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OCT 30 1979

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MEMORANDUM FOR: A. Schwencer, Chief, Operating Reactors Branch #1
Division of Operating Reactors

FROM: V. Noonan, Chief, Engineering Branch
Division of Operating Reactors

SUBJECT: OPERATING BASIS EARTHQUAKE REANALYSIS OF PIPING
SYSTEMS, SURRY POWER STATION UNITS 1 AND 2
(TAC NOS. 11542, 11543)

Reference: VEPCO letter (W. C. Spencer) to NRC (D. G. Eisenhut) on the
same subject dated September 13, 1979

Plant Name: Surry Power Station, Units 1 and 2

Licensee: Virginia Electric and Power Company

NSSS Vendor: Westinghouse

Docket Number: 50-280 and 50-281

Operating Reactors Branch and Project Manager: ORB-1, D. Neighbors

Description of Task: Review licensee's response to NRC letter of May 25,
1979 concerning the determination of new OBE level
and the proposed 25 percent "bump factor" for OBE
pipe reanalysis

Review Status: Complete for this subject only

The Engineering Branch has reviewed the Virginia Electric and Power Company's
response, contained in the referenced letter, to the NRC letter of May 25,
1979. Our comments are described as follows:

1. The 25 percent "bump factor" is considered adequate for the OBE reanalysis of piping systems. This is based on reasonable variations in soil properties and figures 1 through 6 contained in the referenced letter.
2. Equation 1 of the referenced letter is considered acceptable provided that the soil damping values used to generate seismic stresses for the new level of OBE (a_n) do not change substantially over those for the original level of OBE (a_0). Since the damping values are a function of soil strain and thus input excitations, an approximate range of variation in the excitation level has to be chosen such

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that the damping values can be considered constant. A 15 percent variation in OBE is judged to be a reasonable range. An increase over this range would probably change the damping values substantially and thus invalidate Equation 1 of the referenced letter. In these cases VEPCO will have to justify that the damping values do not change significantly or other approaches will have to be adopted.

Original signed by:

Vincent S. Noonan, Chief
Engineering Branch
Division of Operating Reactors

- cc: D. Eisenhut
- R. Tedesco
- L. Shao
- W. Gammill
- K. Wichman
- P. T. Kuu
- D. Neighbors
- A. Lee
- A. Hafiz

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