

VERMONT YANKEE NUCLEAR POWER CORPORATION

SEVENTY SEVEN GROVE STREET

RUTLAND, VERMONT 05701

B4.2.1

REPLY TO:
ENGINEERING OFFICE
TURNPIKE ROAD

WESTBORO, MASSACHUSETTS 01581

TELEPHONE 517-256-1000

April 27, 1979

WVY 79-50

United States Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

Attention: Inspection and Enforcement Office
Boyce H. Grier, Director

- References: (a) License No. DPR-28 (Docket No. 59-271)
(b) USNRC Letter to VYNPC dated April 14, 1979;
IE Bulletin 79-07
(c) VYNPC Letter to USAEC dated May 27, 1971

Dear Sir:

Subject: Seismic Stress Analysis of Safety Related Piping

In response to your letter, Reference (b), we submit the following information relative to the seismic analyses employed in the design of the Vermont Yankee Nuclear Power Station.

Item 1, Response:

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Ebasco Services, Inc., the Architect Engineer for Vermont Yankee, has notified us that all the Vermont Yankee safety related piping they analyzed utilized a static analysis independent of the Stone & Webster techniques in question. However, a statement in Reference (c) alludes to a dynamic analyses being conducted in cases where the static stress evaluation criteria was not met. Ebasco personnel have been contacted and are presently investigating if a dynamic analysis was used, and if so, on what systems.

The piping systems seismically analyzed by General Electric were actually performed by a subcontractor chosen by GE. General Electric has informed us that none of the methods specified in Item I were employed or used in computer codes for the seismic analyses of the recirculation or steam system piping.

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Item 2, Response:

As noted above, to date, no codes have been identified which employed the techniques delineated in Item 1 of the bulletin. Therefore, no computer program listings for the dynamic response analysis portions of the codes will be submitted. If Ebasco's continued review identifies any subject techniques, the program listings of each will be forwarded to you.

Item 3, Response:

Ebasco Services, Inc., and General Electric Company and their subcontractor are presently reviewing information relative to checking, benchmarking and comparison techniques used to verify the computer programs used in the original design analysis. The results of this review will be forwarded to you as soon as it becomes available.

Item 4, Response:

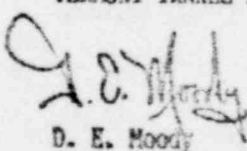
To date, we have not identified any of the methods listed in Item 1 as having been employed in Seismic Category I analyses performed for the Vermont Yankee piping systems. Thus, we have determined it to be inappropriate to re-evaluate these piping systems. If we subsequently identify any methods relative to those listed in Item 1, we will submit a plan of action and schedule for re-evaluation.

All piping systems modifications and additions completed since Vermont Yankee startup were analyzed by the Yankee Nuclear Service Division or under the supervision of Yankee. The analyses used in these modifications were equivalent static seismic analyses using either ANSYS, or PIPE SD computer programs. These programs are standard, proven programs which have been benchmarked and/or verified for general industry use.

As mentioned above, outstanding information requested by NRC will be forwarded to you as soon as it is received. If you require additional information on this subject, please contact us at your convenience.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION


D. E. Moody
Manager of Operations

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RJW/dnp