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Storage Program Office
505 King Avenue
Columbus, Ohio 43201

November 2, 1983

Hubert Miller, Chief
HLW Technical Development Branch
Division of Waste Management
Nuclear Regulatory Commission
7915 Eastern Avenue
Silver Spring, MD 20910

WM Record File

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WM Project 16

Docket No. _____

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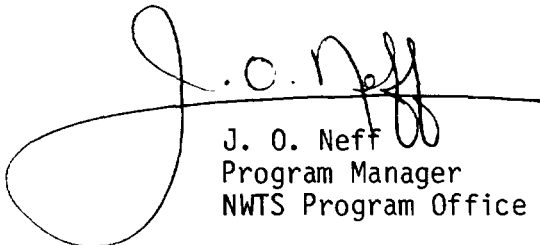
cc. MATSON
JOHNSON
LOOSKOA

Dear Mr. Miller:

SUBJECT: MEETING MINUTES OF THE FOURTH DOE/NRC PRE-SCP MEETING ON REPOSITORY
DESIGN, EXPLORATORY SHAFT, AND IN SITU TESTING (OCTOBER 25-26, 1983)

Enclosed is the final typed version of the signed subject meeting minutes for your records. One point made in the meeting minutes by your staff was their insistence that all future meetings focus directly on licensing information needs. As I have discussed with you in the past, I am concerned that such a focus at this early time will lead to some degree of confusion because our program has not had a specific site upon which to focus and, therefore, have not developed the same level of understanding of licensing issues as the Federal sites. Secondly, I am also concerned that such a focus will tend to develop "licensing" positions in a prelicensing time frame which could seriously jeopardize NRC's role as the independent regulator. I believe both of us need to pay careful attention to these two concerns as we continue our interactions.

Sincerely,


J. O. Neff
Program Manager
NWTs Program Office

NPO:LAC:0236A

Enclosure:
As Stated

8401310188 831102
PDR WASTE
WM-16 PDR

cc with enclosure:
Meeting attendees
W. Bennett, DOE-HQ - with meeting handouts
L. Olson, DOE-RL- with meeting handouts
D. Vieth, DOE-NV - with meeting handouts
R. Moon, UT - with meeting handouts
H. Bohlinger, LA - with meeting handouts

ST# 067-84

MINUTES OF THE FOURTH DOE/NRC
PRE-SCP MEETING

REPOSITORY DESIGN, EXPLORATORY SHAFT, AND IN SITU TESTING

October 25-26, 1983
East Conference Room
Battelle Memorial Institute
Columbus, Ohio

Background and Facts

NRC, DOE/NPO and contractor representatives met at the DOE/NPO offices in Columbus, Ohio on October 25-26, 1983 to discuss repository design, exploratory shaft, and in situ testing. The agenda (copy attached) was used as a presentation/discussion guide. All originally scheduled agenda items were covered with the exception of QA, due to time constraints. QA was, however, discussed in the course of other presentations. A list of actual attendees is attached. Representatives from Louisiana, Mississippi and Texas were present.

The meeting minutes, which consist of observations and agreements keyed to the agenda topics, were drafted before the close of the meeting, reviewed, and signed by M. Logsdon and J. Greeves of NRC, and L. Casey and R. Wunderlich of DOE. What follows here is the typed and edited version of the signed draft record.

DOE and NRC viewgraphs were handed out at the meeting. They were provided to the attendees; therefore, these handouts will not be sent again to the attendees with their copy of the meeting minutes. People other than the meeting attendees to whom the minutes are sent will receive a copy of the handouts as well.

Meeting Observations and Agreements

1. General

- a. It appears to the NRC staff that at this time the DOE Salt Repository Project has a number of high priority internal programmatic goals, such as development of Environmental Assessments, budgets and schedules. This includes developing an integrated program designed to meet the performance objectives of 10 CFR 60. The NRC staff understands that DOE's planning responsibilities include matters other than 10 CFR 60, and NRC recommends that in the near future DOE make more visible a licensing strategy that is designed to lead toward providing the information and data needed to support licensing findings for a construction authorization.

