



GULF STATES UTILITIES COMPANY

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July 15, 1985
RBG-21,546
File No. G9.5, G9.8.6.2

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

Dear Mr. Denton:

River Bend Station - Unit 1
Docket No. 50-458

Enclosed for your review is additional information to clarify Gulf States Utilities Company's (GSU) position regarding a Request for Additional Information (dated November 14, 1983) identified by the Nuclear Regulatory Commission, Structural and Geotechnical Engineering Branch (SGEB). This letter supplements information contained in a letter from Booker to Denton dated October 8, 1984 (RBG-19,194) and provides a basis for not performing additional analysis relating to the subject of in-plant SRV testing.

Sincerely,

J. E. Booker
Manager-Engineering,
Nuclear Fuel & Licensing
River Bend Nuclear Group

JEB/LAE

Enclosure

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PDR ADOCK 05000458
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Booker
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ENCLOSURE

July 15, 1985
RBG- 21,546

In conversations with the Structural and Geotechnical Engineering Branch, a concern was identified that the differences between the soil shear wave velocities at Perry (4900 fps) and River Bend (960 fps) would cause differences in the response of the structures due to soil-structure interaction. For these reasons River Bend should perform an analysis like the analysis performed by Perry.

The analysis performed by Perry (Ref. 1) consisted of applying an observed pressure trace from the Kuosheng in-plant SRV tests to the analytical model of the Perry containment structure. Figures 1-3, which are extracted from Ref. 1, compare the calculated responses from this analysis with the response measured during the Kuosheng tests. It is not necessary to repeat this analysis for River Bend for the following reasons:

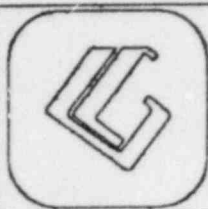
- 1) Examination of Figures 1-3 show negligible responses below 20 Hz. This indicates that the Kuosheng observed pressure trace does not excite lower modes of vibration of the Perry analytical model, nor of the actual Kuosheng structure.
- 2) The River Bend containment structure is very similar to the Perry containment structure. The only significant difference between Perry and River Bend containment is the magnitude of soil shear modulus, River Bend having lower shear modulus than Perry's. For both River Bend and Perry, the modes associated with soil-structure interaction effects would be lower than 20 Hz. The primary frequencies for Perry are 3.9 Hz (horizontal) and 11.7 Hz (vertical). The corresponding frequencies for River Bend are 1.6 Hz and 2.9 Hz. As expected, these modes have lower frequencies for River Bend due to the lower soil shear modulus. It is expected that the Kuosheng pressure trace would not excite the River Bend structure in the lower frequency range, as explained in 1. above.
- 3) The River Bend design response spectra (Figure 4), which is extracted from Reference 2, does have significant response in the lower frequencies. This indicates that the River Bend design SRV load, described in GESSAR, has more energy in the lower frequency range and is therefore more conservative in this area than the Kuosheng traces.
- 4) At higher frequencies, where soil-structure interaction effects are not significant, the River Bend responses to the Kuosheng pressure trace would be similar to those calculated for Perry, since the containment structures are similar. These responses have been found to be acceptable based on the comparison with the Kuosheng measured responses as shown in Figures 1-3.

July 15, 1985
RBG- 21,546

Therefore, It is concluded that the results of the Perry Analysis are applicable to River Bend, and it is not necessary to perform the same study for River Bend.

