

FEB 23 1978

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50-410

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SUBJECT: MARK II CONTAINMENTS - REQUEST FOR ADDITIONAL INFORMATION

Gentlemen:

As a result of our on going review of your report, NEDM-20988, "Caorso Relief Valve Loads Tests - Test Plan," we have the following comments and significant areas of concern.

1. Effects of leaking SRV on quencher loads has been identified as an area of concern. The Caorso test plan, however, has not addressed this concern. It is our position that tests on leaking SRV should be conducted and that a test matrix addressing this concern should be provided for our review.
2. The test matrix shows that the parameters of interest will be repeated only once. We believe that this is not sufficient to demonstrate the repeatability of test data. We, therefore, suggest that additional tests be conducted to demonstrate repeatability.

It should be noted that our review to date has not considered fluid/structure interaction effects.

Enclosed is a request for additional information. We believe you were advised of this needed information in July 1977.

Sincerely,

Original Signed by
 John F. Stolz

John F. Stolz, Chief
 Light Water Reactors Branch No. 1
 Division of Project Management

Enclosure:
 As stated

cc: See following pages

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DATE →	2/17/78	2/22/78	2/17/78	2/22/78	2/22/78	

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MEMORANDUM FOR THE DIRECTOR
SUBJECT: [Illegible]

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Original Signed by
John R. Stolz

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Request for Additional Information
General Electric Company
Topical Report: NEDM-20988, Revision 2
Test Plan - December, 1976

1. Effects of a leaking SRV on quencher loads has been identified as an area of concern. The Caorso test plan, however, does not address this concern. It is our position that tests on a leaking SRV should be conducted. Therefore, a test plan considering a leaking SRV should be provided for our review.
2. The Caorso test matrix indicates that most of the parameters of interest will be repeated only once. Tests performed either for ramshead (Quad City and Monticello) or for quencher (NEDE-11314-08) exhibited a great degree of data scatter. Therefore, we believe that the current Caorso test matrix is insufficient to determine the repeatability of the test data. We recommend additional tests be conducted for first actuation of a SRV and subsequent actuations of the same SRV to demonstrate repeatability. The number of tests should result in test data with statistical significance.
3. Based on our evaluation of previous SRV test data, we find that the SRV discharge time and duration between first actuation and subsequent actuation influence the quencher load due to subsequent actuation. Therefore, provide the value and the basis for the selection of the times for the Caorso tests.



4. Page 4-6 states that a complete understanding of the subsequent actuation effect requires data on pool temperature in the vicinity of the quencher, pipe temperature and pressure following valve closure, flow rate of air through the vacuum breaker and dynamics of back flow of water. We agree that the air temperature history inside the pipe could be important. However, insufficient information has been given in the test plan regarding the measurement of air temperature in the pipe. Clarify what measurements or calculations will be made to monitor this temperature.

5. The sensor failure rate was found to be quite high in the Monticello Plant test program. Sensors of the same manufacturer model used in the Monticello will also be used in the Caorso. In light of this experience, we believe that redundant instrumentation is needed in critical areas. For instance, redundant sensors should be provided in the following locations:
 - a. The vicinity of quencher A and the place by which combined loads from multiple SRV's actuation will be determined.
 - b. SRV line between elevation 51.612 and 45.770. In addition, level probes should be added between L1 and L12.



6. Submerged structure loads have been identified as a primary design load for the Mark II containment. We believe that the analytical program indicated in the Mark II owner group meeting which was held on February 16 and 17, 1977, is insufficient to support the design loads for submerged structure without experimental data. Therefore, we recommend that additional pressure sensors should be installed on support columns and downcomers to measure the drag load during SRV operation.

7. Provide the locations for pressure sensors Nos. 19, 23, 35, 36 and 37.



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