- b. As with each meeting already conducted between DOE and NRC on the Salt Repository Project, the NRC staff would like all future DOE/NRC meetings and workshops (both of broad and specific scope) to focus directly on licensing information needs. NRC recognizes that if DOE is not ready to provide this focus on a specific topic, then the scheduling of meetings on those topics should be consistent with the availability of that focus on licensing information needs. The NRC staff stated it would be useful to have technical workshops in the near future on selected issues. Clearly, early consultations may not be necessary for all issues, but specific issues which will require long lead times to address (e.g., long term issues of sealing the exploratory shaft or issues for which controversy is expected) are those which deserve early attention.
- c. NRC and DOE agreed to exchange comments on the NAS report by Dr. Pigford when the comments are available.
- d. NRC staff presentations emphasized the importance of DOE developing a consistent approach to determining how much testing, of what scale, and of what duration will be required at the time of licensing application with respect to the performance objectives of 10 CFR 60. The DOE agrees that this is important and considers that their program will be consistent with this goal.

2. Exploratory Shaft

- a. A DOE decision has been made to construct the salt exploratory shaft by blind hole drilling. NRC requests an opportunity to provide comments to DOE concerning the licensing issues on the shaft sinking techniques. NRC is particularly interested in obtaining a copy of the rationale documents supporting the decision. NRC will provide NPO with a formal request on this matter. The question "Will construction of an exploratory shaft compromise subsequent long-term isolation and containment capabilities of the repository?" should be explicitly addressed in DOE's plans for site characterization.
- b. The DOE program includes plans to utilize two types of seals: long-term and short-term seals. It is the view of the NRC staff that these two programs (exploratory shaft activities and long-term sealing activities) should be integrated at an early stage. Since it is not clear to NRC that these two programs are integrated, this should be a topic for a workshop. Concerns which may be considered include impact of the construction method on long-term sealability, impact of the long and short-term seal on long-term sealability, and the effect of mud infiltration on sealability.

3. In Situ Testing

- a. The development of in situ testing needs to be based on the performance objectives contained in 10 CFR 60. Further clarification

of the relationship between the in situ test approach and the regulatory requirements is needed. Design issues, and, in turn, information needs and test selection, must follow logically and rationally from the EPA standards and the NRC performance objectives. For licensing purposes, the logic must be defensible, and the rationale must permit the scope of tests, and the quality of data required from testing to be established beforehand as a yardstick for measuring the progress of tests.

4. Repository Design

- a. The DOE requested NRC to review the Statement of Work (SOW) for the architect/engineer activities which will be addressing repository design development. The NRC requested DOE to write them a letter identifying within the SOW, where the 10 CFR 60 performance objectives are located. NRC agreed to review these identified sections.

5. Discussion of Issue Identification

- a. The question of roof stability was raised. For example, how far above the roof is stability a concern? Given the potential for development of preferential pathways for radionuclide migration, this question and its relationship to in situ testing needs to be addressed in the SCP.
- b. The problem of uneven canister loading due to geomechanical forces, and its effect on waste package and repository design, needs to be addressed in the SCP.
- c. NRC is particularly interested in the SCP providing a description of the role of performance assessment methodology in the development of the in situ testing program; specifically of interest are, determination of what parameters are most significant, what their associated levels of uncertainty will be, and what the scope of individual tests will be to address these uncertainties so as to achieve "reasonable assurance" with respect to performance prediction.
- d. Retrievability is explicitly a requirement of 10 CFR 60 and, it was agreed, must be addressed directly and integrated into the repository design. In NRC's opinion, this may be a particularly difficult objective in the salt medium. NRC will forward, upon publication, a technical report by Engineers International on this topic. Future workshops on this topic should be considered by both NRC and DOE.
- e. In order to develop assessment tools for CA it will be necessary to carry out reasonable assessments of pre-closure risk (dosage rates) from accidents.

ATTENDEES

DOE/NRC Meeting Columbus, Ohio
October 25-26, 1983

John Greeves	NRC/NMSS
Robert Johnson	NRC/NMSS
Mark Logsdon	NRC/NMSS
Donna Mattson	NRC/NMSS
Raj Nataraja	NRC/NMSS
Jay Rhoderick	NRC/NMSS
Tom Schmidt	NRC/RES
Kristin Westbrook	NRC
Jaak Daemen, NRC Contractor	University of AZ
Lou Gonano, NRC Contractor	Golder Associates
Ed Hollop, NRC Contractor	Bureau of Mines
Frank Kendorski, NRC Contractor	Engineers International
Patrick Wilkey	Engineers International
Kris Wahi, NRC Contractor	Sandia/SAI
Victor Der	DOE-HQ
Virgil Lowery	DOE-HQ
Al LaSala	USGS
Vic Montenyohl	Weston
Jim Montgomery	Weston
Larry White	Weston
Bob Ackaret	FLUOR
Jim Clark	FLUOR
Jack Fitch	FLUOR
Gerry Frederickson	FLUOR
Bill Griffin	FLUOR
Tom Mallonee	FLUOR
K. McDonald	FLUOR
Paul McKie	FLUOR
R. T. Rogers	FLUOR
Al Smith	FLUOR
Dick Snell	FLUOR
Gene Underwood	FLUOR
Steve Frishman	Texas
Rene Deville	Louisiana
Ron Forsythe	Mississippi
Curtis Stover	MS Bureau of Geology
Dan Sundeen	U of S MS, Professor of Geology

