

SUMMARY OF NRC-DOE TECHNICAL EXCHANGE
ON TECTONICS

Las Vegas, Nevada (October 31, 1989)
Field Trip Localities in Nevada and
California (November 1-2, 1989)

Agenda: See Attachment 1.

List of Attendees: See Attachment 2.

Summary:

On October 31 and November 1-2, 1989, the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Department of Energy (DOE) conducted a technical exchange regarding tectonic models of the Yucca Mountain, Nevada site. The objective of the technical exchange was to discuss the range of tectonic models of Yucca Mountain compatible with the currently existing data base. On October 31, various DOE investigators led discussions on the various lines of evidence that need to be factored into the different tectonic models that need to be evaluated during site characterization. On November 1 and 2, the group visited a number of sites in the vicinity of Yucca Mountain as well as in the more regional geologic setting in order to see and discuss in the field some of the evidence bearing upon the viability of the alternative conceptual models presently under consideration. The State of Nevada participated in the exchange and introduced information based upon its field work that could bear upon the evaluation of Yucca Mountain tectonic models.

Both NRC and DOE considered that the exchange promoted a better understanding of currently supportable Yucca Mountain tectonic models, the evidence that supports them, and the lines of evidence that need to be integrated when the tectonic models are evaluated during site characterization. In addition, it was considered that this exchange, in conjunction with the September 26, 1989 NRC-DOE Technical Exchange on Tectonics, forms a sound basis for the next technical exchange on tectonics, scheduled for November 28-29, 1989. The focus of that exchange is intended to be on how data resulting from DOE's site characterization activities will address alternative tectonic models.

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AGENDA**Tectonics Technical Exchange**

October 31
 Yucca Mountain Project Office
 101 Convention Center Drive
 Las Vegas, NV
 Room 450, 8:30 am to 5:00 pm

Field Trip November 1-2, 1989

Objective and Format:

The objective of this technical exchange is to discuss the range of tectonic models supported by existing data, and to discuss the associated interpretations, with an emphasis on understanding the current uncertainty related to defining tectonic models for the southern Great Basin. Because this is a technical exchange, presentations will be informal, promoting exchange of data and interpretations. General topics to be addressed by the discussion leaders include a summary of existing data at various scales and from various sources; the distinction between hard data and interpreted data (such as interpreted maps and cross sections); the range of tectonic models compatible with at least some of the available data; and a discussion of DOE's hypothesis-testing strategy. The time allotted for each topic is 1.5 hours, with each period split about equally between presentation and discussion.

Agenda Topics (31 October)**Discussion Leader**

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|---------------------------------------------------------------------------------------------------|-------------------|
| o Tectonic concepts, models and data | K. Fox, USGS |
| o Bearing of seismological data on tectonic models | Al Rogers, USGS |
| o Origin and timing of Quaternary Volcanism - constraints and implications for tectonic models | B. Crowe, LANL |
| o Integration and consistency of site and regional scale geologic, structural and tectonic models | R. Spengler, USGS |
| o Geophysical constraints and hypothesis-testing | H. Oliver, USGS |
| o Comments on the Technical Exchange | |
| o Discussion of agenda for the next Technical Exchange. | |

FIELD TRIP

Wednesday, 1 November

- 6:00 am - depart Las Vegas via van
- 8:30 am - arrive southern Death Valley - examine faulting in Tertiary sediments in vicinity of Turtleback (at Mormon Point?) (3 hours)
- 11:30 am - depart for Beatty, NV
- 1:00 pm - arrive Beatty - LUNCH
- 2:30 pm - depart Beatty for Bullfrog Hills
- 3:15 pm - arrive Bullfrog Hills - view upper and lower plate (1.5 hours)
- 4:45 pm - depart for Beatty
- 5:15 pm - arrive Beatty Overnight in Beatty.

