

Public Service Electric and Gas Company 80 Park Place Newark, N.J. 07101 Phone 201/430-7000

February 6, 1979

Director of Nuclear Reactor Regulation U. S. Nuclear Regulatory Commission Washington, D. C. 20555

Attention: Mr. Olan D. Parr, Chief Light Water Reactors Branch 3 Division of Project Management

Gentlemen:

RESPONSE TO REQUESTS FOR ADDITIONAL INFORMATION No. 2 UNIT SALEM NUCLEAR GENERATING STATION DOCKET NO. 50-311

Public Service Electric and Gas Company hereby transmits sixty (60) copies for your request for further clarification related to the response to NRC Question 5.94. The information contained herein will be incorporated into the Salem FSAR in an amendment to our application.

Should you have any questions, please do not hesitate to contact us.

Very truly yours,

R. L. Mittl General Manager -Licensing and Environment Engineering and Construction

Enclosure

REGULATORY DOCKET FILE COPY



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The Energy People

## QUESTION 5.94

Compare the response spectra and damping values utilized in your seismic analysis with the related ones identified in Regulatory Guides 1.60 and 1.61 and provide us with the results of your evaluation.

#### ANSWER

The tabulation below provides a comparison of the damping values used in the seismic analysis with those identified in Regulatory Guide 1.61. It can be seen that the damping values used in the Salem analysis are consistently more conservative than the Regulatory Guide recommended values.

<u>Component</u>	Damping Values			
	SSE		OBE	
	Salem	RG 1.61	Salem	RG 1.61
Westinghouse Supplied Equipment and Large Diameter Piping Systems Greater than 12"	1.0	3.0	• 5	2.0
Small Diameter Piping Systems 12" or less	.5	2.0	•5	1.0
Concrete Structures	5.0	7.0	2.0	4.0
Bolted or Rivited Steel	5.0	8.0	2.5	4.0
Welded Steel	3.0	4.0	1.0	2.0

The Salem ground response spectra are generally lower than those normalized from Regulatory Guide 1.60. However, the conservative damping values used in the Salem analyses compensated for the differences. Furthermore, our consultant, Conrad Associates used time history as input for Class I structure

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SNGS-FSAR UNITS 1 & 2 seismic analyses. The response normalized to EL Centro 1940 N-S components, as shown in FSAR Figures 5.2-28 and 5.2-29 are considerably higher than the Salem ground response spectra.

In the seismic analysis of mechanical equipment (Westinghouse supplied) and catagory I structures the method of combining responses is to add absolutely the results of the vertical and the worst of the two horizontal earthquake components.

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