

SEP 13 1977

DOCKETS NOS.: 50-219, 50-220, 50-237, 50-245, 50-249, 50-254, 50-259, 50-260, 50-263, 50-265, 50-271, 50-277, 50-278, 50-293, 50-296, 50-298, 50-321, 50-324, 50-325, 50-331, 50-333, 50-341, 50-354, 50-355, and 50-366

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FACILITIES: Oyster Creek Nuclear Generating Station, Nine Mile Point Unit No. 1, Pilgrim Unit No. 1, Dresden Units Nos. 2 and 3, Millstone Unit No. 1, Quad Cities Units Nos. 1 and 2, Monticello, Peach Bottom Units Nos. 2 and 3, Browns Ferry Units Nos. 1, 2 and 3, Vermont Yankee, Hatch Units Nos. 1 and 2, Brunswick Units Nos. 1 and 2, Duane Arnold Energy Center, Cooper, Fitzpatrick, Enrico Fermi Unit No. 2, and Hope Creek Units Nos. 1 and 2.

SUBJECT: SUMMARY OF MEETING HELD ON JUNE 17, 1977 WITH REPRESENTATIVES OF THE MARK I OWNER'S GROUP

On June 17, 1977, a meeting was held in Bethesda, Maryland with representatives of the Mark I Owner's Group and the General Electric Company (GE). The purpose of the meeting was to discuss the structural acceptance criteria for the Mark I Containment Long Term Program (LTP), in particular service limits for specific structural elements as a function of loading events. Enclosure 1 is a list of attendees. Enclosure 2 is a copy of the meeting agenda.

Summary

L. J. Sobon, GE, stated that the development of a preliminary table (Enclosure 3) of loading event combinations and associated structural

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service limits for the Mark I containment system structural elements included consideration of all mechanistically possible load combinations. He further stated that not all of these 33 possible combinations would be included in the LTP structural analyses and that preliminary judgement indicates that approximately 7 loading combinations would be required to bound all possible combinations.

Based on Mr. Sobon's remarks, a discussion took place on the need to consider an SRV and DBA pool swell load combination in the LTP. The Mark I Owner's position on this matter is that such a load combination is mechanistically impossible and should not be considered. Furthermore, the Owner's Group does not agree that a postulated single failure involving the opening of an SRV concurrent with the DBA pool swell is an appropriate application of the "single failure criterion." The NRC staff stated that it would consider such arguments in the determination of its position on this matter and expressed a commitment to advise the Mark I Owner's Group of its position as soon as possible.

W. Cooper, Teledyne, introduced the discussion on structural service limits with the following remarks:

1. It should be noted that this is a preliminary effort. Some load combinations may not require separate treatment.
2. The structural acceptance criteria Application Guide will not contain loads, but rather will refer to the Load Definition Report.
3. Seismic loads will be treated as they were treated in the FSAR for each facility, i.e., the most recent analysis on the docket.
4. Cyclic events will be evaluated for fatigue considerations for all fatigue-related loading events, even if such treatment is not required by the Code.
5. The Application Guide is designed to establish generic service limits. Relief from these limits would require NRC approval on a case by case basis.
6. Only MC (metal containment) related elements will be discussed today.

W. Cooper proceeded to explain the table of proposed service limits for specific components under specific postulated loading combinations. Following a lengthy discussion, the NRC staff expressed the following comments:

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1. The format of the Table (Enclosure 3) seems to be appropriate, but the specific service limits proposed are not acceptable in all cases.
2. The general service levels described by the staff (i.e., "A" for basic loads, "B" for load in conjunction with OBE, and "C" for load in conjunction with SSE) represent "ground-zero" for acceptability. Any deviations from this "ground zero" would require justification.
3. Some general guidance with respect to deviations from "ground zero" is as follows:
  - a. Impulsive Loads. For non-quasistatic loads, we would accept deviations which are based on the use of impulsive techniques, such as are being investigated for the NRC by Lawrence Livermore Laboratories (LLL). Along this line, we would be willing to arrange a meeting between the Mark I Owner's Group and our consultants at LLL to describe our program there.
  - b. Local Dynamic Loads. Jet forces and associated piping reactions would be acceptable for consideration under this category. However, we are not receptive to your categorization, as presented today, of penetrations and local loads. We would consider pool swell impact, safety-relief valve actuations, and steam chugging loads as potentially falling within this category, if they can be adequately justified to be so.
  - c. Changes in Service Levels as a Function of the Transient.
  - d. Level E Items. Only for non-safety related items and, even then, only if the consequences of their failure on safety related equipment is considered.
4. External and internal pressure boundaries should, in general, be treated the same.

