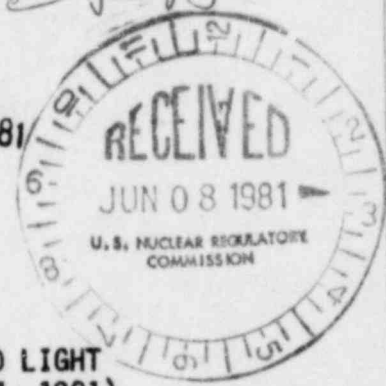


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JUN 1981

Docket Nos.: 50-416  
and 50-417

JUN 4 1981



MEMORANDUM FOR: A. Schwencer, Chief, LB#2, DL  
FROM: R. Auluck, Project Manager, LB#2, DL  
SUBJECT: SUMMARY OF MEETING WITH MISSISSIPPI POWER AND LIGHT  
COMPANY AND BECHTEL POWER CORPORATION (MAY 27, 1981)

A meeting was held in Gaithersburg, Maryland, on May 27, 1981 with Bechtel Power Corporation to discuss the independent structural analysis and the results obtained by the NRC consultants EG&G. Mississippi Power & Light did not attend the meeting. A copy of the meeting notice, meeting agenda and attendance list are enclosed as attachments A, B & C.

A.M. Session

Bechtel started the meeting with the description of their computer codes (CE 917F, CE 920 and CE 921) and their use in the seismic analysis for Grand Gulf Units 1 and 2. Ken Lee of Bechtel explained how data for translational and rotational motions at the bases of the structures was extracted from these computer codes and transmitted to EG&G (NRC consultants) for seismic analysis. It was also stated that Bechtel has reanalyzed part of the containment building structure by using BSAP computer code and using the data transmitted to EG&G. These two Bechtel analyses gave similar results thus confirming Bechtel's original analysis. Tommie Thompson and Richard Novak of EG&G explained their method and model for seismic analysis of containment building using ADINA computer code. EG&G results disagreed with the results obtained by Bechtel but with the sign reversed on the rotational motion, the EG&G results agreed with the Bechtel results. There was a confusion concerning sign convention used in the data obtained from Bechtel computer code CE 920 and post processed for EG&G.

P.M. Session

EG&G and Bechtel compared results for the auxiliary building analysis. There again, the results compared very well when the sign was reversed for the

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DATE						

rotational motion is transmitted by Bechtel. After discussing with their technical specialist, Bechtel stated that sign convention used in Bechtel GE 900 series computer codes is opposite to the sign convention used in Bechtel BSAP computer program. Bechtel feels that they did not interpret the signs properly when extracting information from CE 920 computer code for transmittal to EG&G.

Staff Comments

Staff concluded that Bechtel should do a sample analysis which will check the proper sign convention used in the Bechtel computer codes. In addition, Bechtel will respond to the action items (attachment D) generated at the meeting.

R. Auluck, Project Manager  
Licensing Branch No. 2  
Division of Licensing

Attachments:  
As stated

cc: w/enclosures  
See next page

OFFICE ▶	LB2 <i>R. Auluck</i>	LB2 <i>A. Schwencer</i>					
SURNAME ▶	RAuluck:sp	ASchwencer					
DATE ▶	6/4/81	6/4/81					

MEETING SUMMARY DISTRIBUTION

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OI&E (3)  
ACRS (16)  
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*J. MARTORE*  
*R. Arbut*

T. Speis  
W. Johnston  
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S. Hanauer  
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F. Schroeder  
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C. Berlinger  
K. Kniel  
G. Knighton  
A. Thadani  
D. Tondi  
J. Kramer  
D. Vassallo  
P. Collins  
D. Ziemann

NRC Participants:

N. Chokshi  
R. E. Lipinski  
D. C. Jeng

bcc: Applicant  
Service List

dupe of 8105290474

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20585

MAY 22 1981



Docket Nos.: 50-416  
and 50-417

MEMORANDUM FOR: A. Schwencer, Chief, Licensing Branch No. 2, DL

FROM: Joseph A. Martore, Project Manager, Licensing Branch No. 2, DL

SUBJECT: FORTHCOMING MEETING WITH MISSISSIPPI POWER AND LIGHT COMPANY  
AND BECHTEL POWER CORPORATION

DATE AND TIME: Wednesday, May 27, 1981  
9:00 am

LOCATION: Bechtel Power Corporation  
20 First Field Road  
Gaithersburg, Maryland

PURPOSE: To discuss the independent structural analysis and results.

PARTICIPANTS: MP&LCo.  
J. Richardson  
NRC  
J. Martore, F. Schauer, D. Jeng, R. Lipinski  
EG&G, Idaho  
T. Thompson  
Bechtel  
M. Archdeacon, R. Beck, M. Brooks

A handwritten signature in cursive script that reads "Joseph A. Martore".

