

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

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

**SUBJECT: INTRODUCTION TO  
ESF ALTERNATIVES STUDY**

**PRESENTER: EDGAR H. PETRIE**

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

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

**JULY 24-25, 1990**

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# **ESF ALTERNATIVES STUDY AGENDA**

- **INTRODUCTION TO ESF ALTERNATIVES STUDY**      **TED PETRIE, DOE**
- **OVERVIEW OF ESF ALTERNATIVES STUDY**      **TOM HUNTER, SNL**
- **OPTIONS AND SUPPORTING INFORMATION**      **AL STEVENS, SNL**
- **METHODOLOGY DEVELOPMENT AND PILOT  
STUDY RESULTS**      **LEE MERKHOFFER, ADA**
- **METHODOLOGY IMPLEMENTATION AND  
CURRENT STATUS**      **PAUL GNIRK, RE/SPEC**
- **SUMMARY**      **TED PETRIE, DOE**

# **ACTIVITIES LEADING TO THE INITIATION OF THE ESF ALTERNATIVES STUDY**

- **DOE RECEIVED COMMENTS ON THE SCP FROM  
NRC AND OTHER PARTIES EXTERNAL TO DOE**
- **NWTRB STRUCTURAL GEOLOGY AND  
GEOENGINEERING PANEL OFFERED SUGGESTIONS  
ON ESF CONSTRUCTION AND TESTING**
- **DOE PERFORMED AN IN DEPTH EVALUATION OF  
THESE COMMENTS AND SUGGESTIONS AND ISSUED  
GUIDANCE FOR IMPLEMENTING THE ESF  
ALTERNATIVES STUDY**

# **SCOPE OF THE STUDY:**

- **CONDUCTED UNDER A FULLY QUALIFIED SUBPART G QA PROGRAM**
- **IDENTIFICATION OF THE PREFERRED REPOSITORY ACCESSES AND CONSTRUCTION METHODS**
- **IDENTIFICATION OF PREFERRED LOCATIONS FOR THE ESF ACCESSES AND UNDERGROUND FACILITIES BASED ON REPOSITORY/ESF INTERFACE CONSIDERATIONS**
- **SELECTION OF THE PREFERRED ESF CONFIGURATION AND CONSTRUCTION METHOD(S)**

# **IMPLEMENTATION PLAN**

**IMPLEMENTATION OF THE GUIDANCE IS BEING CARRIED OUT BY DOE AS FOLLOWS:**

- **YMPO IS DIRECTING THE WORK THROUGH THE PROJECT OFFICE ENGINEERING AND DEVELOPMENT DIVISION**
- **SANDIA NATIONAL LABORATORIES HAS BEEN ASSIGNED THE LEAD TECHNICAL AND COORDINATION RESPONSIBILITIES**
- **PROJECT PARTICIPANTS ARE PROVIDING MATRIX SUPPORT TO EACH TASK WITHIN THE STUDY AS REQUIRED**

# THE STUDY CONSISTS OF SIX SPECIFIC TASKS

<u>TASK</u>	<u>STATUS</u>
● EVALUATION OF APPROPRIATE DESIGN AND CONSTRUCTION REQUIREMENTS, AND NWTRB, NRC & STATE COMMENTS AND CONCERNS	COMPLETE
● IDENTIFICATION OF (1) PROPOSED REPOSITORY ACCESS OPTIONS AND (2) EXPLORATORY SHAFT FACILITY CONFIGURATION OPTIONS AND CONSTRUCTION METHODS	COMPLETE
● DEVELOPMENT OF METHODOLOGY FOR EVALUATION OF OPTIONS	COMPLETE

# **THE STUDY CONSISTS OF SIX SPECIFIC TASKS**

**(CONTINUED)**

- **RECOMMENDATION OF A PREFERRED ESF CONFIGURATION AND CONSTRUCTION METHOD (PREFERRED OPTION) TO BE USED AS THE BASIS FOR SUBSEQUENT DESIGN EFFORTS**
- **REVISION OF THE ESF REQUIREMENTS DOCUMENT AND THE REPOSITORY DESIGN REQUIREMENTS TO BE CONSISTENT WITH THE PREFERRED OPTION**
- **PREPARATION OF THE ESF ALTERNATIVES STUDY REPORT**



# **GOALS OF THE STUDY:**

- **TO PROVIDE A TRACEABLE DECISION BASIS FOR ESF DESIGN**
- **TO ADDRESS NRC OBJECTIONS AND CONCERNS**
- **TO ADDRESS NWTRB RECOMMENDATIONS**
- **TO ADDRESS CONCERNS OF THE STATE OF NEVADA AND LOCAL AGENCIES**

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