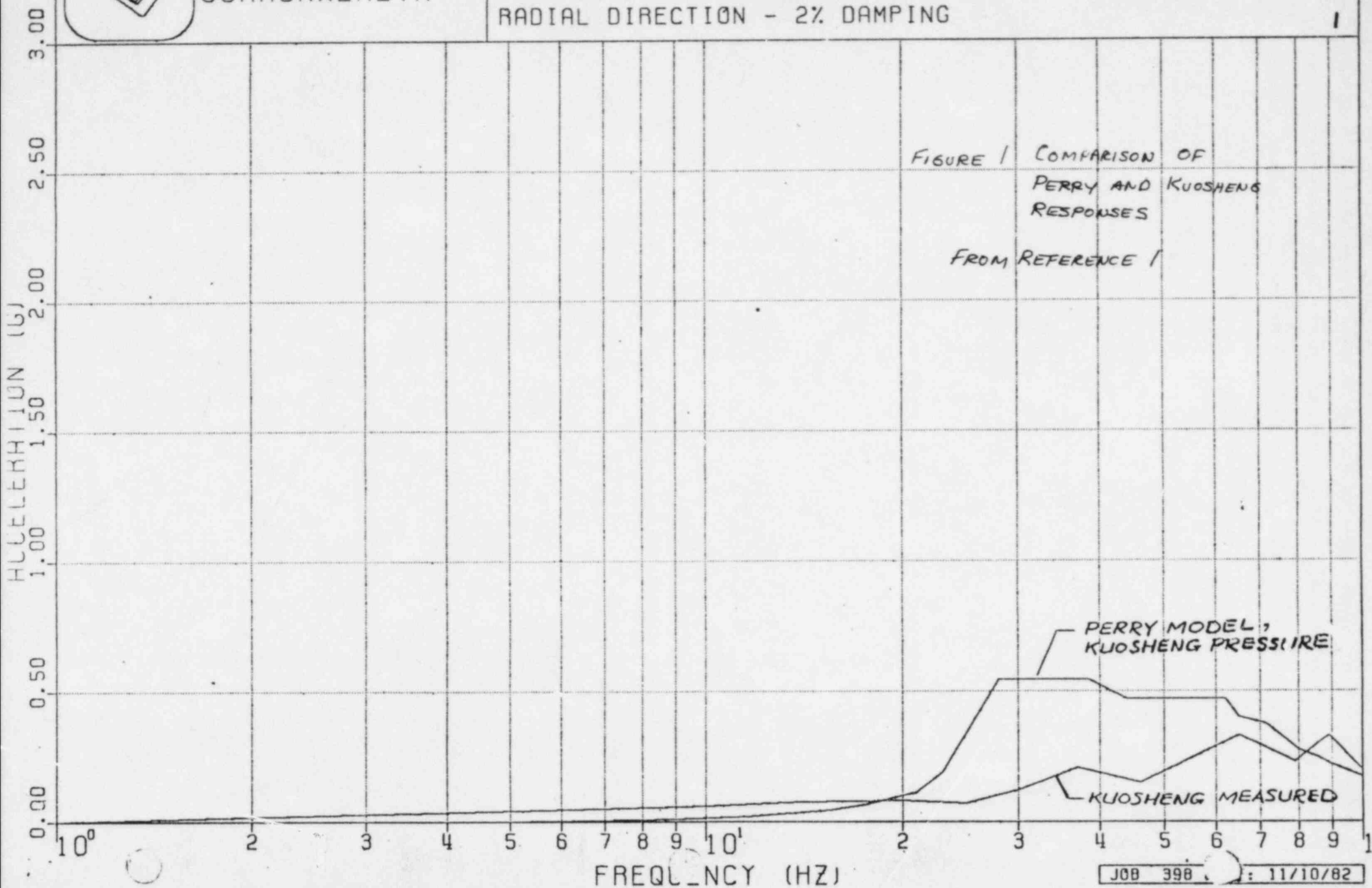
REFERENCES

1. Letters from The Cleveland Electric Illuminating Company to the NRC, dated October 8, 1982 and November 17, 1982, for Perry Nuclear Power Plant, Docket Nos. 50-440 and 50-441.
2. Letter from Gulf States Utilities Company to the NRC, RBG-19,114 dated October 8, 1984, for River Bend Station, Docket No. 50-458.



