

Georgia Power Company
230 Peachtree Street
Post Office Box 4545
Atlanta, Georgia 30303
Telephone 404 522-6060

USNRC REGION I
ATLANTA, GEORGIA

TERA



Georgia Power

the southern electric system

Power Supply Engineering and Services

10 MAY 24 4 9:14

May 24, 1979

United States Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II - Suite 3100
101 Marietta Street
Atlanta, GA 30303

TERA

REFERENCE:
RII: JEO
50-424
50-425

Attn: Mr. James P. O'Reilly

Gentlemen:

The following is submitted in response to your letter dated April 14, 1979, concerning I.E. Bulletin 79-07.

The computer code in use by the Los Angeles Power Division of Bechtel Power Corporation in the seismic stress analysis of safety-related piping for the Vogtle Nuclear Generating Station, Units 1 and 2, is LEAP - "LEAP" (Linear Elastic Analysis of Pipe).

The following numbered responses correspond to the numbered action items contained in Bulletin 79-07.

1. None of the methods specified are used in the LEAP computer code for the seismic analysis of safety-related piping.
2. Not applicable.
3. The LEAP computer code is verified by computer code ME 632, TPIPE and SUPERPIPE.
4. Not applicable.

The above information applies to seismic analysis performed by Bechtel Power Corporation for safety related piping.

The following information applies to the seismic analysis performed by Westinghouse for safety related piping.

Westinghouse scope for Vogtle includes the dynamic analysis of the Reactor Coolant Loop and Class 1 auxiliary piping. The Reactor Coolant Loop will be analyzed by Westinghouse using a direct integration, three-dimensional, non-linear, time history technique using three statistically independent components of earthquake motion acting simultaneously. This

7907100173

316 332

790065

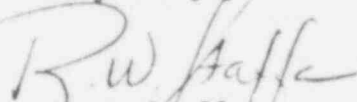
United States Nuclear Regulatory Commission
May 24, 1979
Page Two

analysis will not employ earthquake directional motions which are statistically dependent. The computer code which will be utilized by Westinghouse is WECAN. The Class 1 auxiliary piping will be analyzed using response spectrum modal analysis. Two perpendicular horizontal and one vertical earthquake components will be combined simultaneously with the intramodal responses combined, using square-root-sum-of-the-squares (SRSS). The intermodal response will then be calculated using SRSS summation of the individual modes. In no instance will an algebraic technique be used to combine the responses. The computer code utilized by Westinghouse is WESTDYN.

Both computer codes, WECAN and WESTDYN, are documented in WCAP-8252, Revision 1, "Documentation of Selected Westinghouse Structural Analysis Computer Codes," May 1977. Comparisons of the computer codes with benchmark problems are also contained in the subject topical report.

Westinghouse does not employ algebraic summation techniques for response spectrum modal analysis, and Westinghouse time history analysis techniques do not employ earthquake directional motions which are statistically dependent. Therefore, no computer listings are necessary for transmittal to the NRC.

Very truly yours,



R. W. Staffa
Manager Quality Assurance

CWH:aaw

xc: U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Division of Reactor Operations Inspection
Washington, D.C. 20555

Mr. M. D. Hunt
NRC, Region II

316 333