

JUN 8 1976

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50-410

APPLICANTS: Long Island Lighting Co., Philadelphia Electric, Cincinnati Gas and Electric Co., Northern Indiana Public Service Co., Commonwealth Edison, Pennsylvania Power and Light Co., Washington Public Power Supply System and Niagara Mohawk Power Corporation

FACILITIES: Shoreham Nuclear Power Station Unit No. 1, Limerick Generating Station Units No. 1 and No. 2, William H. Zimmer Nuclear Power Station, Unit 1, Bailly Generating Station Nuclear 1, LaSalle County Station Units No. 1 and No. 2, Susquehanna Steam Electric Station Units No. 1 and No. 2, WPPSS Nuclear Project No. 2, Nine Mile Point Nuclear Station Unit No. 2

SUMMARY OF MEETING HELD ON APRIL 29, 1976 WITH MARK II OWNERS

On November 5, 1975, the General Electric Company submitted, for the Mark II owners group, a design basis document designated as "Mark II Containment Dynamic Forcing Function Information Report (DFFR)", NEDO 21061 and NEDE 21061P. Subsequently each of the Mark II owners submitted a plant specific report. The NRC staff during their preliminary review of the DFFR and the various plant specific reports found that there was a considerable variation in the manner in which the DFFR was applied by each Mark II owner in his plant specific evaluation. A meeting was held on April 29, 1976, between representatives of the Mark II owners, their architect engineers, the General Electric Company and the NRC staff to determine whether a common basis for loads and margins could be included in the DFFR so that the document could be reviewed to a much greater extent on a generic basis, applicable to all Mark II containments. In addition the status and schedule of the Mark II Pool Dynamic Loading Program were discussed. The attendees list, the meeting agenda, and copies of some of the slides used in the presentation made at the meeting are enclosed. The remainder of the slides are available in my office.

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The following principal topics were discussed.

1. Dynamic Forcing Function Information Report - DFFR

The DFFR was issued in September 1975. Revision No. 1 consisting of errata and editorial changes was submitted in April 1976. The DFFR was intended to provide bounding load methodology for use by the Mark II owners. However, it was not mandatory that all the Mark II owners follow the DFFR nor would all the owners make a commitment to follow the DFFR completely.

2. Supporting Program

Parallel with the preparation of the DFFR, the Mark II owners sponsored a test and analysis support program (see enclosure). The purpose of the program is to provide test information to support the DFFR and to refine the analytical techniques in the DFFR. A document providing more details on the supporting program will be supplied by the end of May.

3. "4T" Pool Swell Tests

The 4T tests which are part of the supporting program are in progress. Phase I testing was completed and the test report will be provided by the end of May. GE stated that the test results confirm the DFFR load methodology except that a condensation load on the wall was measured. The DFFR indicates that this load is not significant.

4. Electric Power Research Institute (EPRI) Tests

EPRI is conducting multi-downcomer tests on a scale model. The purpose of the test is to provide motion pictures of the pool swell during blowdown through more than one downcomer. The motion pictures are expected to be available in May.

5. FSAR Schedule

The Mark II owners provided the following dates by when they expect to submit their FSAR; (a) LaSalle County Station Unit No. 1 and No. 2 - August 1976, (b) WPPSS Nuclear Project No. 2 - late July 1976, (c) Limerick Generating Station Units No. 1 and No. 2 - December 1977, (d) Susquehanna Steam Electric Station Units No. 1 and No. 2 - First Quarter 1978, and (e) Nine Mile Point Nuclear Plant No. 2 - 1978-1979.

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

2. The second part of the document outlines the specific procedures for recording transactions. It details the steps involved in the accounting process, from the initial entry of data into the system to the final review and approval of the records.

3. The third part of the document addresses the challenges associated with maintaining accurate records. It identifies common sources of error and provides strategies for minimizing these errors, such as implementing internal controls and regular audits.

4. The fourth part of the document discusses the role of technology in improving record-keeping. It highlights the benefits of using automated systems to process transactions and generate reports, and provides examples of how these systems can be implemented effectively.

5. The fifth part of the document concludes by emphasizing the importance of ongoing training and education for all personnel involved in the record-keeping process. It stresses that continuous learning is necessary to stay current in this rapidly evolving field.

6. The sixth part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

7. The seventh part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

8. The eighth part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

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Summary

The intent of the April 29 meeting was to determine whether a common basis for loads and margin could be included in the DFFR so that it could be reviewed to a much greater extent on a generic basis applicable to all Mark II containments. However, the various Mark II owners held that the design differences between the various Mark II containments make any further significant review on a generic basis impractical and therefore wished to proceed on an individual plant basis. We indicated we could follow this approach and will proceed to review each Mark II containment on an individual basis. We also stated that for this approach each containment will be reviewed during the operating license review phase for that specific plant.