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CLEVELAND ELECTRIC ILLUM. - PERRY NUCLEAR POWER PLANT
FLOOR RESPONSE SPECTRA
NODE 219 VS ACCELEROMETER 46
RADIAL DIRECTION - 2% DAMPING

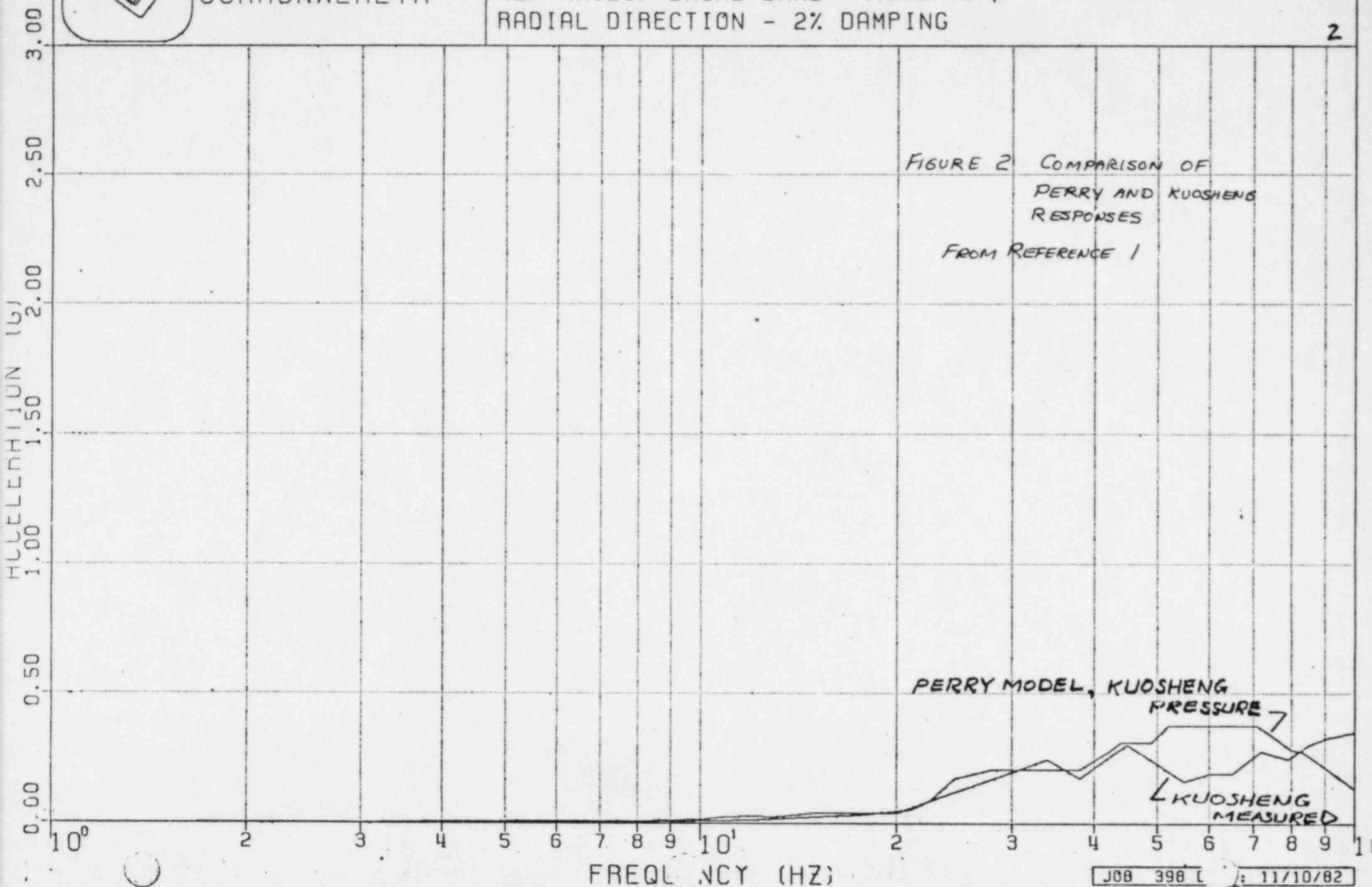


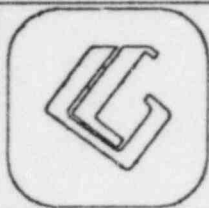


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COMMONWEALTH

CLEVELAND ELECTRIC ILLUM. - PERRY NUCLEAR POWER PLANT
FLOOR RESPONSE SPECTRA
(E) (A126) BROAD BAND Node 154
RADIAL DIRECTION - 2% DAMPING