Joseph A. Martore, Project Manager  
Licensing Branch No. 2  
Division of Licensing

cc: See next page

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Assistant Vice President - Nuclear Production  
Mississippi Power & Light Company  
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Jackson, Mississippi 39205

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Washington, D. C. 20006

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Grand Gulf Nuclear Station  
Bechtel Power Corporation  
Gaithersburg, Maryland 20760

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Engineering, Production & Construction  
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Mr. L. F. Dale  
Nuclear Project Manager  
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Jackson, Mississippi 39205

Mr. John Richardson  
P. O. Box 1640  
Jackson, Mississippi 39205



## SEISMIC ANALYSIS FOR GRAND GULF UNITS 1 AND 2

Meeting Agenda (May 27, 1981)

<u>Subject</u>	<u>Speaker</u>
I. <u>Containment Building</u>	
1. Presentation of computer code capability, limitations and sign convention (Bechtel Code).	Bechtel
2. The method of obtaining input at the base of containment structure as forwarded to EG&G (including any data manipulation needed to obtain the input).	Bechtel
3. Description of Bechtel findings and fixes in response to EG&G notification about the discrepancy of results (sign, time step, combination of the two, etc.).	Bechtel
4. Presentation of computer code capability, limitations and sign convention, etc. (EG&G).	EG&G
5. Description of the results of the containment structure seismic analysis.	EG&G
6. Description of the latest computer runs on containment structure with converging results.	EG&G
7. Discussion of basis for reversal of input data sign as implemented by EG&G.	EG&G & Bechtel
8. General discussion among the parties to determine any causes, other than already discussed, for the discrepancy of the seismic analysis results.	Conferees
a. Possible check run for containment as a stick model on fixed base (by Bechtel, identical model used in the EG&G runs.).	
b. Other possible dispositions be identified during discussion among the participating parties.	

(OVER)

II. Auxiliary Building

1. Presentation of the analysis and comparison of results with Bechtel.

EG&G

2. Discussion of discrepancies of results (if any) and discussion of their dispositions.

Conferees

III. General

General discussion of future action items.

Conferees

SEISMIC ANALYSIS MEETING

May 27, 1981

R. Auluck  
N. Chokshi -  
R. Peck  
J. T. Vogel  
K. Lee  
Tony Tocci  
Richard Macek  
Tommie Thompson  
R. E. Lipinski -  
D. C. Jeng --  
F. Schaurer  
Ali Yazdi  
M. Archdeacon

NRC/DL  
NRC/DE  
Bechtel  
Bechtel  
Bechtel  
Bechtel  
EG&G Idaho  
EG&G Idaho  
NRC/DE/SEB  
NRC/DE/SEB  
NRC/DE/SEB  
Bechtel  
Bechtel



MEETING MINUTES BETWEEN BECHTEL, THE NRC AND EG&G (IDAHO) HELD AT  
GAITHERSBURG POWER DIVISION ON MAY 27, 1981

At the conclusion of the above meeting, the following action items were identified and agreed to by all of the above parties:

1. Bechtel will provide verification information to the NRC applicable to the CE 900 series computer codes as soon as possible. Bechtel will notify the NRC through J. Martore by June 1, 1981, of the exact submittal date. If the verification does not contain a problem run all the way through all codes, one will be done.
2. Bechtel will supply to the NRC a one or two page explanation of the sign convention in the CE 900 series codes and BSAP.
3. A test problem will be run by Bechtel in the CE 900 series codes to verify results. Bechtel will give the problem parameters to EG&G and the NRC by Monday, June 1, 1981.
  - a. General consistency was found between BSAP, CE 900 series codes and ADINA. EG&G will give Bechtel ADINA response spectra at key points in the Containment and Auxiliary Buildings by Monday, June 1, 1981. Bechtel will plot BSAP and CE 900 series results on these ADINA spectra.
  - b. After further review, Bechtel will provide rationale to the NRC to justify why reverse sign on rotation accelerations is the proper application of the time histories sent to EG&G. *This sign convention is opposite to the convention specified by Bechtel upon submittal of T-H input to EG&G.*
4. Bechtel will run the EG&G seismic model and plot response spectra at locations specified by EG&G using BSAP to verify the EG&G results. EG&G will give in-put to Bechtel by June 1, 1981, on their model properties. EG&G will specify structural and response spectra damping to be used, and the analysis will be done using the Grand Gulf motion given to EG&G. An advance submittal of the results of this analysis will be sent to the NRC by June 8, 1981.
5. Bechtel will submit to the NRC an explanation of the combination of three components of earthquake by June 8, 1981. This explanation will include response spectra and other responses.
6. Bechtel will submit to the NRC an explanation of how to determine composite modal damping by June 8, 1981. *structural*

Final resolution by the NRC of the technical issues addressed at this meeting is pending submittal of all the above items by Bechtel to the NRC and NRC's subsequent review.

*PHB*