At the conclusion of the meeting, arrangements were initiated for a meeting between the representatives of the Mark I Owner's Group and our consultants at LLL.

John C. Guibert  
Technical Assistant  
Division of Operating Reactors

OFFICE	Enclosures:	OT/DOR	EB/DOR		
SURNAME	As stated	JCGuibert:et	RStuart		
DATE		9/14/77	9/1/77		

Distribution:

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  - D. Ziemann
  - G. Lear
  - R. Reid
- \*W. Butler
  - D. Davis
- \*L. Shao
- \*OELD
- \*OI&E (3)
- \*NRC Participants
- \*ACRS (16)
  - W. Paulson
  - P. O'Connor
  - D. Jaffe
  - R. Snaider
  - T. Wambach
  - C. Trammell
  - M. Fletcher
  - P. Riehm
  - L. Kintner
- \*G. Lainas
- \*I. Sihweil
- \*J. Knight
- \*R. Tedesco
- \*R. Stuart
  - J. Siegel
  - R. Bevan
  - S. Nowicki
  - D. Verrelli
  - G. Vissing

\*with enclosure



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SEP 14 1977

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service limits for the Mark I containment system structural elements included consideration of all mechanistically possible load combinations. He further stated that not all of these 33 possible combinations would be included in the LTP structural analyses and that preliminary judgement indicates that approximately 7 loading combinations would be required to bound all possible combinations.

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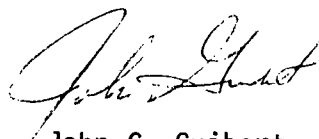
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John C. Guibert  
Technical Assistant  
Division of Operating Reactors

Enclosures:  
As stated

Enclosure 1

MEETING - JUNE 17, 1977

<u>Name</u>	<u>Organization</u>
J. Guibert	NRC/DOR
R. H. Buchholz	GE
L. D. Steinert	GE
W. E. Cooper	Tdy. Eng. Services
N. W. Edwards	NUTECH
L. V. Sobon	GE
C. I. Grimes	NRC/DOR
Randy Broman	Bechtel
E. Mangrum	GE
T. J. Mulford	GE
C. H. Hofmayer	NRC/DOR/EB
L. C. Shao	NRC/DOR/EB
R. J. Stuart	NRC/DOR/EB
A. Hafiz	NRC/SEB
Keith Wichman	NRC/SD/DOR
Bill Bauer	PSE&G
C. W. Churchman	PSE&G
Kulin D. Desai	NRC/DSS/MEB
B. D. Liaw	NRC/DOR/EB
Pei-Ying Chen	NRC/MEB
R. L. Cudlin	NRC/DOR
D. Whitt	CBI
R. Klause	Stone & Webster
R. E. Shewmaker	NRC/IE:HQ
G. Bagchi	NRC/DOR/EB
J. Kudrick	NRC/DSS/CSB
R. E. Shaffstall	GE-Bethesda
I. Sihwi	NRC/DSS/SEB
C. Anderson	NRC/DSS/CSB



Enclosure 2

AGENDA

MARK I LONG TERM PROGRAM  
STRUCTURAL ACCEPTANCE CRITERIA  
MEETING WITH THE NRC  
JUNE 17, 1977

0900	INTRODUCTION	MULFORD/SOBON
0915	DISCUSSION OF REVISION B OF PLANT UNIQUE ANALYSIS APPLICATION GUIDE	COOPER
1200	Lunch	
1300	CONTINUATION	COOPER
1400	DISCUSSION OF INCREASED ALLOWABLE STRESSES FOR CLASS MC VESSELS	COOPER
1445	STATUS REPORT ON COLUMN BUCKLING TEST-PHASE II	MANGRUM
1500	CLOSURE	SOBON
1530	Adjournment	

TJ Mulford  
6/14/77

