

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

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

**SUBJECT: OPENING REMARKS -
DOE**

PRESENTER: EDGAR H. PETRIE

**PRESENTER'S TITLE
AND ORGANIZATION: ACTING DIRECTOR, ENGINEERING DIVISION
YUCCA MOUNTAIN PROJECT OFFICE
U.S. DEPARTMENT OF ENERGY
LAS VEGAS, NEVADA**

**PRESENTER'S
TELEPHONE NUMBER: (702) 794-7961**

AUGUST 28-29, 1990

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

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

**SUBJECT: OPENING REMARKS -
DOE**

PRESENTER: EDGAR H. PETRIE

**PRESENTER'S TITLE
AND ORGANIZATION: ACTING DIRECTOR, ENGINEERING DIVISION
YUCCA MOUNTAIN PROJECT OFFICE
U.S. DEPARTMENT OF ENERGY
LAS VEGAS, NEVADA**

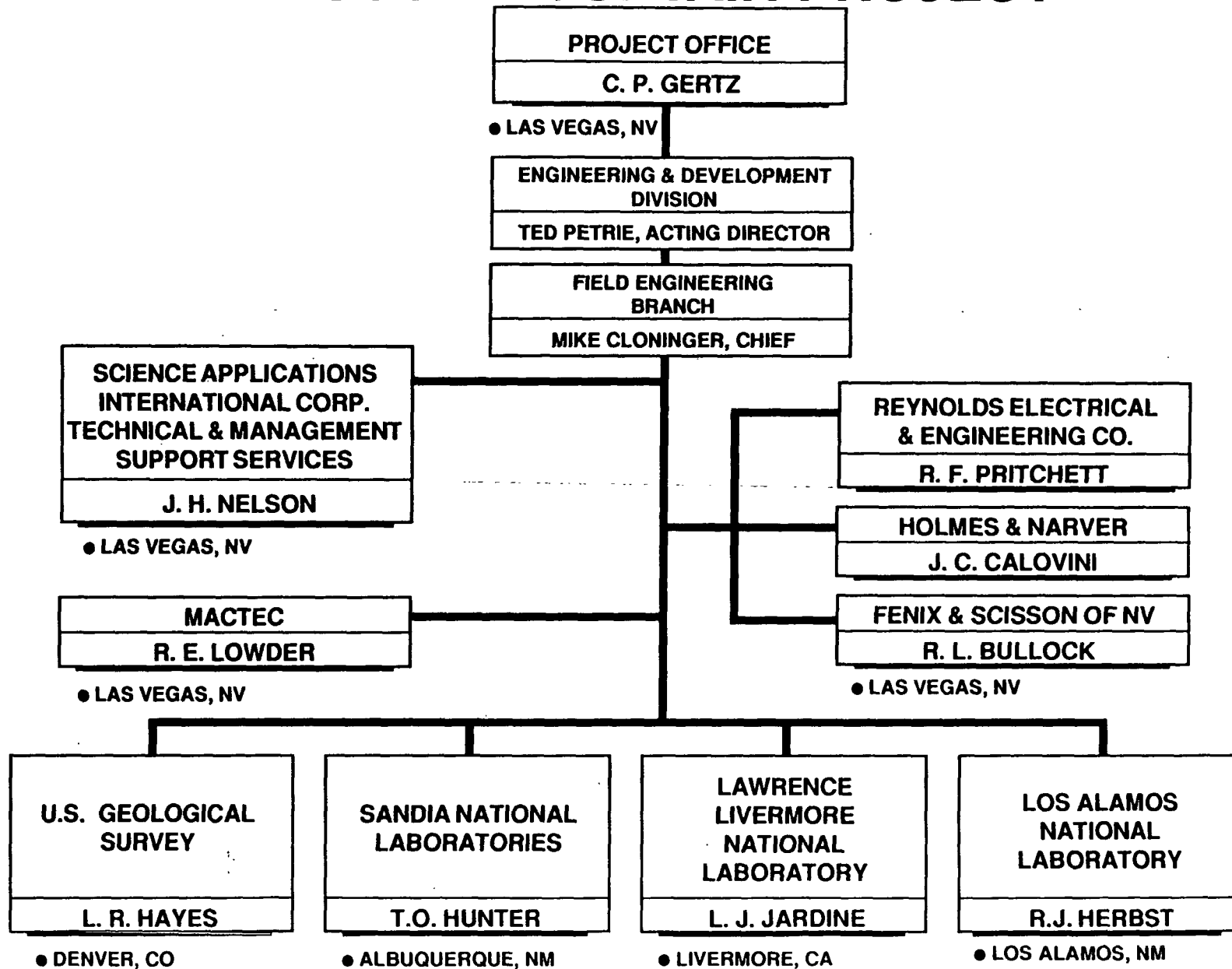
**PRESENTER'S
TELEPHONE NUMBER: (702) 794-7961**