Thursday, 2 November

- 7:00 am - depart Beatty
- 7:20 am - arrive at Steve's Pass, examine detachment at base of Black Marble Mountain
- 8:00 am - arrive at Point of Rocks Detachment (3.0 hours)
- 11:00 am - depart enroute NTS
- 11:30 am - arrive NTS: badging for visitors
- 12:00 am - lunch at Mercury (1 hour)
- 1:30 pm - arrive at Red Mountain Detachment (2.0 hours)
- 3:30 pm - depart for Mercury
- 4:00 pm - depart NTS for Las Vegas
- 5:30 pm - arrive Las Vegas

ATTENDANCE LIST

NRC/DOE TECHNICAL EXCHANGE ON TECTONICS

October 31, 1989

Valley Bank Building

101 Convention Center Drive

Las Vegas, Nevada 89109

<u>NAME</u>	<u>ORGANIZATION</u>	<u>ADDRESS</u>	<u>TELEPHONE</u>	<u>Field Trip Yes/No</u>
Russ Dyer	DOE/ymP		(702) 794-7586	YES
Jeff Kimball	DOE/HQ		(202) 586-1063	NO
William Murphy	CNWRA		(512) 522-5263	Yes
Bill Leeman	NSF		(202) 357-7911	Yes
R.O. Castle	Biological Survey		(415) 329-4941	
Steve Fishman	State of NV		702/855-3744	NO
PHILIP JUSTUS	NRC/DHLM/GEOL-GEOPHYS.		301 492 3460	YES
John S. TRAPP	" "	" "	301-492-0509	YES
LARRY Mc KAGUE	CONSULTANT SOUTHWEST RESEARCH INST		415 846-9602	YES
Keith McConnell	NRC		301 492-0532	Yes
Baker Ibrahim	NRC		301-492-0523	YES
King Stabilein	NRC		(301)-492-0446	Yes
Steven H. Rossi	DOE/OCEUM		(202)-586-9433	YES
Mike Parsons	SAIC/Tmss		FTS 544-7057	NO
Mike Blackford	NRC		301 - 492-0524	NO
Linda Kovach	NRC		301 - 492-3869	Yes
JEFFREY POWHE	NRC		301 - 492-0545	NO
EUGENE SMITH	UNIV. NEVADA, LAS VEGAS		(702) 739-3262	NO
JON PRICE	Nevada Bureau of Mines & Geology		784-6691	YES
Ron Ballard	NRC		301-492-3462	Yes
Paul Prestholt	NRC		FTS 5986125	Yes
Jim Bruye	Seismology UNR		702 784 4975	NO

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Frank Perry	UNM/LANL		277-6528	No
Bruce Crowe	Los Alamos		FTS 544-7096	?
Chris Friedrich	DOE/YMPO		FTS 544-7587	ye
Albert I. Douglas	City of Las Vegas		799-6469	yes
H.W. Oliver	USGS, Menlo Park		FTS 459-5301	yes
Brad Myers	USGS, Denver		FTS 776-1294	Yes
JOHN BELL	NBMG/UNR		(702) 784-6691	yes
Gerald Shideler	USGS/Denver		FTS: 776-1273	No
Charlotte Abrams	NRC/ACNW		FTS 492-8371	yes
John Buckley	NRC		FTS 492-0513	yes
CLARENCE ALLEN	NUTREB		818-356-6904	YES
Russ McFarland	NWTRB		FTS 254-4792	YES
JIM HILMAN	BATTELLE		(312) 655-8673	YES
Rich Schwabacher	UNR CNS		702 784 6901	yes
Rick Spengler	USGS		FTS 776-1266	
BRUCE HURLEY	SAIC		[FTS 544-7630] (702) 794-7630	YES
Tim Sullivan	YMPO		794-7503	YES
TERRY GRANT	SAIC		702 794-7647	YES
Kaye Shedlock	USGS		303 236 1585	NO
Dave Fenster	Weston/DOE-HQ		(202) 646-6647	Yes
Scott Van Camp	DOE/HQ		202/586-4590	YES
Richard Lee	SAIC		FTS 794-7134	No

