



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

NRC PDR

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OCT 06 1978  
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D.C.

Docket Nos. 50-404  
and 50-405

Mr. W. L. Proffitt  
Senior Vice President - Power  
Virginia Electric & Power Company  
P. O. Box 26666  
Richmond, Virginia 23261

Dear Mr. Proffitt:

SUBJECT: SETTLEMENT MONITORING OF SEISMIC CATEGORY I STRUCTURES  
AT NORTH ANNA UNITS 3 & 4

As a result of settlement problems associated with the service water intake structure at North Anna Units 1 & 2, we believe that the experience gained during the construction of Units 1 & 2 should be factored into the design and construction of Units 3 & 4. We further believe that a program needs to be developed for monitoring, recording, and interpreting the settlement of seismic Category I structures at Units 3 & 4.

We discussed this matter with members of your staff in a telephone conversation on September 14, 1978. During that telephone conversation, Mr. K. Robinson of your staff stated that as a result of lessons learned during the construction of Units 1 & 2, several design changes and modifications were incorporated into the design of Units 3 & 4. These changes were made to minimize the total amount of settlement, the differential settlement, and their effects.

Your staff informed us, that at the present time, VEPCO has no formal plan established for monitoring the settlement of any seismic Category I structures other than the service water pump house. Mr. Robinson stated that the other seismic Category I structures will be founded on bedrock. Further, we were told that the service water pump house is the only structure for Units 3 & 4 which has a substantial amount of construction completed to date.

We do not agree with the VEPCO plans regarding this matter. It is our position that a program to follow the settlement and differential settlement of seismic Category I structures for Units 3 & 4 be developed. We therefore require that VEPCO develop and submit such a plan, in the next six months, for our review. The program should outline your plans for reading, recording, and interpreting the settlement of all seismic Category I structures. This program will provide a chronology of settlement for each structure as it is loaded during the construction phase thus providing confirmation of the design features and assumptions.

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We anticipate that, as a minimum, your program will provide the information listed in the Enclosure.

Please contact us if you desire any discussion or clarification of the information requested.

Sincerely,

*Olan D. Parr*  
Olan D. Parr, Chief  
Light Water Reactors Branch No. 3  
Division of Project Management

Enclosure:  
As Stated

ccs w/enclosure:  
See next page

Mr. W. L. Proffitt

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ENCLOSURE

SETTLEMENT MONITORING OF SEISMIC CATEGORY I  
STRUCTURES AT NORTH ANNA UNITS 3 & 4

The plan should provide as minimum the information listed below:

1. Identification of key safety items that would be adversely influenced by settlement and differential settlement.
2. The location, placement, and pattern of monuments and benchmarks to be installed.
3. The specific data that will be read and recorded.
4. The periodicity of the readings taken.
5. A schedule for the submission of data to the staff for review.
6. A skeletal plan of settlement technical specifications to be considered for Units 3 & 4.