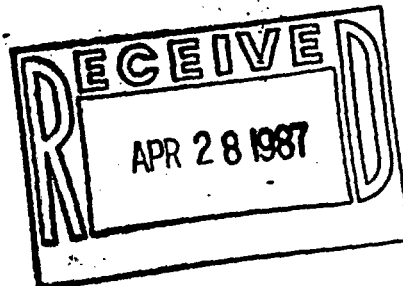




Department of Energy  
Washington, DC 20585

*Attachment 1*

*Original Dated 4/17/87*



Mr. Robert Browning  
Director, Division of Waste Management  
Nuclear Regulatory Commission  
Washington, DC 20055

Dear Mr. Browning:

The Salt Repository Project (SRP) has completed the Preliminary (Title I) design of the Exploratory Shaft Facility (ESF) and is approximately 30% into the final (Title II) design. As discussed with your staff we feel that this is an appropriate time to hold a technical meeting to discuss the current baselined Preliminary Title I designs and overview the status of potential changes evolving in the final Title II design process.

We have scheduled this meeting for May 5-7, 1987 in Houston, Texas at the Hyatt Regency West, 13210 Katy Freeway, (713) 558-1234 beginning at 8:30 am. The preparation of the meeting summary and statement of agreements will be prepared on Thursday, May 7.

The attachments provide the agenda and background information as discussed with your staff.

If you have any question, please contact me or Dr. Owen Thompson at 586-5003.

Sincerely,

*James P. Knight*  
James P. Knight, Director  
Siting, Licensing and  
Quality Assurance Division  
Office of Civilian Radioactive  
Waste Management

Attachments

cc: J. Neff  
R. Stein  
J. Leahy (20)

8709280228 870518  
PDR WMRES EECITAS  
D-1016 PDR

**DRAFT AGENDA**

**NRC/SRP MEETING ON ESF DESIGN**

**MAY 5-7, 1987**

**IN**

**HOUSTON, TEXAS**

**MEETING LOCATION:** Hyatt Regency West\*  
13210 Katy Freeway  
Houston, TX 77079  
(713) 558-1234

**MEETING OBJECTIVE:** Overview the Title I ESF Design and Title II status; present selected Title II topics; identification of subsequent meeting issues; solicit and discuss NRC/State/Tribes observations on information presented; agree on follow-up actions.

<b>8:30 - 9:00</b>	<b><u>Introduction</u></b> <ul style="list-style-type: none"><li>- Welcome</li><li>- Identification of participants</li><li>- Scope and Objectives of meeting</li><li>- Procedures to be followed</li><li>- Review of agenda</li><li>- Identification of Representatives to prepare summary</li></ul>	<b>ALL PARTIES</b>
<b>9:00 - 9:15</b>	<b>OVERVIEW OF PAST NRC ISSUES AND COMMENTS</b>	<b>NRC</b>
<b>9:15 - 9:45</b>	<b>OVERVIEW OF ESF OBJECTIVES &amp; SCHEDULE</b>	<b>SRPO</b>
<b>9:45 - 10:00</b>	<b>BREAK</b>	
<b>10:00 - 10:30</b>	<b>CURRENT ESF/RESPOSITORY PHYSICAL INTERFACE</b>	<b>SRPO</b>
<b>10:30 - 11:30</b>	<b>OVERVIEW TITLE I ESF DESIGN</b>	<b>PB/PB-KBB</b>
<b>11:30 - 12:30</b>	<b>STATUS OF ESF TITLE II DESIGN</b> <ul style="list-style-type: none"><li>o Basis for design</li><li>o Current Design Trends<ul style="list-style-type: none"><li>+ Hoisting</li><li>+ Underground Layout</li><li>+ Shaft Testing</li></ul></li></ul>	<b>ONWI</b>
<b>12:30 - 1:30</b>	<b>LUNCH</b>	

## 2

1:30 - 2:00	REPRESENTATIVENESS OF ESF SITE o Regional Geology o Random Sample o Verified By Testing	ONWI
<del>2:00 - 2:30</del>	EXPLORATORY SHAFT LOCATION SELECTION o Selection Criteria o Conclusions	SRPO
2:30 - 3:00	CAUCUS TIME	ALL PARTIES
<del>3:00 - 3:30</del>	PRESENTATION OF PRELIMINARY OBSERVATIONS ON PRESENTATION	ALL PARTIES
	DISCUSSION OF PRELIMINARY OBSERVATIONS ON PRESENTATION	ALL PARTIES
	IDENTIFICATION OF TOPICS FOR FURTHER DISCUSSION	ALL PARTIES
<del>3:30 - 5:30</del>	EXPLORATORY SHAFT FREEZING, LINING AND OPERATIONAL SEAL DESIGN o Design Requirements o Shaft Design Guide o Placement Method o Interface with Post Closure Seals o Control of ESF Excavation Process	PB/PB-KBB
5:30 - 6:00	CAUCUS	ALL PARTIES