2

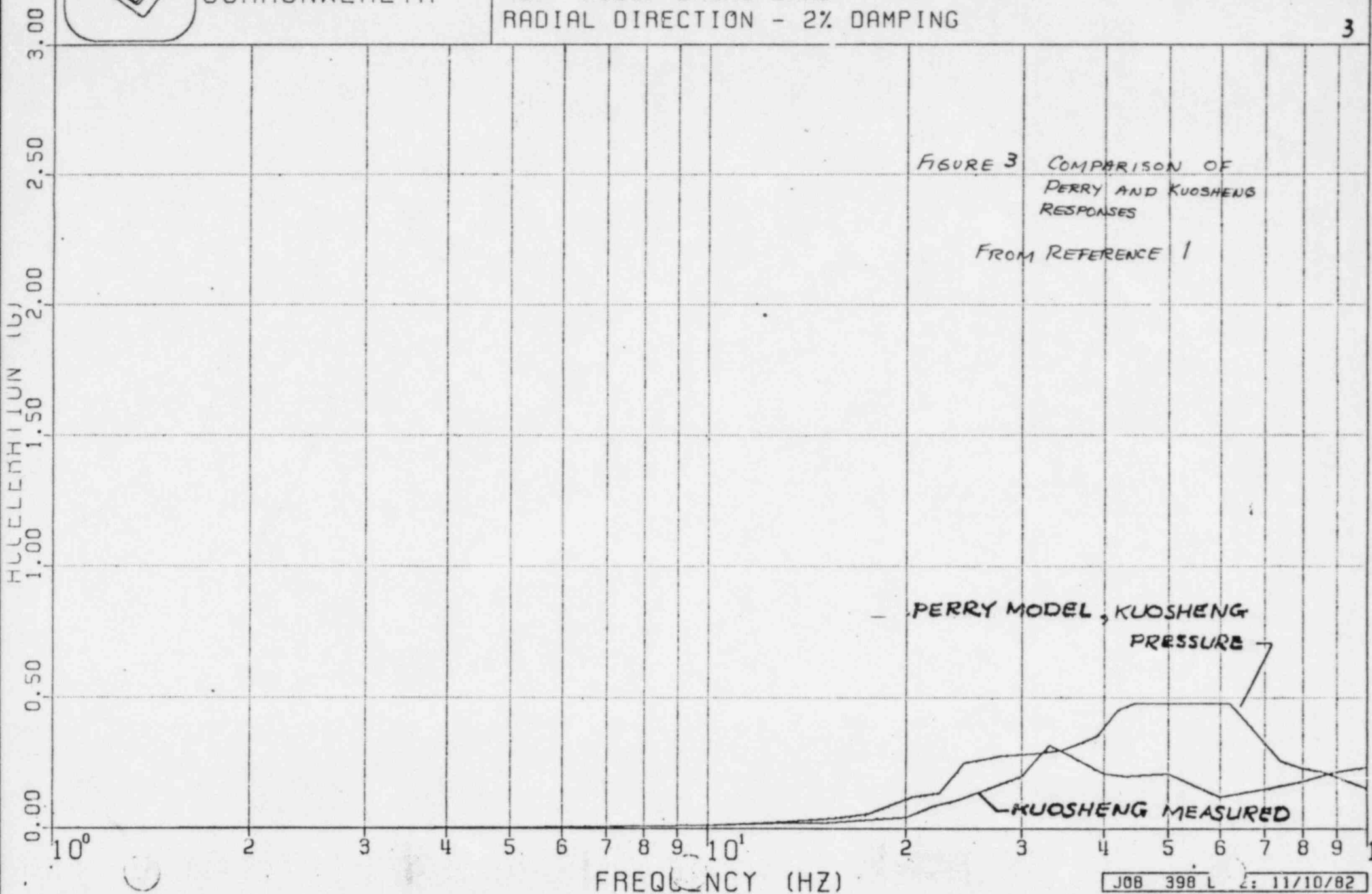




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CLEVELAND ELECTRIC ILLUM. - PERRY NUCLEAR POWER PLANT
FLOOR RESPONSE SPECTRA
(E) (A128) BROAD BAND No. 269
RADIAL DIRECTION - 2% DAMPING

