

**U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT**

**PRESENTATION TO
THE NUCLEAR WASTE TECHNICAL REVIEW BOARD**

SUBJECT: INTRODUCTORY REMARKS

PRESENTER: DAVID C. DOBSON

**PRESENTER'S TITLE
AND ORGANIZATION: ACTING DIRECTOR
REGULATORY AND SITE EVALUATION DIVISION**

**PRESENTER'S
TELEPHONE NUMBER: (702) 794 - 7940**

MARCH 1, 1991

INTRODUCTORY REMARKS

- **DOE BELIEVES A PERFORMANCE BASED PROBABILISTIC APPROACH IS APPROPRIATE FOR EVALUATING VOLCANIC HAZARDS AT THE REPOSITORY DURING THE POST-CLOSURE PERIOD.**
- **ALTHOUGH PROBABILITY CALCULATIONS HAVE BEEN REFINED SINCE 1982, THE RESULTING NUMBERS HAVE NOT CHANGED WITH THE ADDITIONAL FIELD EVIDENCE**
 - **THE CONDITIONAL PROBABILITY OF DISRUPTION OF A REPOSITORY BY FUTURE BASALTIC VOLCANISM IS APPROXIMATELY IN THE RANGE OF 10^{-8} TO 10^{-10} YR⁻¹**

INTRODUCTORY REMARKS

(CONTINUED)

- **WE BELIEVE THE CURRENT ESTIMATES ARE REASONABLE AND CONSERVATIVE FROM A GEOLOGIC PERSPECTIVE**
 - **FOR EXAMPLE, CURRENT CALCULATIONS ARE BASED ON RANDOM DISTRIBUTION OF VOLCANIC CENTERS**
 - **IN FACT, VOLCANIC CENTERS ARE PREFERENTIALLY LOCATED IN STRUCTURAL BASINS**
 - **THEREFORE, FACTORING IN STRUCTURAL CONTROLS LOWERS THE CALCULATED PROBABILITY**
 - **FURTHERMORE, REASONABLE CONSEQUENCE ANALYSIS WILL FURTHER REDUCE THE PROBABILITY OF RELEASES EXCEEDING THE STANDARD**

INTRODUCTORY REMARKS

(CONTINUED)

- **DOE RECOGNIZES THAT THE ISSUE OF FUTURE VOLCANISM AT YUCCA MOUNTAIN IS A SIGNIFICANT PROBLEM IN TERMS OF PERCEPTION, IF NOT PERFORMANCE. IF THE NRC VIEW IS THAT “THE CHANCE OF VOLCANIC ERUPTIONS AT YUCCA MOUNTAIN IS FUNDAMENTALLY AN UNANSWERABLE QUESTION”, (J. TRAPP, NRC), THAT WOULD SIGNIFICANTLY AFFECT OUR VIEW OF THE CHANCE OF LICENSING YUCCA MOUNTAIN**
- **WITHIN THE NEXT 6-12 MONTHS DOE WILL DEVELOP A PAPER ON VOLCANIC RISK ASSESSMENT THAT IT INTENDS TO USE TO CLOSE THIS ISSUE**

AGENDA

BRIEFING OF STRUCTURAL GEOLOGY AND GEOENGINEERING PANEL MEETING VOLCANIC HAZARDS AND VULNERABILITIES

TUCSON, ARIZONA
MARCH 1, 1991

8:00 - 8:10	WELCOME AND OPENING REMARKS	C. ALLEN	NWTRB
8:10 - 8:30	INTRODUCTION	D. DOBSON C. JOHNSON R. SHAW	DOE STATE OF NV NRC EPRI
	<i>PROGRESS IN 1990</i>		
8:30 - 9:30	OVERVIEW OF PROGRESS	B. CROWE	LANL
9:30 - 10:00	NEW GEOCHEMICAL DATA	F. PERRY	UNM
10:00 - 10:15	BREAK		
10:15 - 11:00	NEW RESULTS FROM THE STATE OF NV	E. SMITH	UNLV
11:00 - 11:30	ADDITIONAL COMMENTS FROM THE AUDIENCE		
11:30 - 12:30	LUNCH		

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PROBABILITY CALCULATIONS

12:30 - 1:00	STATE OF NEVADA	C. HO	UNLV
1:00 - 1:45	EPRI	M. SHERIDAN	SUNYAB
1:45 - 2:15	DOE	B. CROWE	LANL
2:15 - 2:40	NRC	J. TRAPP	NRC

CONSEQUENCE ANALYSIS

2:40 - 3:10	INTRODUCTION - CONSEQUENCE AND PROBABILITY	B. CROWE	LANL
3:10 - 3:25	BREAK		
3:25 - 3:50	SCENARIO DEVELOPMENT, VOLCANIC PROCESSES & MATHEMATICAL MODELS	G. VALENTINE	LANL

AGENDA

BRIEFING OF STRUCTURAL GEOLOGY AND GEOENGINEERING PANEL MEETING VOLCANIC HAZARDS AND VULNERABILITIES

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3:50 - 4:50

ROUNDTABLE DISCUSSION

1. ON WHICH ISSUES IS A CONSENSUS DEVELOPING?
2. ON WHICH ISSUES ARE THERE SERIOUS DIFFERENCES?
3. ARE THESE ISSUES IMPORTANT WITH RESPECT TO SITE SUITABILITY AND PUBLIC HEALTH AND SAFETY?
4. HOW CAN THESE ISSUES BE RESOLVED?

CONCLUSION

4:50 - 5:00

CLOSING REMARKS

C. ALLEN

NWTRB