DAY TWO

8:30 - 9:00	PRESENTATION OF PRELIMINARY OBSERVATIONS ON PRESENTATION	NRC
9:00 - 9:30	DISCUSSION OF PRELIMINARY OBSERVATIONS ON PRESENTATION	ALL PARTIES
9:30 - 10:00	IDENTIFICATION OF PRELIMINARY OBSERVATIONS, AGREEMENTS, AND OPEN ITEMS	ALL PARTIES
10:00 - 10:15	BREAK	
10:15 - 10:30	DESIGN VALIDATION TESTING o Operational Seal Monitoring o In-shaft Testing for Design Input Validation	PB/PB-KBB

10:30 - 11:00	QUALITY ASSURANCE PROGRAM FOR ESF DESIGN	PB/PB-KBB
11:00 - 12:00	CAUCUS	ALL PARTIES
12:00 - 1:00	LUNCH	
1:00 - 2:00	PRESENTATION OF PRELIMINARY OBSERVATIONS ON PRESENTATION	ALL PARTIES
2:00 - 3:00	DISCUSSION OF PRELIMINARY OBSERVATIONS ON PRESENTATION	ALL PARTIES
3:00 - 4:00	IDENTIFICATION OF TOPICS FOR FURTHER DISCUSSION	ALL PARTIES

ADJOURN

DAY THREE

8:30 - 12:00	PREPARE SUMMARY MEETING NOTES	IDENTIFIED REPRESENTATIVE
12:00 - 1:00	LUNCH	
1:00 - 5:00	RECONVENE AND FINALIZE SUMMARY MEETING NOTES (EXTEND TO NEXT DAY AS REQUIRED)	IDENTIFIED REPRESENTATIVE

\*Hotel rate with tax is \$61.00 if coordinated through SRP.

OVERVIEW OF NRC PAST AND PRESENT  
COMMENTS ON THE ESF  
DESIGN AND CONSTRUCTION  
MAY 5, 1987

**SHAFT LETTERS BETWEEN NRC AND DOE/SRPO  
1983 - 1985**

**TWO BROAD AREAS OF CONCERN :**

- 1. THAT CONSTRUCTION OF THE ESF WILL NOT  
COMPROMISE THE LONG-TERM ISOLATION CAPABILITY  
OF THE REPOSITORY**
  - \* DESIGN, TESTING, AND INSTALLATION PLANS  
OF OPERATIONAL SEALS**
  - \* DESIGN AND TESTING OF GROUTS AND GROUTING  
PLANS**

- \* ESTIMATES OF LONG-TERM PERFORMANCE OF CHEMICAL SEALS
- \* PROCEDURES TO DETECT AND RECTIFY SEEPAGE INTO THE SHAFT
- \* EXPLORATORY/TESTING PROGRAM TO SUPPORT THE DESIGN OF OPERATIONAL AND PERMANENT CLOSURE SEALS

CONCERN NO. 2

THAT PLANS FOR THE ESF CONSTRUCTION WILL  
NOT PRECLUDE THE ACQUISITION OF ADEQUATE  
INFORMATION FOR SITE CHARACTERIZATION

\* OBJECTIVES OF THE ESF



THE NRC SUGGESTED IN THE 1985 LETTER THAT  
DOE/NRC WORKSHOPS AND MEETINGS BE JOINTLY  
DEVELOPED TO DISCUSS ESF PLANS

NRC EA COMMENTS ON THE ESF DESIGN  
AND CONSTRUCTION - 1986

1. FREEZING TECHNOLOGY

- \* FREEZING AND THAWING CYCLES MAY INCREASE  
PERMEABILITY OF ROCK STRATA PENETRATED  
BY THE SHAFT

- \* POSSIBILITY OF RECURRENT GROUTING TO CONTROL WATER INFLOW AND MAINTAIN SEAL PERFORMANCE
- \* STABILITY OF FREEZE HOLES AND FROZEN SHAFT WALL

2. DESIGN OF POST-CLOSURE SEALS
3. ADEQUACY OF THERMOMECHANICAL ANALYSIS OF  
MOVEMENTS ALONG THE SHAFT/ROCK STRATA  
INTERFACE, AND THE POTENTIAL FOR WATER  
MIGRATION THROUGH THE SHAFT SYSTEM

