



THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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Dalwyn R. Davidson

VICE PRESIDENT
SYSTEM ENGINEERING AND CONSTRUCTION

May 20, 1982

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Schwencer:

Perry Nuclear Power Plant
Docket Nos. 50-440; 50-441
Revised Responses -
Draft SER for
Structural Engineering Branch

This letter and its attachment are submitted to provide revised responses to the concerns identified in the Draft SER for the Structural Engineering Branch.

It is our intention to incorporate these responses in a subsequent amendment to our Final Safety Analysis Report.

Very truly yours,

Dalwyn R. Davidson
Vice-President
System Engineering and Construction

DRD:bas

cc: Messrs. Jay Silbert
John Stefano
Max Gildner

Boo!
1/1

8205260246E

Response to NRC Question 35

Since the Intermediate/Fuel Handling Building is a flat and massive structure, the coupling between horizontal and vertical responses is minimal. Consequently, the response spectra scaling method is justified. To confirm the above, the comparison of scaling method and SRSS is as shown in the attached figures. They are very close to each other and all within design spectra by a large margin except a few small isolated areas.

Most equipment experiences multiple modal responses. Since the design spectra exceeds the SRSS spectra by a large margin except for one small isolated area the total seismic response due to multiple modes subjected to the design spectra will be much higher than when the multiple modes are subjected to SRSS spectra.

Additionally, seismic load is only a part of the loading combination used in design. After taking into account the effect due to dead load and operating loads, the difference, if any, due to the difference in input spectra will be too small to be of any engineering significance.

In conclusion, the existing design spectra are still considered adequate for seismic qualification. The close agreement of the response spectra considering the different methods of combining the 3 earthquake input directions indicates a valid approach. The two instances of localized small experience are not considered to have any practical design impact.