Original signed by

Sydney Miner, Project Manager
Light Water Reactors Branch 4
Division of Project Management

Enclosures:

1. The Attendance List
2. Agenda
3. Copies of Slides

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ENCLOSURE 1

MARK II
CONTAINMENT MEETING
APRIL 29, 1976

ATTENDANCE LIST

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W. R. Butler
W. F. Kane
R. Tedesco
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SARGENT & LUNDY

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R. H. Logue

WPPSS

G. L. Gelhaus

STONE & WEBSTER

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Ron Klaue

BECHTEL

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NUTECH

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BURNS & ROE

Don Baker
Bedros Bedrosian

NIPSCO

J. W. Dunn

4/27/76

ENCLOSURE 2

MARK II POOL DYNAMIC LOAD STATUS REPORT

NRC/OWNERS GROUP/GE

PROPOSED MEETING AGENDA

<u>NRC AGENDA</u>	<u>AGENDA ITEM</u>	
I	I	Schedule for the Mark II Owners Group Pool Dynamic Load Program
II & III F	II	Status of the Mark II Owners Group Pool Dynamic Load Program
	A	Overview of Phenomena Investigated
	B	Summary of Analytical Results and Documentation
	C	Summary of Test Results and Documentation
	D	Future Analysis and Tests
	III	Status and Basis of the Dynamic Forcing Function Report (DFFR)
III A,B,C	A	Application of the DFFR to Design Assessment
IV	B	Basis of the DFFR Load Methodology
III E	C	Report Update
III D	IV	Discussion of NRC Questions
V	V	Plant Unique Assessment Report - Summary, Conclusions, and NRC Review Schedule

MARK II SUPPORTING PROGRAM STATUS UP-DATE

<u>Program Activity</u>	<u>Activity Type</u>	<u>Targeted Completion Date</u>
A. <u>LOCA Related Activities</u>		
1. "4T" Pool Swell Test Phase I Report Phase II Report	Test	End of May 1976 September 1976
2. DFFR Pool Swell Velocity Breakthrough Model Confirmation	Analysis	November 1976
3. Impact Tests on Pool Internal Structures (NEDE-13426P & NEDC-20989-2P)	Test	Complete
4. Qualify Impact Model (NEDE-13426P & NEDC-20989-2P)	Analysis	Complete
B. <u>Safety/Relief Valve Related Activities</u>		
1. Relief Valve Pipe Clearing Model for Quencher (Confirmation of Model)	Analysis	May 1977
2. Relief Valve Pipe Clearing Model for Ramshead (NEDO-20942, NEDE-20942P, NEDO-21062 & NEDE-21062P)	Analysis & Test	Complete
3. In-Plant Test of S/R Valve Discharge Loads During Consecutive Actuations (Ramshead)	Test	End 4th Quarter 1976
4. DFFR Relief Valve Consecutive Actuation Transient Analysis Confirmation	Analysis	Late 2nd Quarter 1977
5. In-Plant Test of S/R Valve Discharge Loads During Consecutive Actuations (Quencher)	Test	September 1977
6. Safety/Relief Valve Steam Discharge Thermal Mixing (Confirmation of Model)	Analysis	End 4th Quarter 1976
C. <u>MARK II Supporting Program Report</u>	Report	End of May 1976

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3. The second part of the document is a list of names and addresses of the members of the committee.

4. The third part of the document is a list of names and addresses of the members of the committee.

5. The fourth part of the document is a list of names and addresses of the members of the committee.

6. The fifth part of the document is a list of names and addresses of the members of the committee.

MARK II

CONTAINMENT TASK FORCE:

DFFR OBJECTIVES:

1. METHODOLOGY FOR PRELIMINARY DESIGN LOADS
2. JUSTIFICATION CONSISTENT WITH TEST DATA
3. TIMELY RESPONSE TO NRC QUESTIONS



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4/28/76

MARK II

CONTAINMENT TASK FORCE

DAR OBJECTIVES:

1. DESIGN ASSESSMENT OF EXISTING PLANT
2. IDENTIFICATION OF DESIGN MODIFICATIONS
3. TIMELY RESPONSE TO NRC QUESTIONS

DAR RESULTS:

1. LOAD DEFINITION
2. EXISTING STRUCTURES ACCOMMODATE DYNAMIC POOL LOADS
3. SOME DESIGN MODIFICATIONS REQUIRED



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LOAD METHODOLOGY

OBJECTIVES:

1. COMMON BASIS FOR LOAD IDENTIFICATION
2. COMMON BASIS FOR LOAD COMBINATIONS
3. COMMON BASIS FOR PLANT SPECIFIC LOADS
4. COMMON BASIS FOR STRUCTURAL LOAD FACTORS
5. COMMON BASIS FOR LOAD MARGIN

COMMON DESIGN FEATURES

1. DOWNCOMER LOADS

UNIQUE DESIGN FEATURES

1. SRV DISCHARGE
2. POOL SWELL

DISTRIBUTION

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