Yucca Mountain Total System Performance Assessment (TSPA)
for the 1998 Viability Assessment: Modeling Approach

Tentative Authors: Abraham Van Luik(*) and Mark Tynan (Yucca Mountain Site Characterization Project); Robert Andrews and David Sevougian (Civilian Radioactive Waste Management System Management & Operating Contractor) -- * Probable presenter at conference

Abstract:

Congress has mandated a Viability Assessment (VA) for this fiscal year that includes an evaluation of the likely total system performance of a mined geologic disposal system for highly-radioactive wastes in Yucca Mountain, Nevada. An overview will be given of the status of these analyses. Attention will be focused on the general modeling approach, which leads from data gathering through conceptual and mathematical modeling to abstracting these scientific and engineering models into a probabilistic system-level assessment. The use of external experts in reviewing the modeling approach will be explained. Since evaluations are carried into the far distant future, climate change is an important part of these analyses, and has an effect on both the long-term functioning of the engineered system and the behavior of the natural system. Equally as important as the system performance-evaluation results themselves, are the sensitivity, importance and uncertainty analyses that put these results into an interpretive context. Illustrative preliminary cases of selected sensitivity and uncertainty analyses are to be shown.