

June 19, 2003

Mr. Joseph Ziegler, Acting Director
U.S. Department of Energy
Office of Repository Development
PO Box 364629 MS 523
North Las Vegas, NV 89036-8629

SUBJECT: CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES/U.S. NUCLEAR
REGULATORY COMMISSION DRIFT DEGRADATION ANALYSIS

Dear Mr. Ziegler:

Recently a Technical Exchange was held between the Nuclear Regulatory Commission (NRC) and the Department of Energy (DOE) on May 6-8, 2003. The topic of the Technical Exchange focused on geomechanics-related NRC-DOE agreements under the Repository Design Thermal-Mechanical Effects (RDTME) Key Technical Issue (KTI). At the conclusion of the Technical Exchange, NRC agreed to provide to DOE an independent drift degradation analysis conducted by the Center for Nuclear Waste Regulatory Analyses (CNWRA) for NRC. Please find enclosed the CNWRA report entitled "Mechfail: A Total System Performance Assessment Code Module for Evaluating Engineered Barrier Performance Under Mechanical Loading Conditions." Drift degradation has the potential to affect substantially conditions within the drift. Consequently, the treatment and resolution of issues such as, but not limited to, seepage, in-drift environmental conditions, waste package temperatures, design, and the potential response of the repository to possible disruptive events could be influenced by drift degradation. I suggest that this report be disseminated appropriately, so that its contents can be considered in a timely fashion by those groups addressing issues affected by drift degradation.

The report is also available for access by interested members of the public and affected local governments on the NRC web site (by accessing ADAMS) or hard copies may be requested by contacting Darlene Higgs of my staff at (301) 415-6711 or GDH1@nrc.gov. If you have any questions on the contents of this letter or the enclosed report, please contact Dr. Mysore Nataraja of my staff at (301) 926-4092 or msn1@nrc.gov.

Sincerely,
\\RA\
Janet R. Schlueter, Chief
High-Level Waste Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: Report: "Mechfail: A Total System Performance Assessment Code Module For Evaluating Engineered Barrier Performance Under Mechanical Loading Conditions"

cc: See attached list

Letter to J. Ziegler from J. Schlueter, dated:
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V. Guzman, Inter-Tribal Council of NV
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J. Wells, Western Shoshone National Council

D. Crawford, Inter-Tribal Council of NV

I. Zabarte, Western Shoshone National Council

NRC On-Site Representatives

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