May 20, 1982

PERRY NUCLEAR POWER PLANT
FHB/IB FLOOR RESPONSE SPECTRA
ELEV 707'6" SSE .01 DAMPING
JT NO 80 (XT) NORTH-SOUTH

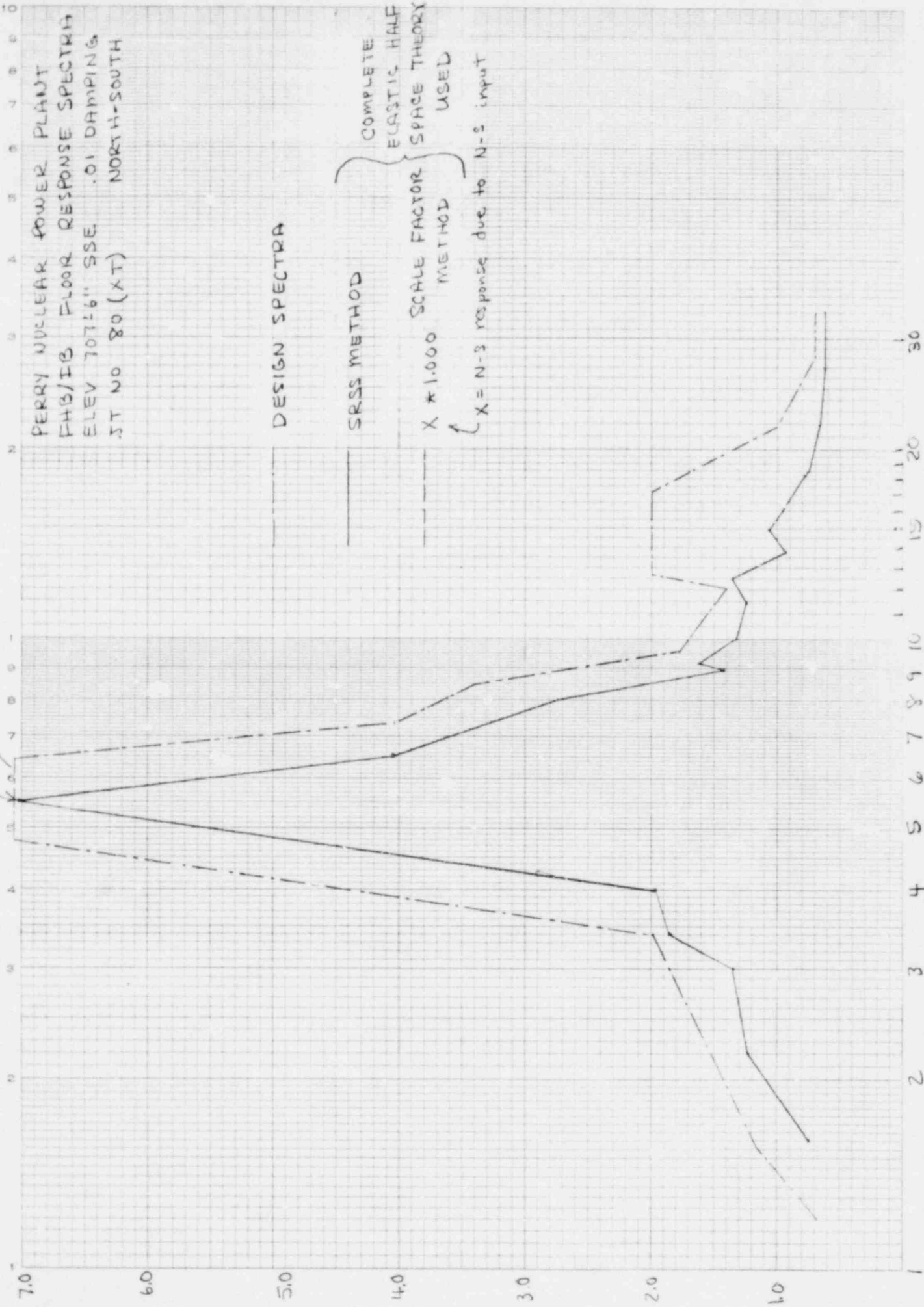
DESIGN SPECTRA

SRSS METHOD

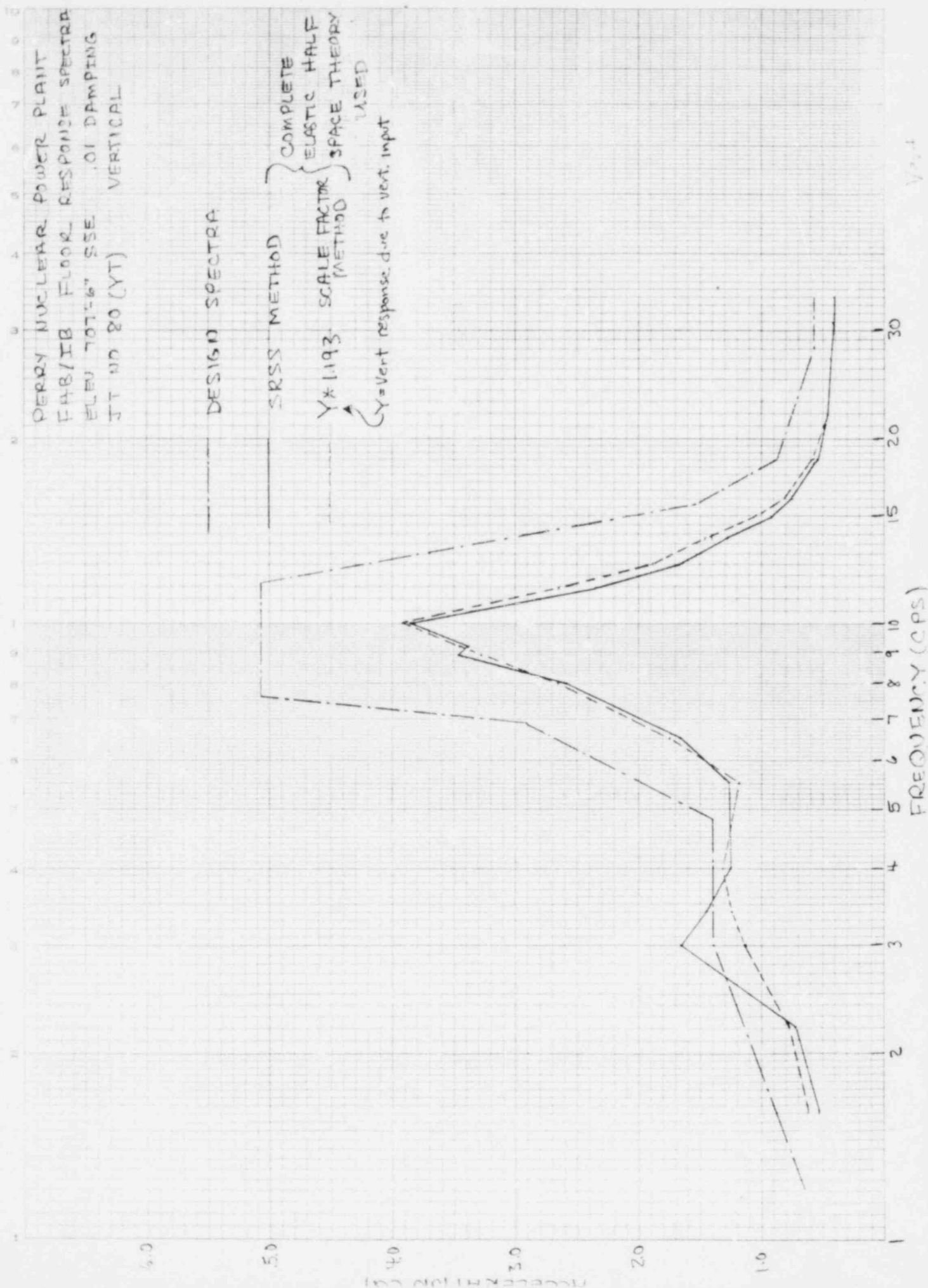
COMPLETE
ELASTIC HALF
SPACE THEORY
USED
SCALE FACTOR
METHOD
 $X \approx 1.000$

