

July 13, 2004

Dr. Gordon Wittmeyer, Manager  
Hydrology Section  
Center for Nuclear Waste Regulatory Analyses  
6220 Culebra Road, Bldg. 189  
San Antonio, TX 78238-5166

SUBJECT: COMPLETION OF INTERMEDIATE MILESTONE 06002.01.091.450:  
TEMPERATURE AND RELATIVE HUMIDITY ALONG HEATED DRIFTS WITH  
AND WITHOUT DRIFT DEGRADATION

Dear Dr. Wittmeyer:

The U.S. Nuclear Regulatory Commission staff has completed its review of the subject document that you sent by cover letter, dated June 28, 2004. This product is both programmatically and technically acceptable. This report contains the information presented in the previous report "Environmental Conditions in Drifts." This report is presented as a numbered Center for Nuclear Waste Regulatory Analyses report for use as referential material in other High-Level Waste program areas. The report provides estimates of waste package temperature and relative humidity along drifts for both drift-degradation and no-degradation scenarios. These estimates include the effects of repository edge cooling and thermohydrology and are compared with estimates from basecase TPA Version 5.0 simulations. The report also describes both completed and ongoing laboratory experiments.

If you have any questions, please contact me at (301) 415-6703 or by e-mail at [jap2@nrc.gov](mailto:jap2@nrc.gov).

Sincerely,

**/RA/**

Jeffrey A. Pohle, Program Element Manager  
Thermal Effects on Flow Key Technical Issue  
Division of High-Level Waste Repository Safety  
Office of Nuclear Material Safety  
and Safeguards

cc: B. Meehan, ADM/DCPM/CMC1  
C.W. Reamer, HLWRS

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