

**U.S. DEPARTMENT OF ENERGY  
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT**

**NUCLEAR WASTE TECHNICAL REVIEW BOARD  
FULL BOARD MEETING**

**SUBJECT: PLANS FOR FUTURE WORK**

**PRESENTER: DIANE HARRISON**

**PRESENTER'S TITLE  
AND ORGANIZATION: BRANCH CHIEF, FIELD ENGINEERING  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT  
LAS VEGAS, NEVADA**

**PRESENTER'S  
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**PLAZA SUITE HOTEL  
LAS VEGAS, NEVADA  
OCTOBER 14 - 16, 1992**

# FY 93 Priorities for Waste Package/EBS

- Support ESF activities to get underground in FY 93
- Support ~~site~~ suitability testing activities
- Support studies to evaluate repository thermal load
- Support activities necessary to accomplish ~~License Application~~ in 2001

# Waste Package Environment

- **Construct and activate a large block (27m<sup>3</sup>) laboratory heater test**
- **Issue Near-Field Environment Report**
- **Initiate coupling of geochemistry and hydrology codes**
- **Determine rate constants for zeolite interactions**
- **Conduct geochemical simulations for specific analogue sites**
- **Verify the baseline V-TOUGH hydrology code for a suite of test problems**

# Waste Package Environment

(Continued)

- Improve hydrology code to include radionuclide transport and non-equilibrium fracture-matrix flow using a value-averaged, dual-porosity model
- Initiate studies of heated-drift stability
- Prepare for start of ESF test program
- Continue participation in international efforts to characterize the effects of man-made materials

*Synthetic*

# **Waste Form Characterization**

- **Issue Preliminary Waste Form Characteristics Report**
- **Continue long-term oxidation and dissolution testing**
- **Continue development of spent-fuel dissolution model**
- **Continue glass dissolution model development**

# Integrated Testing

- **Continue integrated core-flow experiments at elevated temperatures**
- **Plan core-flow experiments that address colloid transport through fractured rock**
- **Continue experiments to determine adsorption of radionuclides in oxide minerals**
- **Continue participation in international efforts to evaluate existing thermodynamic data for actinides & technetium**