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
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