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Dalwyn R. Davidson
VICE PRESIDENT
SYSTEM ENGINEERING AND CONSTRUCTION

July 30, 1981

Mr. Harold Denton, Director
U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

Re: Method of Combining Dynamic Responses
for Mark III Piping and Equipment

Dear Mr. Denton:

On April 14, 1981 several Mark III utilities and General Electric met with members of the NRC staff to discuss the subject program to justify the use of square-root-of-the-sum-of-the-squares (SRSS) method for combining dynamic responses of piping and equipment. This Mark III SRSS program is consistent with the NRC position on the use of SRSS as specified in Revision 1 of NUREG-0484, "Methodology for Combining Dynamic Responses" and is also very similar to the Mark II SRSS program which has been accepted by the NRC.

The Mark III SRSS program consists of calculating piping and equipment responses at numerous plant locations for several types of Mark III containment structural designs (i.e. free standing steel, concrete and concrete backed steel) and for several dynamic loads. Using these responses, cumulative distribution functions will be calculated for several load combinations and the acceptability of SRSS will be evaluated using the NRC criteria specified in Revision 1 of NUREG-0484. This comprehensive approach, together with the already approved use of SRSS specified in Revision 1 of NUREG-0484, is expected to demonstrate that the use of SRSS for combining dynamic LOCA, safety relief valve and earthquake responses is acceptable for all Mark III piping and equipment locations.

At the April 14 meeting, the NRC staff indicated that the program outlined by the Mark III utilities appeared to be an acceptable approach assuming the results of the program are positive. Since timely NRC acceptance of the SRSS method of combining Mark III piping and equipment responses is needed, it is essential that appropriate NRC resources be provided to review the results of this effort. Initial information to start NRC staff review is planned to be available in October 1981 with a final report to be submitted to the NRC in November 1981. This letter is being provided to request that NRC management provide appropriate NRC resources to promptly review this Mark III SRSS report and related material with completion targeted for December 1981.

Please advise me of your conclusions regarding NRC review of this item.

Very truly yours,

Dalwyn R. Davidson

Dalwyn R. Davidson, Vice President
System Engineering and Construction

DRD:dlp

cc: G. Charnoff, Esq., S. N. Hou (NRC), R. F. Bosnak (NRC)

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