

✓3109/SW/86/12/30

- 1 -

JAN 12 1987

Mr. James P. Knight, Director
Licensing and Regulatory Division
Office of Geologic Repositories
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy RW-20
Washington, DC 20585

Dear Mr. Knight:

By letter dated October 10, 1986, the NRC received the final DOE annotated outline of the "Rationale for Seismic/Tectonic Investigations for Licensing a Nuclear Waste Repository". The NRC believes our comments could be useful even though DOE has issued the document in final format to the project offices since each project office has the option of incorporating the intent of the outline directly into the Site Characterization Plan (SCP) or developing a "site-specific position paper" to be used as a reference document on the SCP. Therefore, the NRC has reviewed the document in light of the minutes of the December 3 and 4, 1985 Seismic/Tectonic Investigations meeting and our comments are enclosed.

If you have any questions regarding the enclosed comments, please contact Mr. Seth Coplan (427-4728) of my staff.

Sincerely,

ORIGINAL SIGNED BY

John J. Linehan, Acting Chief
Repository Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure:
Comments on the DOE Final
Annotated Outline of the
"Rationale for Seismic/Tectonic
Investigations"

cc: P. Justus
J. Greeves

WM Record File 109 WM Project 1
Docket No. _____
PDR _____
LPDR _____

Distribution: _____

8704080009 870112
PDR WASTE
WM-1 PDR

870 200 19/5

Comments on the DOE
Final Annotated Outline of the
"Rationale for Seismic/Tectonic Investigations
for Licensing a Nuclear Waste Repository"

General Comments

1. Since DOE has removed the definitions from the final annotated outline, every effort should be made by DOE headquarters and project offices to use uniform definitions.
2. The annotated outline, as presented, appears to provide a logical basis for developing a site specific investigation plan. However, resolution of some of the NRC concerns as raised in the meeting can only be resolved upon review of the specific finalized seismic/tectonic investigation plans.

Comments based on the December 3-4, 1985 Seismic/Tectonic Investigation Meeting

1. A statement as suggested in NRC Observation No. 1a was not included in the annotated outline. Since the DOE project offices have the option of incorporating the intent of the outline directly into the Site Characterization Plan (SCP) or developing a "Site-specific position paper" to be used as a reference document in the SCP, the final result will require checks to assure that all points discussed in Regulatory Guide 4.17 have been incorporated.
2. The majority of NRC concerns as expressed in DOE Observation No. 2 are covered, however, the annotated outline appears to advocate the sole use of probabilities in the evaluation of disruptive events, processes, and features during pre-closure. While probabilistic studies do assist in making decisions, these decisions also require the use of deterministic evaluations and expert judgement. In most cases both straight deterministic and deterministic/probabilistic evaluations should be used along with consequence analysis in the evaluation of disruptive events. Historically the licensing judgements of the NRC have factored consequence into the decision process.
3. Based on DOE Observation 3, the annotated outline appears to give too much emphasis to a probabilistic evaluation of "anticipated processes and events" and "unanticipated processes and events". If the intent in the annotated outline is to utilize a cut off based entirely on probabilistic considerations, DOE should be aware that historically, in terms of reactor licensing requirements, the NRC has generally not used probability to identify design basis accidents. Instead these decisions have been based on a combination of probabilistic and deterministic analyses and consideration of the potential consequence. The NRC staff expects to follow the same general approach in reviewing a repository license application.

FROM James D. Knight, DOE		DATE OF DOCUMENT 10/10/86	DATE RECEIVED 11/31/	NO WM86-898 12
TO John Linehan		LTR XX	MEMO	REPORT
CLASSIF		ORIG.	CC	OTHER 1-28/86
POST OFFICE		ACTION NECESSARY <input checked="" type="checkbox"/>		CONCURRENCE <input type="checkbox"/>
REG. NO.		NO ACTION NECESSARY <input type="checkbox"/>		COMMENT <input type="checkbox"/>
DESCRIPTION (Must Be Unclassified)		FILE CODE: 109	DATE ANSWERED 11/28/86	
Rationale for Seismic/Tectonic Investigations for Licensing a Nuclear Waste Repository		REFERRED TO	DATE	RECEIVED BY
		John Linehan, WMRP	11/3	
		S. Copelan	11/3	
		S. Wastler	KKK	
ENCLOSURES		REMARKS		
		1 (copy)		

OFFICIAL CONCURRENCE AND DISTRIBUTION RECORD

LETTER TO: James Knight, Director
Siting, Licensing and QA Div.
OGR/OCRWM
DOE

FROM: John J. Linehan, Acting Chief
WMPR, DWM

SUBJECT: ANNOTATED OUTLINE OF THE "RATIONALE FOR SEISMIC/TECTONIC
INVESTIGATIONS FOR LICENSING A NUCLEAR WASTE REPOSITORY"

DATE:

DISTRIBUTION WM 86-898

WM/SF 3109	NMSS RF	RBrowning, WM	MBell, WM
JBunting, WMPC	PJustus, WMGT	MKnapp, WMLU	JLinehan, WMPR
JGreeves, WMEG	WMPR r/f	CF	PDR
RBoyle	SCoplan	JKennedy	RJohnson
PHildenbrand	KStablein	RCook	PPrestholt
AGiarratana	SWastler & r/f		

CONCURRENCES

ORGANIZATION/CONCUREE	INITIALS	DATE CONCURRED
WM/RP SWastler	<u>SW</u>	87/01/08
WM/RP SCoplan	<u>SC</u>	87/01/09
WM/GTJTrapp	<u>GTJ</u>	87/01/09
WM/RP JLinehan	<u>JL</u>	87/ /

Noted

Note: 2nd Concurrence

JAN 12 1987

OFFICIAL CONCURRENCE AND DISTRIBUTION RECORD

LETTER TO: James Knight, Director
Siting, Licensing and QA Div.
OGR/OCRWM
DOE

FROM: John J. Linehan, Acting Chief
WMP, DWM

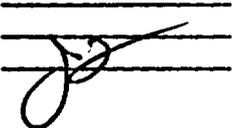
SUBJECT: ANNOTATED OUTLINE OF THE "RATIONALE FOR SEISMIC/TECTONIC
INVESTIGATIONS FOR LICENSING A NUCLEAR WASTE REPOSITORY"

DATE: JAN 12 1987

DISTRIBUTION WM 86-898

WM/SF 3109	NMSS RF	RBrowning, WM	MBell, WM
JBunting, WMPC	PJustus, WMGT	MKnapp, WMLU	JLinehan, WMP
JGreeves, WMEG	WMP r/f	CF	PDR
RBoyle	SCoplan	JKennedy	RJohnson
PHildenbrand	KStablein	RCook	PPrestholt
AGiarratana	SWastler & r/f		

CONCURRENCES

ORGANIZATION/CONCUREE	INITIALS	DATE CONCURRED
WM/RP SWastler	_____	87/ /
WM/RP SCoplan	_____	87/ /
WM/GTJTrapp	_____	87/ /
WM/RP JLinehan		87/1/12

Rec'd from [unclear]
1-13-87
11:50 B.L.C.