VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

June 2, 1994

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Serial No. 93-163B
SPS/CGL-MDK R5"
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
EXPANSION JOINT FLOW SHIELDS AND
TURBINE BUILDING SUMP PUMPS

The purpose of this letter is to advise you of the status of three measures previously taken to address aspects of the internal flooding vulnerability at Surry. These three measures are summarized as follows and detailed in the following paragraphs:

- Reduced gap flow shields will continue to be used, based upon expansion joint application and engineering evaluation and contingent upon inspection results and operational experience.

- Flow shields have been installed on the expansion joints in the service water supply line valve pits in lieu of modifying the valve motor operators for submersible service.

- Six turbine building sump pumps will be maintained operable during certain maintenance activities, which require a sump to be taken out of service. This change in the number of operable sump pumps is within the conservatism of our IPE-Internal Flooding Reanalysis submittal and will be implemented by administrative control procedures.

Use of Reduced Gap Flow Shields

Our January 29, 1992 letter (Serial No. 91-134F) indicated that we had installed reduced gap flow shields (with a design gap of $\leq$ 1/8 inch) on the condenser intermediate outlet expansion joints as an interim measure for the purpose of limiting the maximum leak rate from this postulated flooding source. Our letter also indicated that following replacement of the condenser intermediate outlet expansion joints, the

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original flow shield design (with a gap of ~1/2 inch) may be reinstalled, pending completion of an evaluation of the reduced gap flow shield design for permanent installation.

As identified in our April 12, 1993 letter (Serial No. 93-163), the condenser intermediate outlet expansion joints were replaced. Our letter also indicated that we planned to remove the reduced gap flow shields from the condenser intermediate outlet expansion joints, based upon a potential vendor concern that the reduced clearance could result in premature aging of the expansion joints. Further review of this issue by our engineering staff, including discussions with the vendor, has determined that there is no significant adverse impact on service life due to enclosure of the expansion joints given the relatively mild service conditions, indoor use, and the low temperature application. On this basis, it is not our intention to remove the reduced gap flow shields on the condenser intermediate outlet expansion joints.

Our June 21, 1993 letter (Serial No. 993-163A) indicated that expansion joint service life replacement is determined based upon the expansion joint application, inspection results, operational experience, and engineering evaluation. Our recent inspection results of expansion joints utilizing reduced gap flow shields identified no detrimental effects. Therefore, reduced gap flow shields will continue to be used, based upon expansion joint application and engineering evaluation and contingent upon inspection results and operational experience.

Use of Flow Shields or Submersible Valve Motor Operators

Our letter dated June 21, 1993 also identified our intention to assess whether to use expansion joint flow shields or submersible valve motor operators in the valve pits on the service water supply lines to the bearing cooling and component cooling heat exchangers. That letter clarified that either flow shields or submersible motor operators provide approximately the same CDF reduction and stated that an assessment would be performed to determine the preferred alternative. Our assessment has been completed and we have determined to use flow shields on the expansion joints in the service water supply lines in the valve pits. These flow shields are installed.

Number of Turbine Building Sump Pumps Required to be Operable

Implementation of our turbine building sump pump reliability program has identified that there are certain maintenance activities which require a turbine building sump (which contains three sump pumps) to be taken out of service. During these periods of maintenance, six turbine building sump pumps remain operable. Our IPE-Internal Flooding Reanalysis submittal, (Serial No. 91-134D), assumed seven of nine turbine building sump pumps would be operable. However, subsequent analysis, which assumes installation of flow shields on the service water supply line expansion joints in the valve pits, has determined that reducing the number of operable turbine building sump pumps from seven to six has a small impact on CDF and is within the conservatism of our IPE-Internal Flooding Reanalysis submittal. Administrative controls have been developed and implemented to support the results of this analysis

and the experience gained from our turbine building sump pump reliability program (reference Serial No. 91-134H). Engineering analyses and experience gained from the turbine building sump pump reliability program will continue to determine our administrative control requirements.

Should you have questions regarding this information, please contact us.

Very truly yours,

J. P. O'Hanlon

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