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

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*NRC PDR
*Local PDR
*~~Docket~~ Files 50-263
NRR Rdg
ORB#3 Rdg
*B. C. Rusche
*E. G. Case
*V. Stello
*K. R. Goller
D. Eisenhut
T. J. Carter
*J. Reece
*D. L. Ziemann
*G. E. Lear
*R. W. Reid
L. C. Shao
R. L. Baer
*A. Schwencer
B. K. Grimes
Project Manager
*OELD
*OI&E (3)
C. Parrish
NRC Participants
*ACRS (16)
T. B. Abernathy
J. R. Buchanan
D. Thompson
*W. Paulson

*with enclosure

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September 9, 1976

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 1, Pilgrim 1, Dresden Units 2 and 3, Millstone Unit 1, Quad Cities Units 1 and 2, Monticello, Peach Bottom Units 2 and 3, Browns Ferry Unit 1, 2 and 3, Vermont Yankee, Hatch Units 1 and 2, Brunswick Units 1 and 2, Duane Arnold Energy Center, Cooper, Fitzpatrick, Enrico Fermi Unit 2, and Hope Creek Units 1 and 2.

SUMMARY OF MEETING HELD ON AUGUST 12, 1976 WITH REPRESENTATIVES OF THE MARK I OWNER'S GROUP

On August 12, 1976, a meeting was held in San Jose, California with representatives of the Mark I Owner's Group, General Electric Company (GE), EPRI, and their technical consultants. The purpose of the meeting was to discuss the following Long Term Program tasks: (1) the 1/12 Scale Three-Dimensional Pool Swell Testing program, (2) the Pool Swell Analytical Model Development program, (3) the Flexible Cylinder Testing program, and (4) condensation loads and the 4T High Temperature Testing program. Enclosure 1 is a list of meeting attendees. Enclosure 2 contains the meeting agenda.

SUMMARY

C. Sullivan, EPRI, provided an overview of the Long Term Program tasks which EPRI is conducting on behalf of the Mark I Owner's Group. The slides used in this presentation are contained in Enclosure 3.

B. Liang and K. Blahnik, Stanford Research Institute (SRI), described the 1/12 Scale Three-Dimensional Pool Swell Testing program which SRI is performing for EPRI. The slides used in this presentation are contained in Enclosure 4. The NRC staff expressed the following concerns related to

this testing program:

1. Adequate justification for the selection of a 1/12 scale facility has not been provided.

2. Adequate justification for the selection of a straight torus sector has not been provided.

3. The fourteen instrumentation channels associated with the test facility do not appear to be adequate.

4. An instrumentation error analysis should be performed prior to commencement of testing.

5. Adequate justification for the isothermal assumption used in the test facility scaling has not been provided.

P. Nakayama and B. Chan, JAYCOR, described the program for development of an analytical model for the post-LOCA hydrodynamic response of the Mark I pressure suppression pool which JAYCOR is performing for EPRI. Representatives of the Mark I Owner's Group stated that it was their intention to utilize the resulting computer code model, as validated by 2D and 3D test results, to predict plant-unique hydrodynamic pool swell loads for the Long Term Program. Enclosures 5 and 6 contain the slides used in this presentation.

G. Sliter and J. Carey, EPRI, described the analytical and testing programs which EPRI is conducting to assess load mitigation from fluid/structural interaction on the ring header. Enclosure 7 contains the slides used in their presentation. The NRC staff expressed the following concerns related to this testing program:

1. Use of fixed end supports to restrict beam rotation during the water impact tests would assure conservatism in the test results and would be more representative of the true end conditions than pinned end supports.

2. Fluid/structural interaction should be investigated for other structures (i.e., the torus shell) as well as the ring header.

B. Sobon, GE, reviewed the bases for the Mark I Owner's Group position that boundary loads from steam condensation need not be considered in the Short Term Program. He stated that (1) the magnitude of the steam condensation boundary loads is no higher than that of the safety/relief valve loads, and (2) the characterization of the effects of boundary loads resulting from steam condensation is similar to that of the safety/relief valve loads (i.e., a fatique concern).

At the request of the Mark I Owner's Group, the NRC staff provided information on the status of the containment-related research programs being conducted by Lawrence Livermore Laboraties (LLL) for the NRC. Representatives of the Mark I Owner's Group suggested that a mutual exchange of information between their consultants and LLL related to the development of pool swell analytical models would be desirable. The NRC staff stated that any contact between the Owner's Group and LLL should be arranged through J. Guibert, NRC.

R. Petrokas, NUTECH, reviewed the status of load mitigation testing efforts currently in progress. Enclosure 3 contains the slides used in his presentation. He stated that initial testing has identified several devices which are very promising and that, after addional open-tank testing, a more rigorout testing program will commence.

John C. Guibert
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:
1. Attendance List
2. NRC Long Term Program Review
3. EPRI Long Term Program Tasks
4. Scale 3-D Mark I Model
5. JAYCOR program Definition and Objectives
6. Hydrodynamic Response of Mark I Suppression Pools
7. EPRI - Water Impact Tests
8. Mark I Loads Mitigation Screening Tests