GENERAL ELECTRIC

NUCLEAR POWER SYSTEMS DIVISION
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July 11, 1984

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Attention: Mr. D.G. Eisenhut, Director
Division of Licensing

Gentlemen:

SUBJECT: IN THE MATTER OF 238 NUCLEAR ISLAND GENERAL ELECTRIC STANDARD SAFETY ANALYSIS REPORT (GESSAR II)
DOCKET NO. STN 50-447

APPENDIX 15D.3 - ADDITIONAL CONTAINMENT STRUCTURAL ANALYSES

On June 26 and 27, 1984, representatives of the NRC and their subcontractor, Brookhaven National Laboratory (BNL) met with General Electric personnel and discussed GE's containment structural evaluation included in the GESSAR II Probabilistic Risk Assessment (PRA). At that meeting, the NRC indicated they would require confirmatory analyses from GE to further support the conclusions reached in Appendix G to the PRA on containment failure mode and pressure. Furthermore, some potential concerns have been raised by BNL reviewers as a result of their partial analysis of the Mark III drywell. Since the BNL evaluations were curtailed with the analysis of the drywell roof slab, the reviewers' questions on structural capability of various junctions in the drywell structure remain open. Consequently, GE is being required by the Staff to perform the analyses which BNL originally planned as part of their review scope.

The attachment provides GE's analysis plan. It is divided into immediate actions which will be completed by the end of this month and longer term confirmatory analyses which include a reevaluation similar in scope to that included in Appendix G of the GESSAR PRA, with the consideration of the modified containment head design committed in response to the CP/ML rule.

If there are any questions on the information provided herein, please contact me or Kevin Holtzclaw (408) 925-2506.

Very truly yours,

W. H. D'Arcy for J. F. Quirk

Joseph F. Quirk, Manager
BWR Systems Licensing

Attachment

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cc: F.J. Miraglia (NRC)
D.C. Scaletti (NRC)
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CONTAINMENT STRUCTURAL ANALYSES

A. IMMEDIATE ACTIONS

1. GE will document that the CP/ML rule requirements pertaining to the capability of the containment (i.e., 45 psi pressure and dead load for service level C condition) are fulfilled. This includes consideration of thermal effects.

2. GE will review the appropriate I&E Bulletin and other pertinent information to determine the failure susceptibility of the containment anchorage system, and as needed will consult with the Staff on GE calculational results.

3. GE will perform additional analyses for drywell sections located at: (a) the junction of the composite steel section and the basemat, (b) the junction between the drywell wall and the roof slab and, (c) the junction between the composite steel section and the concrete drywell wall section. The results will be compared against those at the concrete membrane section and the upper pool slab and the implications will be assessed.

B. CONFIRMATORY ACTIONS

1. GE will reconsider the Appendix G PRA Structural Evaluation accounting for the modified containment head design committed to meet CP/ML rule requirements. GE will consider a range of pressures up to an upper bound to be agreed upon with the Staff. These evaluations will include consideration of the potential for failure modes occurring at locations other than the knuckle region.

2. GE will address the implications of hydrogen detonation inside the drywell should it be agreed to between the Staff and GE that ignition of hydrogen within the drywell is a consideration.

C. SCHEDULE

- Items A.1-A.3 will be completed by July 27, 1984. A meeting will be scheduled between the Staff and GE to discuss the results and conclusions of the GE analyses. The documentation requirements will be agreed upon at that meeting.

- Items B.1 and B.2 will be targeted for completion by the end of 1984. The analysis procedure and schedule will be discussed at the meeting mentioned above.