MAY 18 1979

Docket Nos. 50-280
and 50-281

Mr. W. L. Proffitt
Senior Vice President - Power
Virginia Electric and Power Company
Post Office Box 26666
Richmond, Virginia 23261

Dear Mr. Proffitt:

On May 14 and 18, 1979 in conference calls between members of the NRC staff, VEPCO, and Stone and Webster Engineering Corporation, the following information was requested in order for the staff to review the proposed amplified response spectra for the Surry Power Station, Unit Nos. 1 and 2 site using soil structure interaction.

1. Clarification of soil properties used for the two programs REFUND and KINACT, (i.e., what values were used in VEPCO's previous submittals).

2. Floor response spectra [basemat, operating floor and spring-line of the containment (3% and 1/2% damping)] assuming soil modulus at a strain level of 10^{-4}% and soil damping of 5% of critical. In addition, provide the floor response spectra for 1/2% and 3% damping for the elastic half space model for the final iterated soil properties and for the first iteration soil properties. This is a total of 18 response spectra. It is our understanding that some of these spectra have already been calculated.

3. (a) Perform SHAKE analyses to determine soil shear modulus and damping average values (this has been done). Then vary the average modulus ±50% and determine two additional sets of strain dependent soil properties using SHAKE. The inputs should be the Taft and El Centro time histories as per previous analyses. Average modulus and damping values are the arithmetic average of the last iterations as determined by SHAKE using Taft and El Centro time history inputs.

   (b) Use SHAKE to calculate spectra for oscillator dampings of 1/2, 1, and 3 percent at the elevation of the base of the containment in the free field for each of the three sets of soil properties derived in 3(a) using an artificial time history which envelopes the site spectra. This is a total of 9 spectra.

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(c) Using the artificial time history which envelopes the FSAR site spectra and the REFUND/FRIDAY codes, generate floor response spectra (base mat, operating floor and springline of the containment) for each of the three sets of soil properties derived in 3(a) using the FSAR damping values for the structures and oscillator dampings of 1/2 and 3% (12 additional spectra).

4. Provide a copy of the deck of computer cards which gives the time history of ground accelerations which you are using for the Surry Plant.

5. It is requested that all curves be drawn and provided on the same scale.

It is our understanding that this information will be available as a complete package for NRC review by about May 23, 1979. If you have any questions on this subject, please let us know.

Sincerely,

Original Signed By

Victor Stello, Jr., Director
Division of Operating Reactors

cc: See next page NOT RECD, FILES.

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