



UNITED STATES
NUCLEAR WASTE TECHNICAL REVIEW BOARD
2300 Clarendon Boulevard, Suite 1300
Arlington, VA 22201

**Fall Board Meeting
September 14 and 15, 1999**

**Developing a Repository Safety Strategy
With Special Attention to
Model Validation**

Radisson Hotel Old Town Alexandria
901 North Fairfax Street
Alexandria, Virginia 22314
Tel: (703) 683-6000

Tuesday, September 14

- 9:00 a.m. Call to Order**
Jared Cohon
Chairman
Nuclear Waste Technical Review Board (NWTRB)
- 9:05 a.m. Perspectives on the Program**
[Lake Barrett](#)
Acting Director
Office of Civilian Radioactive Waste Management (OCRWM)
9:20 a.m. Questions and discussion
- 9:40 a.m. Proposed Environmental Standard for a Yucca Mountain Repository**
[Ray Clark](#)
Team Leader, Yucca Mountain Standards
Environmental Protection Agency
10:05 a.m. Questions and discussion
- 10:25 a.m. BREAK**
- 10:35 a.m. Session Chair**
Debra Knopman
Member, NWTRB
- Perspectives on the Yucca Mountain Project**
[Stephan Brocoum](#)
Assistant Manager
Office of Licensing and Regulatory Compliance

Yucca Mountain Site Characterization Office (YMSCO)

10:50 a.m. Questions and discussion

11:00 a.m. Repository Safety Strategy—Introduction

[Abe van Luik](#)

Senior Policy Advisor for Performance Assessment
YMSCO

- Development of a Safety Case
- Confidence and Uncertainty
- Structure of TSPA

11:15 a.m. Questions and discussion

11:30 a.m. Public comments

Jared Cohon

12:00 noon LUNCH

1:00 p.m. Repository Safety Strategy—Implementation

[Michael Voegele](#)

Deputy

Regulatory and Licensing

Science Applications International Corporation, M&O

- Defense-in-Depth
- Barrier Importance Analysis
- Evolution of the Repository Safety Strategy

1:30 p.m. Questions and discussion

2:00 p.m. Implementation of Repository Safety Strategy in TSPA-SR

[Bob Andrews](#)

Manager

Performance Assessment Operations

Duke Engineering, M&O

- Methodology and Assumptions
- Multiple Lines of Evidence (including natural analogs)
- Use of Bounding Analysis

2:40 p.m. Questions and discussion

3:05 p.m. Repository Safety Strategy—Process Model Reports and Analysis/Model Reports

[Mike Lugo](#)

Manager

Process Model Reports

TRW Environmental Systems, M&O

3:30 p.m. Questions and discussion

3:45 p.m.

Update on Scientific and Technical Investigations

[Mark Peters](#)

Manager

Field Testing and EBS and Repository Design Support Office

Los Alamos National Laboratory

Management and Operating Contractor (M&O)

- Chlorine-36
- Busted Butte
- Cross Drift Testing
- Saturated Zone Investigations
- Drift-Scale Thermal Tests
- Waste Package Materials Testing

4:10 p.m. Questions and discussion

4:30 p.m.

Public Comments

Jared Cohon

5:00 p.m.

Recess until Wednesday, September 15, 9:00 a.m.

Wednesday, September 15

9:00 a.m.

Welcome

Jared Cohon

Session Chair

Richard Parizek

Member, NWTRB

Testing and Analysis for Site Recommendation

[Jean Younker](#)

Deputy Assistant General Manager

TRW Environmental Systems, M&O

- Natural and Engineered Subsystems
- Requirements for Model Refinement
- Requirements for Addressing Uncertainties in Performance Assessment

9:45 a.m. Questions and discussion

10:15 a.m. Model Validation and Confidence Building in TSPA-SR

[Bob Andrews](#)

Manager

Performance Assessment Operations

Duke Engineering, M&O

- Terminology and Definitions
- Requirements
- Perspectives Including NRC/SKI White Paper
- Methods

10:45 a.m. Questions and discussion

11:30 a.m. Public Comments

Jared Cohon

12:00 noon LUNCH

1:00 p.m. Session Chair

Paul Craig

Member, NWTRB

Unsaturated Zone Model Validation

[Bo Bodvarsson](#)

Unsaturated Zone Process Model Lead

Lawrence Berkeley National Laboratory, M&O

- Implementation
- Bounding Analysis
- Multiple Lines of Evidence

1:35 p.m. Questions and discussion

1:55 p.m. Development & Validation of Realistic Degradation Mode Models for the Waste Package and Drip Shield

[Joe Farmer](#)

Waste Package Degradation Process Model Lead

Lawrence Livermore National Laboratory, M&O

- Implementation
- Bounding Analysis
- Multiple Lines of Evidence

2:25 p.m. Questions and discussion

2:50 p.m. BREAK

3:00 p.m.

Roundtable Discussion on Model Validation

Norm Christensen, NWTRB, Chair

Donald Runnells, NWTRB

Alberto Sagüés, NWTRB

Bob Andrews, Duke Engineering, M&O

David Applegate, American Geological Institute

Steve Frishman, State of Nevada

Norman Eisenberg, Nuclear Regulatory Commission

Lenny Konikow, United States Geological Survey

Roger Newman, University of Manchester Institute of Science and Technology

Naomi Oreskes, University of California, San Diego

Chin-Fu Tsang, Lawrence Berkeley National Laboratory, M&O

5:30 p.m.

Closing Remarks and Adjournment

Jared Cohon

Chairman, NWTRB