Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated

- cc: R. Loux, State of Nevada
- C. Gertz, DOE/NV
- S. Bradhurst, Nye County, NV
- M. Baughman, Lincoln County, NV
- D. Bechtel, Clark County, NV
- D. Weigel, GAO
- P. Niedzielski-Eichner, Nye County, NV
- C. Thistlethwaite, Inyo County, CA
- V. Poe, Mineral County, NV
- F. Sperry, White Pine County, NV
- R. Williams, Lander County, NV
- P. Goicoechea, Eureka County, NV
- L. Vaughan II, Esmeralda County, NV
- C. Shank, Churchill County, NV
- T. J. Hickey, Nevada Legislative Committee

¹Raney, R.G., 1990, Active mines and prospects within a thirty-mile radius of the proposed high-level repository site at Yucca Mountain, Nye County, Nevada, subsequent to January 1988: U.S. Bureau of Mines, NRC FIN D1018.

²State of Nevada, 1990, Oil and gas permit notices: State of Nevada, Department of Minerals, Permit Numbers 605-607, issued December 14, 1990.

* See previous concurrence

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includes current gold production and exploration for hydrocarbon resources. For example, five new mines and prospects have been located within 48 km of the proposed Yucca Mountain site between January 1988 and July 1990 (Raney, 1990)¹. Recent oil exploration has occurred within 25 km of the proposed site (State of Nevada, 1990)². Based on the information provided in the Site Characterization Plan, the potential for these resources to occur at the site will be addressed as part of Study Plan 8.3.1.9.2.1 (natural resource assessment). We are concerned that this early conclusion concerning water resources may impact the work being planned with respect to the natural resources assessment study plan.

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References:

DeGabriele, C.D. and C.L. Wu. 1987. Water Requirements, Bechtel National, Inc., for Sandia National Laboratory, 52-9817.

Gibbons, D.C., 1986. The Economic Value of Water, Resources of the Future, Washington, D.C.

Gollnick, C.A., 1988. Irrigation Study. Valley Electric Association, Pahrump, Nev.

ENCLOSURE