



Department of Energy  
Yucca Mountain Site Characterization  
Project Office  
P. O. Box 98608  
Las Vegas, NV 89193-8608

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WELLER

MAY 20 1991

John J. Linehan, Director  
Repository Licensing Project Directorate  
Division of Waste Management  
U. S. Nuclear Regulatory Commission  
4-H-3  
Washington, DC 20555

ENGINEERED BARRIER SYSTEM (EBS) CONCEPTS WORKSHOP

As announced in the February 25, 1991, Federal Register, the U.S. Department of Energy (DOE) is planning an EBS Concepts Workshop June 18-20, 1991, in Denver, Colorado. The objectives of the workshop are: "(a) To provide a forum for the discussion of engineered barrier system concepts and their applicability to extended-life performance, and (b) to solicit the opinions of experts regarding extended-life engineered barrier system concepts." This letter is to make you aware of this workshop and encourage your participation and input. Due to space limitations, you should limit the number of attendees from your organization. Representatives from agencies such as the U.S. Nuclear Regulatory Commission, U.S. Environmental Protection Agency, the Advisory Committee on Nuclear Waste, the National Academy of Sciences, the State of Nevada and affected local governments, and the Electric Power Research Institute, as well as international nuclear waste disposal organizations, have also been invited to attend.

The workshop will consist of a background session, presentations of alternative EBS concepts by various organizations not currently involved with the project, and a final session for invited experts to provide their opinions on extended-life performance. It should be noted that DOE will not attempt to identify any preferred concepts arising from this workshop. Rather, the focus should be on trying to answer a question raised by the Nuclear Waste Technical Review Board (NWTB) in their Second Report to Congress, "1. Can a waste package be developed that can be demonstrated to have reasonable assurance of lasting 10,000 years? If yes, how? If no, why not?" The current DOE design objective for the waste package is to provide full containment for 1000 years. The NWTB question asks whether full containment should be provided for 10,000 years. Opportunities will be provided throughout the workshop for input from all participants.

MAY 20 1991

John J. Linehan, Director

-2-

Enclosure 1 is the current draft agenda. Each concept has been allotted 45 minutes with 25 minutes for a formal presentation and 20 minutes for questions and discussion. The discussion period will be open to the experts first, followed by open discussion from the workshop participants as time permits. Additional open discussion time will be provided at the end of each session. Each session will wrap up with a review of the key points and issues raised during the session. Flip charts will be used to facilitate this review.

The workshop will be held at the Embassy Suites in downtown Denver. Information on the hotel is enclosed. A block of rooms has been reserved. If you have any questions regarding the workshop, please contact Diane J. Harrison-Giesler at (702) 794-7275 or Richard P. Morissette of Science Applications International Corporation at (702) 794-7783.

YMP:CPG-3732

*for Maxwell Blanchard*  
for Carl P. Gertz  
Project Manager

Enclosures:

1. Agenda
2. Hotel and Travel Information

DRAFT AGENDA

YUCCA MOUNTAIN ENGINEERED BARRIER SYSTEM  
CONCEPTS WORKSHOP  
JUNE 18, 19, and 20, 1991  
Denver, Colorado

Tuesday, June 18, 1991

8:00 am INTRODUCTION

- o Opening Remarks Carl P. Gertz, DOE
- o Objective of Workshop Michael O. Cloninger, DOE
- o Introduce Experts and Review Agenda Holmes Brown, Afton Assoc.

8:30 am - 12:00 pm Session 1: Background

- 8:30 - 8:45 o Role of Engineered System, M. O. Cloninger, DOE
- 8:45 - 9:15 o NWTRB Perspective on Extended Life Performance, NWTRB
- 9:15 - 10:15 o Summary of Systems Engineering Approach for Developing EBS Design Concepts, Lawrence Livermore National Laboratory
- 10:15 - 10:30 BREAK
- 10:30 - 11:00 o U.S. Approach for Establishing Design Basis, Lawrence Livermore National Laboratory
- 11:00 - 11:30 o (Tentative Swiss Approach)
- 11:30 - 12:00 o DISCUSSION
- 12:00 - 1:00 LUNCH

