

March 28, 2008

Dr. Michael T. Ryan, Chairman
Advisory Committee on Nuclear Waste and Materials
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: POSTCLOSURE DEGRADATION OF EMPLACEMENT DRIFTS AND ITS
IMPACT ON ENGINEERED BARRIER SYSTEM PERFORMANCE AT THE
PROPOSED YUCCA MOUNTAIN HIGH-LEVEL RADIOACTIVE WASTE
REPOSITORY

Dear Dr. Ryan:

Your letter dated February 26, 2008, summarizes the observations and recommendations of the Advisory Committee on Nuclear Waste and Materials (ACNW&M) regarding the technical issue of degradation of waste emplacement drifts in the proposed Yucca Mountain high-level waste repository and its potential effects on the engineered barrier system. The ACNW&M observations and recommendations were made following the presentations by the U.S. Nuclear Regulatory Commission (NRC) staff and the Electric Power Research Institute (EPRI). In addition, ACNW&M representatives attended a public technical exchange, on the subject, between the U.S. Department of Energy (DOE) and NRC staff.

The NRC staff appreciates the opportunity to discuss important aspects of its review with the ACNW&M. As noted in your observations, the staff is continuing to update its understanding of the potential risk significance of the drift degradation process, in the context of overall repository performance. As reiterated during its presentations to ACNW&M, the NRC staff has developed capabilities to review an appropriate range of technically supported models and data on this process. The staff review tools and strategy have broad flexibility to allow a thorough evaluation of the range of information related to drift degradation scenarios currently being considered by DOE. The NRC staff is aware of the capabilities and inherent assumptions affecting the various process-level models being employed by DOE and others. The NRC staff understands the ACNW&M recommendations that emphasize consideration of representative uncertainties and appropriate use of input parameters during the review of the potential DOE license application.

M. Ryan

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The NRC staff thanks the ACNW&M for its letter that recognizes the staff review capabilities in the area of drift degradation and its potential effects on engineered barrier system performance.

Sincerely,

/RA/

Luis A. Reyes
Executive Director
for Operations

cc: Chairman Klein
Commissioner Jaczko
Commissioner Lyons
Commissioner Svinicki
SECY

M. Ryan

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Sincerely,

/RA/

Luis A. Reyes
Executive Director
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SECY

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