

May 21, 2002

Dr. English C. Pearcy, Manager  
Geohydrology & Geochemistry  
Center for Nuclear Waste Regulatory Analyses  
6220 Culebra Road  
Building 189  
San Antonio, Texas 78228-0510

SUBJECT: REVIEW AND APPROVAL OF INTERMEDIATE MILESTONE  
20.01402.561.250: "Effects of Salt Formation on the Chemical Environment at  
the Proposed Nuclear waste Repository at Yucca Mountain, Nevada" [CNWRA  
Ticket 2002 0094]

Dear Dr. Pearcy:

The Intermediate Milestone, "Effects of Salt Formation on the Chemical Environment at the Proposed Nuclear waste Repository at Yucca Mountain, Nevada" (IM 2001402.561.250) submitted to the U. S. Nuclear Regulatory Commission on May 5, 2002, has been reviewed by the NRC staff. This product is programmatically and technically acceptable.

This report provides the results of modeling and experimental studies bearing on the plausible range of chemical conditions that may occur on the drip shield and waste package surfaces. The results described in the report indicate that some "extreme chemical" conditions are plausible, and that these conditions might adversely impact drip shield and waste package performance. I note that the results of this work will be used to evaluate DOE responses to several Near-Field Environment Technical Exchange agreements (i.e., ENFE 2.04, 2.06, 2.09, 2.10, 2.15, and 2.17). Also, I recognize that this work supports the development of an "in-drift chemistry abstraction" for the NRC/CNWRA Total-system Performance Assessment Version 5.0 code. The Center staff are commended for this effort, and for the integration of these results with CNWRA and NRC waste package and performance assessment staff.

If you have any questions concerning this review, please contact me at (301) 415-7284 (djb@nrc.gov).

Sincerely,  
/RA/

David J Brooks  
Program Element Manager  
High-Level Waste Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

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