June 28, 2002

Joseph D. Ziegler, Acting Assistant Manager
Office of Licensing and Regulatory Compliance
U.S. Department of Energy
Yucca Mountain Site Characterization Office
P.O. Box 364629
North Las Vegas, NV 89036-8629

SUBJECT: TOTAL SYSTEM PERFORMANCE ASSESSMENT AND INTEGRATION KEY TECHNICAL ISSUE AGREEMENT 3.02

Dear Mr. Ziegler:

During a Technical Exchange and Management Meeting held on August 6-10, 2001, the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Department of Energy (DOE) reached agreement on a number of issues within the Total System Performance Assessment and Integration (TSPAI) Key Technical Issue (KTI). By letter dated May 9, 2002, DOE provided information pertaining to TSPAI Agreement 3.02. The NRC staff has reviewed this information as it relates to the agreement and the results of the staff's review are enclosed.

In summary, based on the DOE decision not to use resampling, the NRC staff has determined that the information provided in the May 9, 2002, letter satisfies the intent of TSPAI Agreement 3.02. Therefore, TSPAI Agreement 3.02 is "complete." If you have any questions regarding this letter, please contact Mr. James Andersen of my staff. He can be reached at (301) 415-5717.

Sincerely,
/RA/

Janet Schlueter, Chief
High-Level Waste Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated
cc: See attached distribution list

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Letter to J. Ziegler from J. Schlueter dated June 28, 2002

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C. Meyers, Moapa Paiute Indian Tribe

V. Miller, Fort Independence Indian Tribe

A. Bacock, Big Pine Paiute Tribe of the Owens Valley

R. Quintero, Inter-Tribal Council of Nevada (Chairman, Walker River Paiute Tribe)

M. Bengochia, Bishop Paiute Indian Tribe

J. Egan, Egan & Associates, PLLC

J. Leeds, Las Vegas Indian Center

K. Tilges, Citizen Alert

J. Triechel, Nuclear Waste Task Force

E. Smith, Chemehuevi Indian Tribe

J. Charles, Ely Shoshone Tribe

D. Crawford, Inter-Tribal Council of Nevada

H. Blackeye, Jr., Duckwater Shoshone Tribe

D. Eddy, Jr. Colorado River Indian Tribes

G. Runkle, DOE, Washington, DC

W. Briggs, Ross, Dixon & Bell

H. Jackson, Public Citizen

NRC Review of DOE Documents Pertaining to Key Technical Issue Agreements

The U.S. Nuclear Regulatory Commission (NRC) goal of issue resolution during the pre-licensing period is to assure that the U.S. Department of Energy (DOE) has assembled enough information on a given issue for NRC to accept a license application for review. Resolution by the NRC staff during pre-licensing does not prevent anyone from raising any issue for NRC consideration during the licensing proceedings. Also, and just as importantly, resolution by the NRC staff during pre-licensing does not prejudge what the NRC staff evaluation of that issue will be after its licensing review. Issues are resolved by the NRC staff during pre-licensing when the staff has no further questions or comments about how DOE is addressing an issue. Pertinent new information could raise new questions or comments on a previously resolved issue.

This enclosure addresses one NRC/DOE agreement made during the Total System Performance Assessment and Integration (TSPAI) Technical Exchange and Management Meeting (see NRC letter dated August 23, 2001, which summarized the meeting). By letter dated May 9, 2002, DOE submitted information to address agreement TSPAI.3.02. The information submitted for this agreement is discussed below:

Total System Performance Assessment and Integration Agreement 3.02

Wording of the Agreement: Provide the technical basis for resampling the general corrosion rates and the quantification of the impact of resampling of general corrosion rates in revised documentation (ENG1.1.1). DOE will provide the technical basis for resampling the general corrosion rates and the quantification of the impact of resampling of general corrosion rates in an update to the WAPDEG Analysis of Waste Package and Drip Shield Degradation AMR (ANL-EBS-PA-000001). This AMR is expected to be available to NRC in FY 2003.

NRC Review: In the Total System Performance Assessment for Site Recommendation, general corrosion was modeled by assigning corrosion rates to each waste package patch, selected from a pool of values sampled from a defined distribution. The waste package outer barrier within a patch was modeled as two “pseudo-barriers,” with an independent corrosion rate sampled for each. In agreement TSPAI.3.02, NRC staff requested DOE to provide a technical basis for this approach (resampling), because resampling could underestimate the number of early patch failures and, consequently, doses calculated to occur within the first 10,000 years. By letter dated May 9, 2002, DOE provided: (1) an analyses of a modified version of the waste package degradation (WAPDEG) model treating “patches” of the outer waste package with single corrosion rates, (2) a technical basis for resampling the general corrosion rates, and (3) a plot showing the effects of resampling. DOE indicated, in the May 9, 2002, letter and its enclosure, that it will not resample corrosion rates (i.e., DOE intends to model the shell regions of the waste package with a single corrosion rate). Based on the DOE decision not to use resampling, the NRC staff does not have any outstanding questions or comments regarding the technical basis of DOE’s approach.

The NRC staff understands that a description of the sampling scheme for the corrosion rate will be included in the next update to ANL-EBS-MD-000001, WAPDEG Analysis of Waste Package and Drip Shield Degradation. If this understanding changes, please inform the NRC staff.

Additional Information Needed: None

Status of Agreement: TSPAI Agreement 3.02 is "Complete."