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

JUL 27 1976

Docket Nos: 50-322, 50-352 & 50-353, 50-358, 50-367, 50-373 & 50-374, 50-387 & 50-388, 50-397, 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 No. 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 MAY 20, 1976, INCLUDING FOLLOW-UP ACTIONS WITH MARK II OWNERS REPRESENTATIVES

A meeting was held on May 20, 1976 between representatives of the Mark II owners, the General Electric Company and the staff to discuss and agree on methods for making the "Mark II Containment Dynamic Forcing Function" report (DFFR) NEDO 21061 and NEDE 21061P more generic and specific so that the documents could be reviewed to a much greater extent on a generic basis, applicable to all Mark II containments. The attendees list is enclosed (enclosure 1).

The representatives of the Mark II owners group stated that it was their intention that the DFFR should provide a generic method of analysis and generic loads subject to unique plant configuration, that all owners would use. The report was then discussed in detail to assure complete understanding of what was included in the report and to establish where revisions to the reports would be required to address staff concerns. The Mark II owners representatives agreed to revise the report to include information discussed during the detail review. To assure there was complete agreement and understanding on what was to be included in the revision, Brent Shelton, the chairman of the Mark II owners group, agreed to provide the staff in about a week, a summary of the meeting, the items to be included in the revised DFFR and the date when the revised document will be submitted.

On May 24, 1976 the applicant's meeting summary was provided (enclosure 2). The staff reviewed the applicant's meeting summary and on June 22, 1976 provided Mr. Brent Shelton, the chairman of the owners group the following clarifying information:

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The updated DFFR should include:

1. The rationale for the location and number of thermocouples used to measure high temperature steam condensation loads. This will represent the minimum instrumentation requirements within the pool.

2. A determination as to whether the main steam line or recirculation line break is more severe for both BWR-4 and 5 reactor designs.

3. The following information on combining lateral loads on multiple downcomers:

   a. All downcomer combinations presented in the DFFR will be evaluated by each plant; and,

   b. The statistical approach used for determining multiple downcomer loads if less than a maximum load of 8.0 KIPS is used.

4. A reference within the DFFR to all applicable German data as presented within NEDE 21078P and NEDO 21078.

5. Appropriate input selections specified for all analytical models presented within the report. Examples of the input selections will include selection of the vent-flow factor and velocity factor used within the slug pool swell model. These load criteria will also include specifications of the required relief valve combinations.

6. The basis upon which the pool swell velocity is determined. Specifically, the value of vent area to pool area ratio will be given as well as the basis for selection.

7. The analytical quencher model used for development of relief valve loads revised to reflect the most current model. In addition, the confidence level will be presented along with the basis of selection.

8. A revised discussion concerning the ramshead relief valve loads and reference made to the applicable GE topical reports to reflect the most current analytical model available.

After reviewing the above information, Brent Shelton, on June 29, 1976 agreed that the clarifying information was consistant with his meeting summary and will be provided in the revised DFFR. The revised DFFR will be submitted on September 1, 1976.

Other topics discussed during the meeting were as follows:

1. 4T test report will be submitted about June 1, 1976 (received June 9, 1976)

2. The staff will have the opportunity of reviewing and, if necessary, requesting additional information on the EPRI test reports. However, the Mark II owners feel that the EPRI test will not be an important item in the overall Mark II containment program.

Sydney Miner

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Enclosure:
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JUL 27 1976

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Enclosure 1

ATTENDEES

MARK II CONTAINMENT MEETING - MAY 20, 1976

NRC/LWR-3	S. Miner
NRC	J. Kudrick
NRC	T. Su
NRC	C. Anderson
NRC	G. Lainas
GE	D. Ditmore
GE	A. Smith
GE	F. Frauenholz
S&L	R. Crawford
CECo	B. Shelton
CECo	D. Galle

Enclosure 2

May 24, 1976

Subject: 5-20-76 Meeting with NRC

Purpose: To discuss making the Mark II DFFR more generic and specific.

Attendance: Sydney Miner, NRC
Fritz Frauenholz, GE
Ray Crawford, S&L
Brent Shelton, CECo
Dana C. Ditmore, GE
Allen Smith, GE
Denny Galle, CECo
J.A. Kudrick, NRC
T.M. Su, NRC
C.J. Anderson, NRC

Summary:

1. It was agreed that the DFFR could be made more generic and specific, and in general all owners wanted a generic approach to the DFFR. It was pointed out by the owners that there may be some plant unique conditions that would require a deviation from the DFFR. Such deviations would not be done frivolously.

2. At the meeting it appeared that a generic load basis could be developed for all items except the lateral loads on multiple downcomers due to geometry considerations of the bracing systems. We agreed to give further thought to this item.

3. It was also not obvious how the ramshead and Quencher load basis could be made more generic but we agreed to further review these items. A meeting may be required to discuss the following:

   a) Ramshead load criteria.

   b) New Quencher model.

   c) Common confidence level for Mark II Quencher.

   d) Mark II vs Mark III Quencher confidence levels.

4. DAR's should make any deviations from the DFFR explicit.

5. DFFR questions will go to all owners for generic response back through GE. All owners will reference the response on their dockets.

   DAR questions will go to the individual Utility with a copy to B. R. Shelton.

6. The NRC stated that an in-plant quencher test will be required. If Caorso becomes unavialable for any reason a new test bed will have to be found.

DFFR Update:

The Mark II owners and GE will consider the following in an update to the DFFR.

1. Criteria for number and location of thermocouples used to measure high temperature steam condensation phenomena.

2. Clarify whether the main steam or recirc line break is more severe for the BWR 4's and 5's.

3. If possible include a criteria for combining lateral loads on multiple downcomers.

4. Reference the German data, NEDE and NEDO 21078.

5. Remove the options for various load criteria.

6. Clarify whether avg or worst case Vent area/pool area is used to determine pool swell velocity.

7. Add revised quencher model and confidence limits.

8. Revise the Ramshead section discussion and reference the GE topical NEDO as much as possible.

9. Include a document roadmap and summary as follows:

   a) column 1 -- List and description of loads.

   b) column 2 -- Numerical load value or criteria summary.

   c) column 3 --Load basis, whether analytical or test and reference. Include an example in the body of DFFR if no load value can be given in summary table.

   d) column 4 -- Any future confirming test or models.

10. B. R. Shelton was requested to advise S. Minor of a schedule for the above by May 28th.

B. R. Shelton 5/25

B. R. Shelton
Chairman

BRS/kak
cc: Sydney Minor

NOTE: With respect to item 10: All owners concurred to the DFFR update described herein. The schedule for completion of the update and filing with the NRC is no later than 9-1-76.

BRS 6/1

MEETING SUMMARY DISTRIBUTION

Docket File
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J. Stolz
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