AUGUST 28-29, 1990

EBS PANEL BRIEFING OVERVIEW MAJOR TOPICS

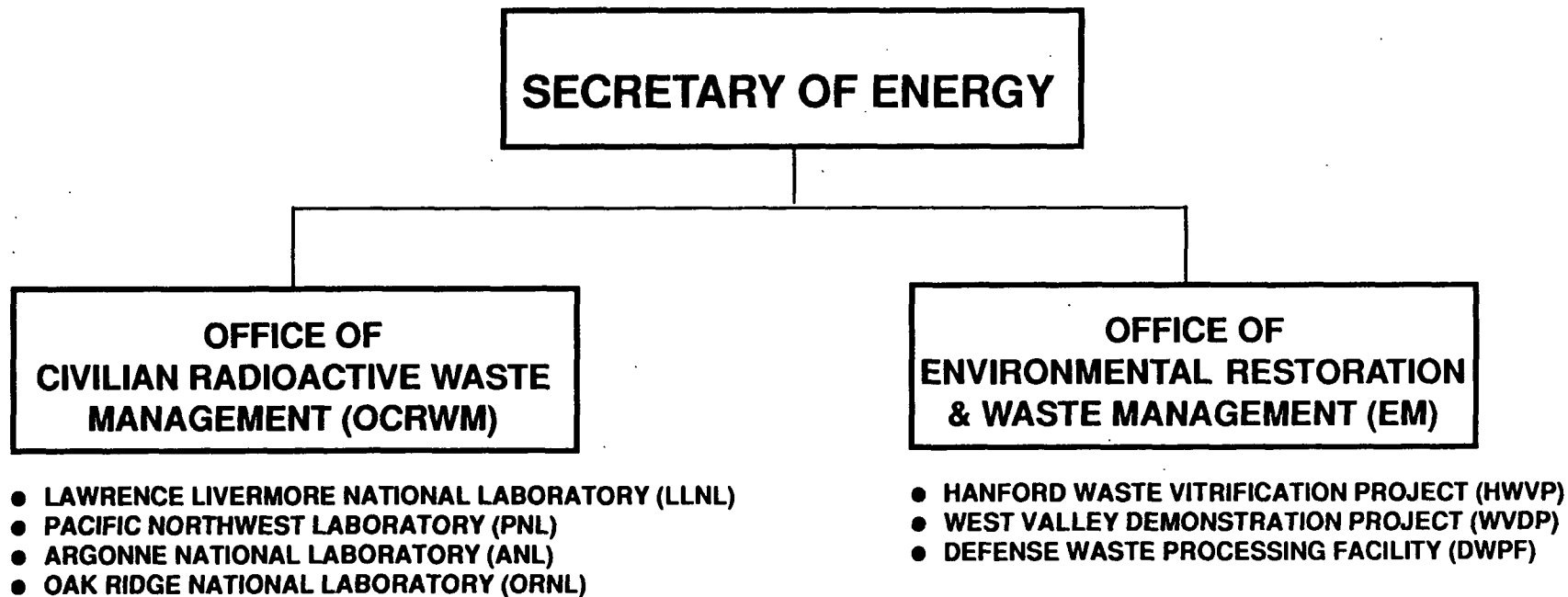
- **WASTE PACKAGE STRATEGY AND IMPLEMENTATION PLAN** **TUESDAY AM**
- **WASTE ACCEPTANCE PROCESS** **TUESDAY AM/PM**
- **WASTE CHARACTERIZATION**
 - **HLW GLASS** **TUESDAY PM**
 - **SPENT FUEL** **WEDNESDAY AM**
- **WASTE DATABASE DEVELOPMENT** **WEDNESDAY PM**

YUCCA MOUNTAIN PROJECT



— PROJECT DIRECTION

DOE OFFICES AND ORGANIZATIONS SUPPORTING ACTIVITIES RELEVANT TO AUGUST 28-29 NWTRB ENGINEERED BARRIER SYSTEM PANEL BRIEFING



DOE CONTRACTOR RESPONSIBILITIES

● YUCCA MOUNTAIN PROJECT SUPPORT

- LAWRENCE LIVERMORE NATIONAL LABORATORY Waste Package Plan implementation
- PACIFIC NORTHWEST LABORATORY Spent fuel characterization & testing
- ARGONNE NATIONAL LABORATORY HLW glass testing

● OFFICE OF STORAGE AND TRANSPORTATION SUPPORT

- PACIFIC NORTHWEST LABORATORY Reactor specific data base development
- OAK RIDGE NATIONAL LABORATORY HLW Characteristics data base development