3



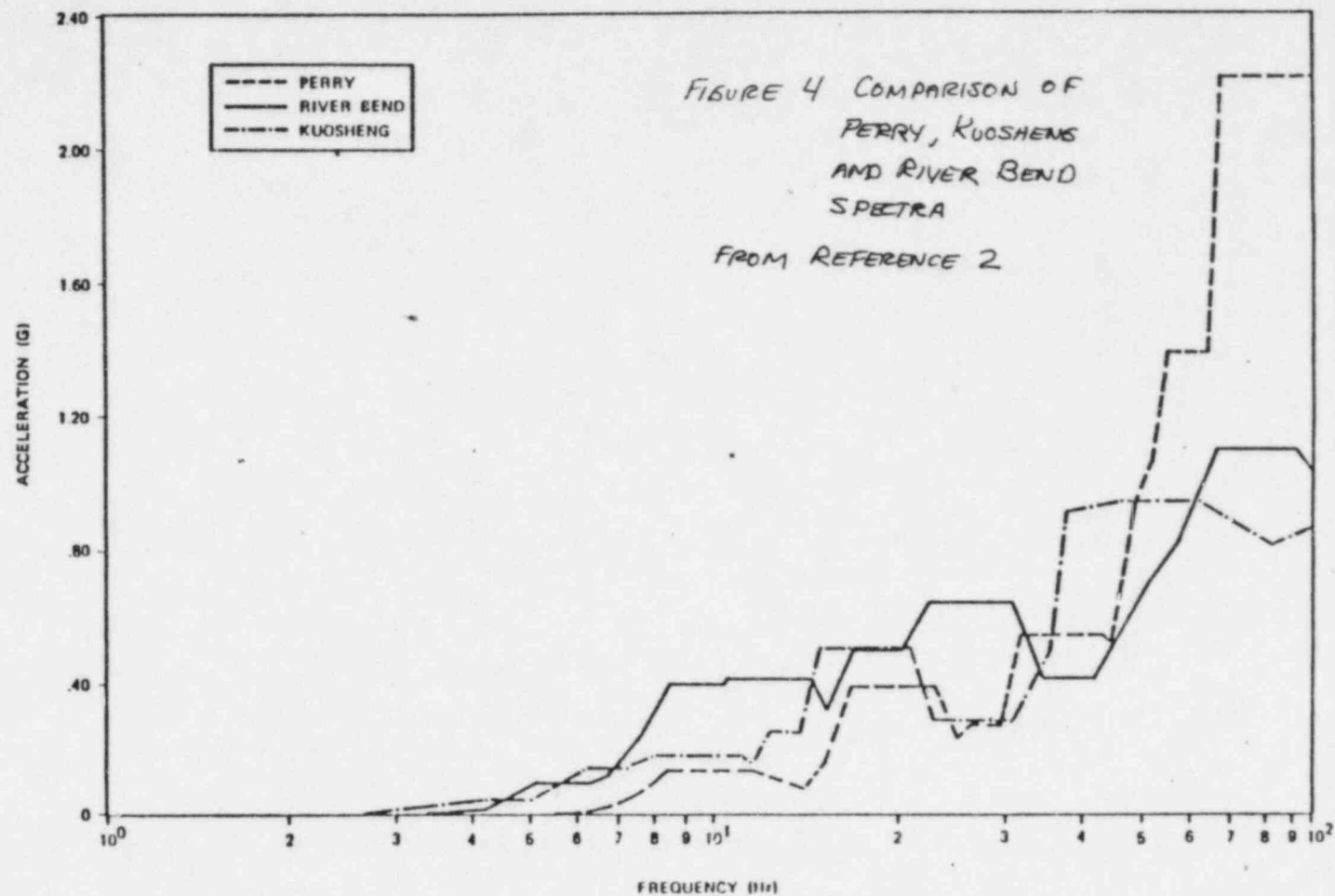


Figure 2-14
DESIGN RESPONSE SPECTRA COMPARISON - SRV + SRVCO
CONTAINMENT ELEVATION 80'-0" - RADIAL