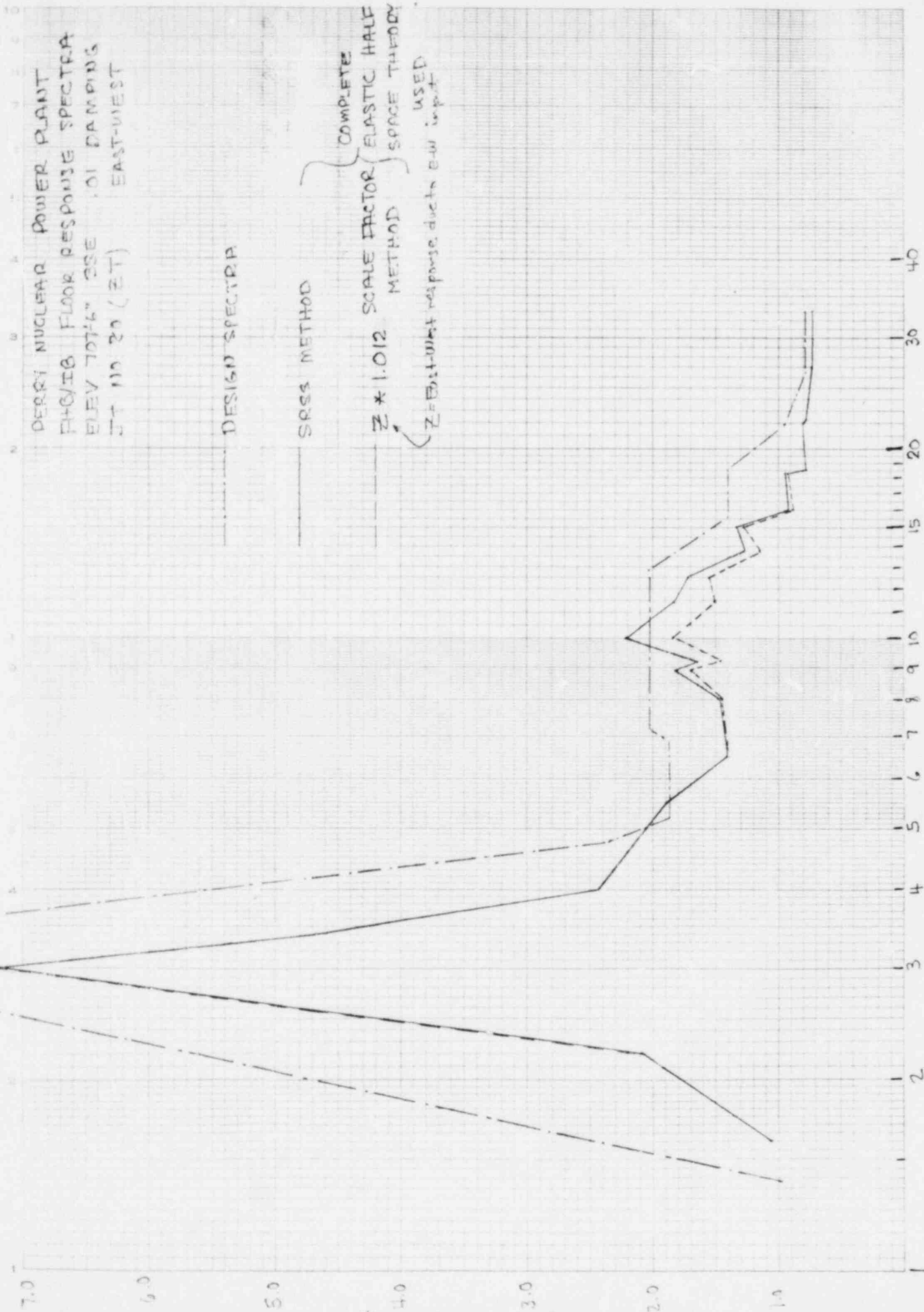
$X = N-3$ response due to N-3 input

8.30 (NTS)
8.4 (NTS)



FREQUENCY (CPS)





DERRY NUCLEAR POWER PLANT
 FIVE/FB FLOOR RESPONSE SPECTRA
 ELEV 707'6" SSE 01 DAMPING
 IT 110 20 (ET) EAST-WEST