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

JUN 12 1975

Mr. Ivan Stuart, Manager
Safety and Licensing
Nuclear Energy Division
General Electric Company
175 Curtner Avenue
San Jose, California 95114

Dear Mr. Stuart:

As you know, members of the NRC staff met recently with your representatives on May 20 and 21, 1975 in San Jose to discuss various matters related to General Electric Company's (GE) (pressure suppression containment) designs. One of the principal items of discussion was GE's recommendations for the treatment of pool dynamic loads for the Mark III containment and the supporting experimental data base. Based upon our understanding of the information discussed at this meeting, we are providing for your consideration the following recommendations:

1. Pool Swell Loads

In our previous meeting in San Jose on February 12 and 13, 1975 your staff had indicated that they were using a correlation of water ligament thickness/velocity based on experimental data to establish pool swell loads as a function of elevation above the pool. At that time, and in our follow-up letter of March 26, 1975 (R. Tedesco to I. Stuart), we had requested that you provide technical justification for this approach. We have subsequently received a draft of NEDE-13407P Mark III Confirmatory Test Program, One Third Scale Three Vent Tests (Test Series 5801 through 5804), which contains results and evaluations of the first 29 one-third scale tests. In addition, your staff provided further amplification at the May 20-21 meeting from which we understand that applicability of one-third scale data to full-scale plant evaluation is predicated on prior knowledge of pool motion as a function of time. This information is derived from the full-scale air test series performed in February 1974 using an analytical correlation to model the water slug velocity to test data.

In order to support this approach, we believe that further confirmation of your approach for pool swell loads is required which would include the performance of additional one-third scale tests. These tests should include air blowdowns to confirm the response of the pool over the range of 0-15 feet elevation for representative submergences and steam blowdowns to augment existing data on water slug breakup and solid water/froth transition loads. The intent of these tests will be to



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verify your proposed loading profiles for small components; i.e., piping and valves. The specifics of these tests should be developed and resolved with us in the near future and the scheduling of these tests should be consistent with current licensing schedules. Our current position is predicated on receiving adequate justification that one-third scale test results are applicable to actual plant response. This information was originally requested in our letter of October 7, 1974 (V. Moore to I. Stuart).

2. Partially Immersed Structures

Your staff indicated that an air bubble load of 22 psi was being specified for structures partially immersed in the suppression pool (i.e., the TIP station). This is a change from your previous recommendation that these structures be designed for drag loads only. As indicated in our March 26, 1975 letter (R. Tedesco to I. Stuart), we believe that these structures could be subject to both air bubble and drag loads. We further believe that there is sufficient uncertainty in quantification of the loads that would warrant testing of this structural configuration in the one-third scale facility.

3. Steam Tunnel

It is our understanding that the Main Steam Pipe Tunnel is typically located about 15 feet above the pool surface. We also understand that you are considering relocation of the tunnel consistent with your general recommendation that substantial structures not be located at elevations less than about 20 feet above the pool surface. We consider the present location of the steam tunnel to be a significant concern due to the lack of applicable experimental data. We require that you provide us with your plan for resolution of this issue.

4. Relief Valve Loads

Your staff summarized the status of the small-scale model verification tests that were done in San Jose and the steam quencher tests being performed at Moss Landing. Based on the preliminary indications of the model verification tests, and pending our review of complete test reports and analytical model descriptions, we believe that your approach for determining vent clearing loads is acceptable. To provide final confirmation of these loads we will also require in-plant testing of relief valves during startup testing of individual Mark III plants. In regard to the steam quencher tests, we request to be kept informed of the progress and results of these tests. If a quencher design is found which substantially reduces the vent

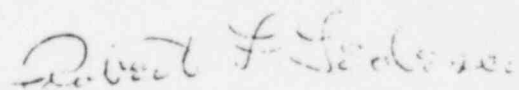
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clearing loads due to relief valve operation, we believe that the modified discharge should be incorporated in each Mark III plant to provide for additional margin in the containment design.

Due to the potential significance of our above comments to the Mark III containment design and the pending licensing actions on a number of Mark III plants we request that you provide your response to this letter within seven (7) days. We are available to discuss any of the foregoing items with your representatives.



Robert L. Tedesco, Assistant Director
for Containment Safety
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