

Hancock
on 4/14/75

GENERAL ELECTRIC
GENERAL ELECTRIC COMPANY
NUCLEAR ENERGY DIVISION
175 CURTNER AVENUE
SAN JOSE, CALIFORNIA 95125

E. G. Case
4/15/75
13
eggc

A. PHILIP BRAY
GENERAL MANAGER
BWR PROJECTS DEPARTMENT

April 15, 1975



Mr. Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Case:

You have requested that General Electric further document its communications to your Staff on the subject of water movement effects due to drywell main vent air clearing actions. Because General Electric does not have information reasonably indicating that there are defects in pressure suppression containments that could create a substantial safety hazard and because the existence of concern in this area was communicated to the Staff last year, we do not believe that it is appropriate for General Electric to treat this matter under the proposed 10CFR21. The attached table shows a history of General Electric's continuing activities and communications with the AEC Staff, now the NRC Staff, on this matter.

As you know, General Electric undertook an extensive full scale testing program of the Mark III Containment when it introduced this concept in 1972. As your Staff and the ACRS are aware, those full scale tests, conducted in 1973, 1974 and continuing even now, confirmed the performance of the concept. However, while the tests confirmed the overall pressure response of the drywell, certain other considerations such as water movement effects induced by the main vent air clearing actions were diagnosed and then taken into consideration in the detailed design of the Mark III Containment. It is our assessment that consideration of these phenomena is straightforward and these phenomena lend themselves to conventional design solution. This has already been done in a timely manner in the licensing process on the projects employing a Mark III Containment.

Of course, as we discussed with your Staff in April 1974, the water motion consideration diagnosed on Mark III would also be a consideration for other pressure suppression containments. Early this year, in an effort to assist our Mark II customers, we provided very conservative upper bound loading input information on this water motion consideration. The information provided was extrapolated from the only source available, the data obtained from Mark III testing. This information should have allowed our customers to ascertain applicability of this phenomenon to their containment design. Some of these applicants have performed a preliminary evaluation and assessed that their containments are adequate to, in total or in part, accommodate

Rec'd Off. of Dir.
of Nuclear Reactor
Regulation
4/16/75

8604010125 860114
PDR FOIA
FIREST085-665 PDR

4281

D-15


April 15, 1975

even this very conservative representation of this effect. A few may consider certain design modifications at some point in their construction schedule if further analysis indicates that conservative upper bound input should continue to be used, and we understand some have so notified the Commission.

With respect to Mark I Containment plants, many of which are now in operation, your Staff is aware that the Mark I Containment design configuration was tested full scale in the Humbolt Bay and Bodega Bay tests. The results of these tests verified the adequacy of the primary containment boundary. General Electric has performed a preliminary generic evaluation for a typical internal structures arrangement in the Mark I Containment torus which we discussed with your Staff on April 10, 1975 as noted in the attached. The conclusions drawn from the applicable test results and this generic evaluation are that the integrity and safety performance of the Mark I Containment are maintained under normal transient and accident conditions. We informed you that General Electric will bring to the attention of Mark I Containment licensees our conclusions regarding this phenomenon as it relates to the Mark I configuration at a meeting planned in San Jose, California on April 23-24, 1975.

I trust that this letter and attachment clearly show the continued documentation and flow of information on this water motion phenomenon between GE and the Staff over the past year or more. If I can be of further assistance on this matter, please let me know.

Sincerely,


A. Philip Bray

/lm1

cc: D. F. Knuth

att.

GE-NRC COMMUNICATION - CONTAINMENT PHENOMENA

LOCA SUPPRESSION POOL DYNAMICS - WATER MOVEMENT DUE TO MAIN VENT AIR CLEARING

- START PSTF TESTING (VERIFY MARK III MODEL) -11/73
- REORIENTED PSTF TEST TO BOUND IMPACT LOADS ON STRUCTURES ABOVE POOL WITH AEC CONCURRENCE (MEETING IN BETHESDA) -2/74
- REPORTED TYPICAL NEW LOADS TO NRC VERBALLY DURING PROGRESS MEETING (MEETING IN SAN JOSE) -4/74
- NRC NOTIFIED OF APPLICABILITY TO MARK I & II CONTAINMENT (MEETING IN SAN JOSE) -4/74
- MARK III LOAD CRITERIA CHANGES IN GESSAR (AMENDMENT #13) -5/74
- MARK III CONFIGURATION CHANGES IN GESSAR (AMENDMENT #16) -7/74
- NRC REPORT ON NEED FOR ADDITIONAL PSTF DATA TO JUSTIFY UPPER BOUND IMPACT LOADS (V. MOORE LETTER TO GE) -10/74
- START 1/3 SCALE TESTS TO CONFIRM UPPER BOUND -12/74
- NOTIFICATION TO NRC OF MEETING TO DISCUSS CURRENT STATUS ON MARK I AND II CONTAINMENT (A. P. BRAY LETTER TO NRC) -4/8/75
- NRC MEETING WITH GE ON STATUS (MEETING IN BETHESDA) -4/10/75

4/15/75