● WASTE MANAGEMENT PROJECTS DIVISION SUPPORT

- HANFORD WASTE VITRIFICATION PLANT DHLW solidification into glass
- WEST VALLEY DEMONSTRATION PROJECT CHLW solidification into glass
- DEFENSE WASTE PROCESSING FACILITY DHLW solidification into glass

STATUS OF NWTRB INTERACTIONS ON WASTE PACKAGE

- **AUGUST 1989 ALBUQUERQUE, NEW MEXICO**
 - **BRIEF INTRODUCTION TO CONTAINERS AND TRANSPORTATION
PANEL ON ENGINEERED BARRIER SYSTEM (EBS)/WASTE
PACKAGE STRATEGY AND CONTAINER MATERIALS**

- **JANUARY 1990 PLEASANTON, CALIFORNIA**
 - **2 DAY MEETING ON NEAR-FIELD ENVIRONMENT AND
CONTAINER MATERIALS**

- **MARCH 1990 DENVER, COLORADO**
 - **DISCUSSION OF THERMAL CONSIDERATIONS IN EBS DESIGN**

OBJECTIVE OF EBS PANEL BRIEFING

- **PROVIDE AN UNDERSTANDING OF EBS/WASTE PACKAGE STRATEGY AND OVERALL PLAN FOR ITS IMPLEMENTATION**
- **PRESENT AN OVERVIEW OF THE WASTE ACCEPTANCE PROCESS AND THE HLW GLASS PRODUCER QUALIFICATION ACTIVITIES**
- **PROVIDE A BRIEFING ON GLASS WASTE FORM CHARACTERIZATION ACTIVITIES**
- **PROVIDE A BRIEFING ON CURRENT SPENT FUEL STUDIES AND METHODS FOR GATHERING DATA ON SPENT FUEL CHARACTERISTICS**

BUDGET AND QUALITY ASSURANCE CONSIDERATIONS

- **SCHEDULES OR MILESTONE DATES PROVIDED IN BRIEFING ARE SUBJECT TO BUDGET CONSTRAINTS**
- **ACTIVITIES IMPORTANT TO SAFETY WILL BE PERFORMED IN ACCORDANCE WITH THE OCRWM AND EM QUALITY ASSURANCE PROGRAMS**

NWTRB QUESTIONS

BACKGROUND:

- **4 QUESTIONS TRANSMITTED TO DOE JANUARY 3, 1990**
- **GOAL IS FOR THE PANEL, AND THE BOARD, TO EVENTUALLY BE ABLE TO RESPOND TO THE QUESTIONS**
- **PAST AND FUTURE NWTRB MEETINGS DISCUSS THE TECHNICAL ISSUES REQUIRED TO DEVELOP THE RESPONSES TO THE FOUR QUESTIONS**

STATEMENT OF NWTRB QUESTIONS FOR FUTURE EBS PANEL RESPONSE

- 1. CAN A WASTE PACKAGE BE DEVELOPED THAT COULD BE DEMONSTRATED TO HAVE REASONABLE ASSURANCE OF LASTING 10,000 YEARS?**

IF YES - HOW?

IF NO - WHY NOT?

- 2. WHAT AMBIENT CONDITION FACTORS OR CONDITIONS NEED TO BE MODIFIED FOR A 10,000-YEAR PACKAGE TO BE ATTAINED, IF IT IS NOT YET POSSIBLE?**
- 3. HOW WOULD THE PROBABILITY OF ATTAINING A 10,000-YEAR PACKAGE BE INFLUENCED IF THE AS-EMPLACED HEAT GENERATION RATIO OF THE INDIVIDUAL CANISTERS WERE MINIMIZED? A DETAILED EXPLANATION OF THIS CONCLUSION SHOULD BE DEVELOPED ALSO.**
- 4. HOW DOES THE SITING OF THE REPOSITORY IN THE UNSATURATED ZONE, AS OPPOSED TO A SATURATED ZONE, IMPACT THE ATTAINING OF A 10,000-YEAR WASTE PACKAGE? THIS SHOULD CONSIDER ALTERNATIVE MATERIALS OF CONSTRUCTION, AND/OR COSTS. AS ABOVE, A DETAILED EXPOSITION OF THE CONCLUSIONS NEEDS TO BE PROVIDED.**