## **GENERAL OBSERVATIONS**

- 1. INCORPORATION OF THE ESF INTO THE  
LICENSED REPOSITORY**
- 2. MODIFICATION OF TITLE II DESIGN**

## **GENERAL OBSERVATIONS**

### **3. ESF DESIGN AND CONSTRUCTION CONSIDERATIONS**

- \* DESIGN OF LINER LOADS**
- \* DESIGN OF FREEZE HOLES**
- \* DESIGN OF MONITORING PROGRAM**

## SUMMARY

1. CONCERNS EXPRESSED IN THE SHAFT LETTERS  
AND FINAL EA COMMENTS
2. TITLE II DESIGN MODIFICATION - *we are at 30% title II - an advanced stage,*  
*- industrial colts, not NRC reg*
3. THE ESF IS NOT SIMPLY A MINING FACILITY  
*- urge to consider NRC reg, in the design*

COST BREAK-OUT

Labor

Mark Board	30 hrs @ \$23.56/hr	\$ 706.80
Jaak Daemen	30 hrs @ \$57.75/hr	1,732.50
		<hr/>
	TOTAL LABOR	\$ 2,439.30

Actual Expenses

Travel

Airfare		
Board		\$ 380.00
Daemen		344.00
Miscellaneous Travel Expenses		
Board (car rental, taxis, mileage)		97.84
Daemen (taxis)		24.00

Lodging

Board		
(2 nights @ \$49.95/night)		99.90
(1 night @ \$72.15/night)		72.15
Daemen		
(3 nights @ \$61.05/night)		183.15
(1 night @ \$49.95/night)		49.95

Meals

Board	63.70
Daemen	141.47

Miscellaneous Expenses

Board (telephone)	11.39
Daemen (telephone)	4.94
	<hr/>

TOTAL EXPENSES:	\$ 1,472.49
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## SRP/NRC ESF MEETING PARTICIPANTS

MAY 5, 1987

NAME	ORGANIZATION	TELEPHONE NO.
Huang, H.C.	Battelle	614-424-5093
Avel, A.P.	DOE-SRPO	FTS 976-5916
Comar, M.M.	DOE-SRPO	614-424-5916
Janowski, R.H.	Parsons Brinckerhoff/PB-KBB	713-531-6069
Cottle, Ivan	ONWI	614-424-5258
Stucker, Dean	DOE-HQ (OGR)	202-586-1244
Thompson, Owen	DOE-HQ-Licensing	202-586-5003
Hart, Margaret	Texas Water Commission	512-463-7797
Zimmerman, Susan	Governor of Texas	
	Nuclear Waste Programs Office	512-463-2198
Frishman, Steve	Nuclear Waste Programs Office	
	Office of the Governor	512-462-6250
Thompson, Jim	Consultant	
	Texas NWPO	713-462-6250
Linehan, John	NRC	301-427-4177
Daemen, Jaak	Consultant-Itasca-NRC	602-621-2501
Board, Mark	Consultant-Itasca-NRC	612-623-9599
Pearring, Jerome R.	NRC	301-427-4648
Nataraja, Mysore (Raj)	NRC	301-427-4319
Johnson, Robert L.	NRC	301-427-4674
Tanious, N. S.	NRC	301-427-4736
Sturgis, George	Parsons-Redpath	614-486-0434
Saunders, R.S.	Fluor/Morrison Knudsen	208-386-5434
Montgomery, James E.	Weston/Jacobs Engr.	202-646-6697
Beall, Ken	Battelle/ONWI/Engr.	614-424-4509
Goldberg, Steve	Battelle Licensing Counsel	614-424-7206
Van Vliet, Jim	Battelle/ONWI/Licensing	614-424-7803
Dosa, John	Battelle/ONWI/Licensing	614-424-5404
Oschman, Kurt P.	Battelle/ONWI/Geotechnical	614-424-4673
Appel, Gordon	DOE-CH/SRPO (RCD)	614-424-5916
Stover, Curtis	Ms. Bureau of Geology	601-354-6228
Hadley, Karl A.	Rockwell/BWIP Licensing	509-376-5597
Wintczak, Tom	Rockwell/Exploratory Shaft Prog.	509-376-8028
Winsor, David B.	PB/PB-KBB	713-531-6069
Irby, Dennis H.	DOE/NV/WMPD	702-295-1696
Fredrickson, Jerry	SAIC	702-295-5883
Rutkauskas, V. J.	Battelle/ONWI	614-424-7668
Mirza, Mahmood B.	PB/PB-KBB	713-531-6069
Cooley, Austin I.	PB/PB-KBB	713-531-6069
Poppen, S.A.G.	PB/PB-KBB	713-531-6069
Sadik, Wayne	PB/PB-KBB	713-531-6069
Bermanis, Henry L.	Weston/United Engineers	202-646-6664
Kohler, James F.	State of Utah	801-538-5554
Farzin, M. Hassan	Columbia General, Inc.	614-424-4472