

November 22, 2000

MEMORANDUM TO: C. William Reamer, Chief
High-Level Waste Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards

FROM: Kien Chang, Project Manager */RA/*
Projects and Engineering Section
High-Level Waste Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards

SUBJECT: FORTHCOMING U.S. NUCLEAR REGULATORY COMMISSION
AND U.S. DEPARTMENT OF ENERGY TECHNICAL
EXCHANGE AND MANAGEMENT MEETING ON
RADIONUCLIDE TRANSPORT

DATE/TIME of MEETING: December 5 - 7, 2000
8:00 a.m. - 4:45 p.m. (PT)

LOCATION: Berkeley National Laboratory
1 Cyclotron Road
Berkeley, CA

PURPOSE: Discuss resolution of open issues related to the Key Technical
Issue of radionuclide transport

AGENDA: Attached

PARTICIPANTS: NRC DOE Nevada NV Counties
DBrooks DHanlon SFrishman DBEchtel
JBradbury CNewbury et. al. et. al.
et. al. DWilliams
et. al.

* Meetings and technical exchanges between NRC and DOE are open to members of the public, petitioners, interveners, or other interested parties wishing to attend as observers pursuant to the spirit of "Policy Statement on Staff Meetings Open to the Public," 65 Federal Register 56964, dated September 20, 2000. The revised policy states that public notice of staff meetings open to the public will be provided via the Internet at the U.S. Nuclear Regulatory Commission Web site. Members of the public can also contact the staff toll free at 1-800-397-4209.

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Memorandum to C. W. Reamer from K. Chang dated: November 22, 2000

cc:

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S. Frishman, State of Nevada
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M. Voegele, M&O
S. Echols, Winston & Strawn
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J. Meder, Nevada Legislative Counsel Bureau
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J. Kessler, EPRI
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W. Booth, Engineering Svcs, LTD
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S. Besser, NV Congressional Delegation
N. Rice, NV Congressional Delegation
T. Story, NV Congressional Delegation
J. Reynoldson, NV Congressional Delegation
J. Pegues, City of Las Vegas, NV

**Draft Agenda
DOE-NRC Technical Exchange
RADIONUCLIDE TRANSPORT KTI
DECEMBER 5-7, 2000
Berkeley National Laboratory
1 Cyclotron Road
Berkeley, California**

Objective: Provide the basis to resolve open issues related to the Radionuclide Transport Key Technical Issue and determine path forward

NOTE: Times are approximate because the agenda items are expected to provide a framework for wider ranging discussions. Time allotted for each presentation includes time for presentation and discussion.

Tuesday December 5, 2000

8:00 – 8:15 AM Introduction/Objectives/Logistics – Opening Remarks (DOE/NRC)

8:15 – 8:30 AM Key Technical Issue for Radionuclide Transport (RT) – Summary of Status from DOE Perspective (DOE - Smistad)

**8:30 – 9:30 AM Impact of RT on TSPA (DOE/NRC)
Unsaturated Zone (Bruce Robinson)
Saturated Zone (Bill Arnold)**

9:30 – 9:45 AM BREAK

**SUBISSUE 1:
RADIONUCLIDE TRANSPORT THROUGH POROUS ROCK**

9:45 – 12:00 NOON Status of Subissue 1: Radionuclide Transport through Porous Rock (DOE/NRC)

- Radionuclide Attenuation Processes (Jim Houseworth)
AC 1A and 1B
- Pathways –(Observed behavior and modeling approach for flow and transport in the CHnv; Jim Houseworth)
AC 2A
- Parameters (Laboratory Data, K_d and Diffusion; Arend Meijer) AC 2B
- Validity of Assumptions (Sorption –Effects of nonlinear sorption, kinetics, compositional variations; Arend Meijer or Paul Reimus) AC 2C
- Application of Process Models AC 3
- Expert Judgement (K_d s and Diffusion; Arend Meijer)
AC 4

Tuesday December 5, 2000 (continued)

NOON – 1:00 PM LUNCH

1:00 – 2:30 PM Subissue 1 Discussion (Continued)

2:30 – 3:30 PM Caucus on Subissue 1: Radionuclide Transport through Porous Rock

3:30 – 3:45 PM BREAK

3:45 – 4:30 PM DOE/NRC Discussion of Resolution Status

4:30 – 4:45 PM Closing Remarks for Day 1

4:45 PM ADJOURN DAY 1

Wednesday December 6, 2000

**SUBISSUE 3:
RADIONUCLIDE TRANSPORT THROUGH FRACTURED ROCK**

8:00 – 11:00 AM Status of Subissue 3: Radionuclide Transport through Fractured Rock (DOE/NRC)

- **Radionuclide Attenuation Processes (Al Eddebbbarh) AC 1A**
- **Sorption Coefficient (Al Eddebbbarh) AC 1B**
- **Flowpath Length –(Flowpaths and effects of lateral diversion on transport; George Moridis) AC 1C**
- **Breakthrough Curves –(Testing and predictive modeling for UZ transport in welded tuff; Bo Bodvarsson**
- **–Testing and predictive modeling for SZ transport in welded tuff; Paul Reimus) AC 2A**
- **Tracers as Homologues –(tracers to be used in Alcove 8/Niche 3; Bo Bodvarsson**
- **–tracers used in C-wells and to be used in Alluvial Testing Complex (ATC); Paul Reimus) AC 2B**
- **Expert Judgement (Al Eddebbbarh) AC 3**

11:00 – 11:15 AM BREAK

11:15 – 12:15 PM Caucus on Subissue 3: Radionuclide Transport through Fractured Rock

12:15 – 1:15 PM LUNCH

1:15 – 1:45 PM DOE/NRC Discussion of Resolution Status

**SUBISSUE 2:
RADIONUCLIDE TRANSPORT THROUGH ALLUVIUM**

Wednesday December 6, 2000 (continued)

- 1:45 – 3:00 PM** **Status of Subissue 2: Radionuclide Transport through Alluvium (DOE/NRC)**
- **Radionuclide Attenuation Processes (Al Eddebbbarh) AC 1A**
 - **Sorption Coefficient K_d (Al Eddebbbarh) AC 1B**
 - **Pathways (Al Eddebbbarh) AC 2A**
 - **Parameters (Laboratory Data; Arend Meijer) AC 2B**
 - **Validity of Assumptions (Paul Reimus) AC 2C**
 - **Application of Process Models (Al Eddebbbarh) AC 3**
 - **Expert Judgement (Al Eddebbbarh) AC 4**
- 3:00 – 3:15 PM** **BREAK**
- 3:15 – 5:00 PM** **Subissue 2 Discussion (Continued)**
- 5:00 M – 5:15 PM** **Closing Remarks for Day 2**
- 5:15 PM** **ADJOURN DAY 2**

Thursday December 7, 2000

**SUBISSUE 2 (Continued):
RADIONUCLIDE TRANSPORT THROUGH ALLUVIUM**

- 8:00 – 8:30 AM** **Features, Events, and Processes Related to RT
Unsaturated Zone (Jim Houseworth)
Saturated Zone (Theresa Brown)**
- 8:30 – 9:30 AM** **Caucus on Subissue 2: Radionuclide Transport through Alluvium**
- 9:30 – 10:00 AM** **DOE/NRC Discussion of Resolution Status**
- 10:00 – 10:15 AM** **BREAK**
- 10:15 – 11:45 AM** **Caucus on KTI Agreements**
- 11:45 – 12:30 PM** **Discussion of Agreements**
- 12:30 – 12:45 PM** **Closing Remarks for the Meeting**
- 12:45 PM** **ADJOURN MEETING**