1:00 pm - 5:15 pm Session 2A: Concepts

- 1:00 - 1:45 o Advanced Composite Systems (title to be defined)
- 1:45 - 2:30 o "Filament Wound Ceramic Matrix Composite Radioactive Waste Containment Structures", Refractory Composites, Inc.
- 2:30 - 2:45 BREAK
- 2:45 - 3:30 o "Hazardous Waste Encapsulment Technology", Entrepreneurs Nuclear de las Americas
- 3:30 - 4:15 o "EBS Concept for Extended Life Performance in a Potential Repository at Yucca Mountain", Argonne National Laboratory
- 4:15 - 5:15 o DISCUSSION

DRAFT AGENDA

YUCCA MOUNTAIN ENGINEERED BARRIER SYSTEM  
CONCEPTS WORKSHOP  
JUNE 18, 19, and 20, 1991  
Denver, Colorado

Wednesday, June 19, 1991

8:00 am - 12:00 pm      Session 2B: Concepts (continued)

- 8:00 - 8:15      o Introduction
- 8:15 - 9:00      o "Use of a Gravel Backfill as a Hydraulic and Diffusion Barrier", Intera Sciences, Inc.
- o "Use of Spent Fuel Stabilizers in Waste Package Design", Intera Sciences, Inc.
- 9:00 - 9:45      o "Surfaced Sealed Commercial Graphite Design Concept", Nuclear and Aerospace Materials Corporation
- 9:45 - 10:00      BREAK
- 10:00 - 10:45      o "Multi-Barrier Container Concept", Babcock & Wilcox
- 10:45 - 11:30      o "The Natural Analogue Copper Composite Container for HLW Disposal", Copper Development Association Inc.

11:30 - 12:00      DISCUSSION

12:00 pm - 1:00pm      LUNCH

1:00 PM - 5:15 PM      Session 2C: Concepts (continued)

- 1:00 - 1:45      o "Extended-Life Nuclear Waste Package Utilizing Redundant Corrosion/Containment Barriers", International Lead Zinc Research Organization, Inc.
- 1:45 - 2:30      o "Self-Shielded Package Concept", Westinghouse Electric Corporation, Environmental Systems Group
- 2:30 - 2:45      BREAK
- 2:45 - 3:30      o University of Nevada, Las Vegas, Howard R. Hughes College of Engineering, (title to be defined)
- 3:30 - 4:15      o "EBS with Container Cooling and Rock Drying Enhancement", University of Nevada, Reno, Department of Mining Engineering
- 4:15 - 5:15      DISCUSSION

DRAFT AGENDA

YUCCA MOUNTAIN ENGINEERED BARRIER SYSTEM  
CONCEPTS WORKSHOP  
JUNE 18, 19, and 20, 1991  
Denver, Colorado

Thursday, June 20, 1991

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|-------------|---|
| 8:00 - 8:15 | o Introduction  |
| 8:15 - 9:00 | o "The MD Design - A Cool Concept for Geologic Disposal of Radioactive Waste", Leif G. Eriksson |

9:00 am - 12:30 pm      Session 3: Experts Discussion

- |               |   |
|---------------|---|
| 9:00 - 10:00  | o EBS Concepts and Applicability to Extend-Life Performance |
| 10:00 - 10:15 | BREAK   |
| 10:15 - 11:15 | o Can a Waste Package Be Developed to Last 10,000 Years?    |
| 11:15 - 12:15 | o DISCUSSION  |
| 12:15 - 12:30 | o Closing Remarks, DOE                                      |

YUCCA MOUNTAIN ENGINEERED BARRIER SYSTEM CONCEPTS WORKSHOPS  
DENVER, COLORADO  
JUNE 18-20

NOTE: Good air fare rates will be available for this meeting through SAIC Travel by calling 1-800-541-9515. They will also make your hotel reservations. If you have questions with travel or hotel arrangements, please contact Judy Youngs, SAIC, Las Vegas, NV, at (702) 794-7429.

EMBASSY SUITES

1881 Curtis Street

Telephone Number

1-800-733-3366

Fax Number (303)298-1103

Location

Downtown  
9 mi. from airport

Room Rate (gov. nment)  
(must show card letter)

\$69  
+ 11.9% tax = \$77.21

(\$79 with spouse)

Non-government Room Rate  
(for this meeting)

\$80

Regular Rates \$119/\$129

Airport Shuttle

\$5 one way

Approx. Cab fare  
\$12 from airport

Parking Fee

\$10 per day

Coffee Service will be available each day

Full Breakfast

Included

Social Hour each day

5:00 - 7:00 PM

Access to Athletic Club

\$10 per day