

February 9, 2005

Mr. Joseph D. Ziegler, Director
Office of License Application and Strategy
Office of Repository Development
U.S. Department of Energy
1551 Hillshire Drive
North Las Vegas, NV 89134

SUBJECT: PRE-LICENSING EVALUATION OF KEY TECHNICAL ISSUE AGREEMENTS -
"EVOLUTION OF THE NEAR-FIELD ENVIRONMENT" ENFE.2.03,
"RADIONUCLIDE TRANSPORT" RT.1.01, 3.02, "UNSATURATED AND
SATURATED FLOW UNDER ISOTHERMAL CONDITIONS" USFIC.4.04, "TOTAL
SYSTEM PERFORMANCE ASSESSMENT AND INTEGRATION" TSPAI.3.22,
3.24, 3.26, 2.02 (COMMENTS 3, 4, 12, J-20, J-23) AND GENERAL
AGREEMENT GEN.1.01 (COMMENTS 24, 69, 106)

Dear Mr. Ziegler:

In a letter dated May 28, 2004, the U.S. Department of Energy (DOE) submitted a report titled, "Technical Basis Document No. 2 (TBD No. 2): Unsaturated Zone Flow," which contains DOE's responses to several agreement items reached between DOE and the U.S. Nuclear Regulatory Commission (NRC) and pertaining to several key technical issues. The staff review of DOE's responses to the agreement items is based on information requests by NRC that are documented in the summary highlights of DOE and NRC technical exchange and management meetings. The enclosed report provides a summary of NRC staff evaluation of responses for Evolution of the Near-field Environment (ENFE).2.03, Radionuclide Transport (RT).1.01, 3.02, Unsaturated and Saturated Flow Under Isothermal Conditions (USFIC).4.04, Total System Performance Assessment and Integration (TSPAI).3.22, 3.24, 3.26, 2.02 (Comments 3, 4, 12, J-20, and J-23), and General (GEN).1.01 (Comments 24, 69, and 106). The staff evaluation of the remaining DOE responses to key technical issue (KTI) agreements addressed by TBD No. 2 will be provided separately.

The NRC staff has reviewed DOE's KTI agreement responses provided in Appendixes A-I of TBD No. 2 to determine if sufficient information on these technical agreement items will be available for review of a potential license application. On the basis of this review, and notwithstanding new information that could raise new questions or comments concerning the preceding agreements, DOE has provided sufficient information to satisfactorily address Agreements ENFE.2.03, RT.1.01, 3.02, USFIC.4.04, TSPAI.3.22, 3.24, 3.26, 2.02 (Comments 3, 4, 12, and J-23), and GEN.1.01 (Comments 24, 69, and 106). However, DOE's response to Agreement TSPAI.2.02 (Comment J-20) does not provide sufficient justification for DOE's assumption of steady-state flow below the Paintbrush tuff hydrogeologic unit.

Results of our review and specific feedback on DOE's KTI agreement responses are provided in the enclosure to this letter. It is up to DOE to decide how, or whether, to respond to the

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staff's feedback. Please note that NRC will make its final determination on any issues relevant to licensing during review of any License Application.

If you have any questions regarding this matter, please contact Daniel S. Rom, of my staff at (301) 415-6704 or by e-mail to DSR@nrc.gov.

Sincerely,

/RA/

Lawrence E. Kokajko, Deputy Director
Technical Review Directorate
Division of High-Level Waste Repository Safety
Office of Nuclear Material Safety
and Safeguards

Enclosure:

The U.S. NRC NMSS Review of DOE's Agreement Responses Related to the Potential Geologic Repository at Yucca Mountain, Nevada: KTI Agreements ENFE.2.03, RT.1.01, 3.02, USFIC.4.04, TSPA.3.22, 3.24, 3.26, 2.02 (Comments 3, 4, 12, J-20, and J-23), and GEN.1.01 (Comments 24, 69, and 106)

cc: See attached list.

Letter to J. D. Ziegler from L. E. Kokajko, dated: February 9, 2005

cc:

A. Kalt, Churchill County, NV	A. Elzeftawy, Las Vegas Paiute Tribe
R. Massey, Churchill/Lander County, NV	J. Treichel, Nuclear Waste Task Force
I. Navis, Clark County, NV	W. Briggs, Ross, Dixon & Bell
E. von Tiesenhausen, Clark County, NV	M. Chu, DOE/Washington, D.C.
G. McCorkell, Esmeralda County, NV	G. Runkle, DOE/Washington, D.C.
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L. Marshall, Eureka County, NV	S. Gomberg, DOE/Washington, D.C.
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M. Simon, White Pine County, NV	A. Benson, DOE/ORD
J. Ray, NV Congressional Delegation	N. Hunemuller, DOE/ORD
B. J. Vonderheide, NV Congressional Delegation	R. L. Craun, DOE/ORD
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S. Lynch, State of NV	B. Helmer, Timbisha Shoshone Tribe
P. Guinan, Legislative Counsel Bureau	R. Boland, Timbisha Shoshone Tribe
R. Clark, EPA	R. Arnold, Pahrump Paiute Tribe

R. Anderson, NEI
cc: (Continued)
R. McCullum, NEI
S. Kraft, NEI
J. Kessler, EPRI
D. Duncan, USGS
R. Craig, USGS
W. Booth, Engineering Svcs, LTD
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J. Bacoeh, Big Pine Paiute Tribe of the Owens Valley
P. Thompson, Duckwater Shoshone Tribe
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D. Feehan, GAO
E. Hiruo, Platts Nuclear Publications
G. Hernandez, Las Vegas Paiute Tribe
K. Finrock, NV Congressional Delegation
P. Johnson, Citizen Alert
A. Capoferri, DOE/Washington, DC
J. Williams, DOE/Washington, DC
A. Robinson, Robinson-Seidler

M. Dayton, City of Las Vegas
D. Wilson, Sen. Reid's Office
L. Lehman, T-REG, Inc.
J. Donnell, DOE/ORD
R. L. Craun, OPM&E
B. Gattoni, Burns & Roe
R. Murray, DOE/ORD

J. Birchim, Yomba Shoshone Tribe
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J. Wells, Western Shoshone National Council
D. Crawford, Inter-Tribal Council of NV
I. Zabarte, Western Shoshone National Council
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M. Henderson, Cong. J. Gibbon's Office
D. Duquette, NWTRB

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cc: See attached list.

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