May 5, 2003

Dr. English Pearcy, Manager
Geohydrology and Geochemistry Element
Center for Nuclear Waste Regulatory Analyses
6220 Culebra Road, Building 189
San Antonio, Texas 78238-5166

SUBJECT: Completion of Intermediate Milestone - IM 20.06002.01.131.320 - "Evaluation of Alternative Concepts for Saturated Zone Flow: Effects of Recharge and Water Table Rise on Flow Paths and Travel Times at Yucca Mountain"

Dear Dr. Pearcy:

The U.S. Nuclear Regulatory Commission staff has completed its review of the intermediate milestone by the Center for Nuclear Waste Regulatory Analyses (CNWRA), received on April 18, 2003. This report is programmatically acceptable and for public release.

The report summarizes the latest results from the CNRWA groundwater flow model, which provides an excellent basis for the NRC to evaluate DOE groundwater flow simulations for the Yucca Mountain region. This report provides very useful and timely input to our ongoing issue resolution work, especially for those topics concerning the effects of recharge rates and boundary conditions on calculations of saturated zone flow paths, groundwater travel times, and potential magnitudes of water table rise during future climate conditions. The CNRWA report discusses results showing that a small infiltration rate can significantly effect the depth of flow paths dependent on the hydrogeologic system given.

Under the Key Technical Issue Unsaturated and Saturated Flow Under Isothermal Conditions, this CNWRA report relates to the subissue of Saturated Zone Ambient Flow Conditions and Dilution Processes. The report focuses on the integrated subissue Flow Paths in the Saturated Zone (Section 4.2.1.3.8 of the Yucca Mountain Review Plan). If you have questions, please contact me at (301) 415-5845 or by e-mail at hda@nrc.gov.

Sincerely,
/RA/

Hans Arlt, Program Element Manager
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: none

cc: M. Leach
B. Meehan
B. Sagar, CNWRA

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cc: M. Leach
B. Meehan
B. Sagar, CNWRA

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