

January 13, 2005

Dr. Asadul H. Chowdhury, Manager
Mining, Geotechnical, and Facility Engineering
Center For Nuclear Waste Regulatory Analyses
6220 Culebra Road
P.O. Drawer 28510
San Antonio, TX 78228-5166

SUBJECT: REPOSITORY DESIGN AND THERMAL-MECHANICAL EFFECTS KEY
TECHNICAL ISSUE, INTERMEDIATE MILESTONE NO. 20.06002.01.341.560,
“REVIEW OF TECHNICAL BASIS DOCUMENT NO. 4, MECHANICAL
DEGRADATION AND SEISMIC EFFECTS”

Dear Dr. Chowdhury:

We have received and reviewed the subject report summarizing the Center for Nuclear Waste Regulatory Analyses (CNWRA) staff review of the U.S. Department of Energy's (DOE) Technical Basis Document (TBD) Number 4. TBD-4 contains DOE's responses to many comments and questions raised by the U.S. Nuclear Regulatory Commission (NRC) staff over the years on the Repository Design and Thermal-Mechanical Effects (RDTME) Key Technical Issue (KTI). The TBD also addresses a significant number of agreements reached between NRC and DOE and documents a path-forward to resolving NRC concerns raised during several NRC/DOE technical interactions over the years.

The approach taken by the RDTME team at the NRC and the CNWRA has resulted in an integrated analysis of this complex issue of long-term thermal-mechanical effects on the preclosure and postclosure performance of the high-level nuclear waste geological repository. This combined activity between the NRC and CNWRA staffs has required continuous interaction and coordination with many other KTI teams, both at the NRC and at the CNWRA. The NRC letter to DOE closing 18 agreements and associated comments, dated January 11, 2005, contains the summary of RDTME team's analysis of DOE's TBD-4 as an enclosure. This letter and the enclosure were discussed recently by the NRC staff and management during the Yucca Mountain team meeting as an example of an innovative and effective approach for evaluating DOE information using risk-informed review methods. Therefore, I take this opportunity to congratulate you and your team for providing a thorough technical support during this crucial NRC/DOE prelicensing consultation period. Also, I thank you for your team's focused review effort that resulted in a timely completion of this very important milestone amidst several competing demands on your team's time.

A. H. Chowdhury

-2-

Your letter report fulfills the contractual obligations for this intermediate milestone.

If you have any questions regarding the contents of this letter, you may contact me at (301) 415-6695 or via e-mail at msn1@nrc.gov. No written response to this letter is required.

Sincerely,

/RA/

Mysore Nataraja, Program Element Manager
Engineering Section
Technical Review Directorate
Division of High-Level Waste Repository Safety
Office of Nuclear Material Safety
and Safeguards

A. H. Chowdhury

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Mysore Nataraja, Program Element Manager
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