Leslie Casey	DOE/NPO
Ram Lahoti	DOE/NPO
Linda McClain	DOE/NPO
Jeff Neff	DOE/NPO
Keith Robinette	DOE/NPO
Jerry Szymanski	DOE/NPO
Roger Wu	DOE/NPO
Bob Wunderlich	DOE/NPO
Wes Myers, DOE-NV Contractor	Los Alamos National Labs
Dean Nelson, DOE-NV Contractor	Los Alamos National Labs
Glen Stafford	Parsons-Redpath
Tony Andrews	ONWI
Mike Balmert	ONWI
Don Ballmann	ONWI
Sam Basham	ONWI
Russell Brown	ONWI
Mike Conroy	ONWI
Farrokh Djahanguiri	ONWI
Hassan Farzin	ONWI
Tom Frazier	ONWI
Mike Glora	ONWI
Matt Golis	ONWI
Jim Gould	ONWI
Bob Haag	ONWI
Jim Hanley	ONWI
Norm Henderson	ONWI
Dick Kingsley	ONWI
Ernest Lindner	ONWI
Sam Matthews	ONWI
David Miall	ONWI
Judith Moody	ONWI
Lynn Myers	ONWI
Ram Murthy	ONWI
Warren Randall	ONWI
Ariann Stewart	ONWI
Scot Versluis	ONWI
Joe LaRue, DOE-RL Contractor	BWIP
Gene Nodine	BLM

FINAL AGENDA

Fourth DOE/NRC Pre-SCP Meeting

REPOSITORY DESIGN, EXPLORATORY SHAFT AND IN SITU TESTING

East Conference Room

Battelle, Columbus, OH October 25-26, 1983

Purpose of Meeting

To discuss DOE conceptual repository design and review plans for exploratory shaft and in situ testing with NRC in advance of preparing Site Characterization plans.

First Day

Presenter

8:30 a.m.	Introduction/Opening Remarks	
8:45 a.m.	Discussion of Exploratory Shaft Design and Construction	
	• Design Status	Bob Haag (ONWI)
	• Construction Plans	Frank Hood (Parsons-Redpath)
	• ES Construction Testing and Monitoring	Bob Haag (ONWI)
	• NRC ES and Sealing Letter of 6/15/83	Bob Haag (ONWI)
11:45 a.m.	Lunch	
1:00 p.m.	Discussion of In Situ Testing	Lynn Myers (ONWI)
	• Plans	
	• Level of Test Pre- and Post-SCP/LA	
	• TEF	
2:00 p.m.	Discussion of NRC General Position on In Situ Testing	Mark Logsdon, (NRC) Raj Nataraja (NRC) Jaak Daeman
3:00 p.m.	Discussion of Conceptual Repository Design	
	• Status and Schedule	Dick Kingsley (ONWI)
	• Design Bases	
	• Level of Detail Available for SCP and LA	Norm Henderson (ONWI)
	• ES Integration into Repository	Jim Hanley (ONWI)
4:30 p.m.	Adjourn First Day	

Second Day

8:30 a.m.	Discussion of NRC General Technical Position on Information Needs	John Greeves (NRC)
9:45 a.m.	Break	
10:00 a.m.	Discussion of Issue Identification	ONWI
	• Stability (openings)	Jim Gould
	• Retrievability	Mike Balmert
	• Canister Failure	Mike Balmert
	• Engineered Barriers	Mike Balmert
	• Coupled Thermal-Mechanical-Hydro-Geochemical Factors	Ernest Lindner
	• Sealing	Jim Gould
11:30 a.m.	General Discussion	All
1:30 p.m.	Prepare Meeting Minutes	NRC, NPO, ONWI, P-R
3:00 p.m.	Closing Remarks, Wrap Up, Adjourn	