REFERENCE: LETTER, NWTRB TO DOE, JANUARY 3, 1990

AGENDA

BRIEFING OF NUCLEAR WASTE TECHNICAL REVIEW BOARD ENGINEERED BARRIER SYSTEM (EBS) PANEL

PLEASANTON, CALIFORNIA
AUGUST 28 - 29, 1990

<u>AUGUST 28</u>	<u>EBS/WASTE PACKAGE STRATEGY AND IMPLEMENTATION PLAN</u>	<u>SPEAKER</u>	
8:00 - 8:15	OPENING REMARKS - TRB	NWTRB	
8:15 - 8:30	OPENING REMARKS - DOE	E. PETRIE	DOE
8:30 - 9:00	EBS WASTE PACKAGE STRATEGY OVERVIEW	M. CLONINGER	DOE
9:00 - 10:10	WASTE PACKAGE PLAN IMPLEMENTATION	L. JARDINE	LLNL
10:10 - 10:30	BREAK		
10:30 - 11:15	EBS ALTERNATIVE DESIGN APPROACH	L. JARDINE	LLNL

AGENDA

BRIEFING OF NUCLEAR WASTE TECHNICAL REVIEW BOARD ENGINEERED BARRIER SYSTEM (EBS) PANEL

PLEASANTON, CALIFORNIA
AUGUST 28 - 29, 1990

<u>AUGUST 28</u>	<u>WASTE ACCEPTANCE PROCESS</u>	<u>SPEAKER</u>
11:15 - 12:00	WASTE ACCEPTANCE OVERVIEW	M. CLONINGER DOE
12:00 - 1:00	LUNCH	
1:00 - 1:30	HLW GLASS PRODUCERS OVERVIEW	R. BROWN DOE
1:30 - 2:00	DWPF HLW QUALIFICATION ACTIVITIES	J. PLODINEC SRL
2:00 - 2:30	WVDP HLW QUALIFICATION ACTIVITIES	R. PALMER WEST VALLEY
2:30 - 2:50	BREAK	

AGENDA

BRIEFING OF NUCLEAR WASTE TECHNICAL REVIEW BOARD ENGINEERED BARRIER SYSTEM (EBS) PANEL

PLEASANTON, CALIFORNIA
AUGUST 28 - 29, 1990

<u>AUGUST 28</u>	<u>WASTE CHARACTERIZATION - HIGH-LEVEL WASTE GLASS</u>	<u>SPEAKER</u>	
2:50 - 3:15	HLW GLASS CHARACTERIZATION OVERVIEW	H. SHAW	LLNL
3:15 - 3:45	MODELING OF GLASS DISSOLUTION	B. BOURCIER	LLNL
3:45 - 4:15	EXPERIMENTAL BASES FOR GLASS MODELING	K. KNAUSS	LLNL
4:15 - 4:45	INTEGRATED GLASS ALTERATION TESTS	J. BATES	ANL
4:45	ADJOURN FOR THE DAY		

AGENDA

BRIEFING OF NUCLEAR WASTE TECHNICAL REVIEW BOARD ENGINEERED BARRIER SYSTEM (EBS) PANEL

PLEASANTON, CALIFORNIA
AUGUST 28 - 29, 1990

<u>AUGUST 29</u>	<u>WASTE CHARACTERIZATION - SPENT FUEL</u>	<u>SPEAKER</u>	
8:00 - 8:30	SPENT FUEL CHARACTERIZATION OVERVIEW	R. STOUT	LLNL
8:30 - 9:10	SPENT FUEL CLADDING DEGRADATION	H. SMITH	PNL
9:10 - 9:30	SPENT FUEL OXIDATION	R. EINZIGER	PNL
9:30 - 9:50	BREAK		
9:50 - 10:15	SPENT FUEL LEACHING: HOT CELL TESTS	C. WILSON	PNL
10:15 - 10:40	SPENT FUEL LEACHING: FLOW-THROUGH TESTS	H. LEIDER	LLNL
10:40 - 11:10	GEOCHEMICAL SIMULATION OF SPENT FUEL DISSOLUTION	C. BRUTON	LLNL
11:10 - 12:10	LUNCH		

AGENDA

BRIEFING OF NUCLEAR WASTE TECHNICAL REVIEW BOARD ENGINEERED BARRIER SYSTEM (EBS) PANEL

PLEASANTON, CALIFORNIA
AUGUST 28 - 29, 1990

<u>AUGUST 29</u>	<u>WASTE DATA BASE DEVELOPMENT</u>	<u>SPEAKER</u>	
12:10 - 12:40	SPENT FUEL/HLW DATA BASE OVERVIEW	A. BROWNSTEIN	DOE
12:40 - 1:10	REACTOR - SPECIFIC DATA BASE DEVELOPMENT	R. WALLING	PNL
1:10 - 1:40	WASTE CHARACTERISTICS DATA BASE	K. NOTZ	ORNL
1:40 - 2:10	CLOSING DISCUSSIONS AND ADJOURNMENT	PANEL AND PARTICIPANTS	