

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

January 18, 1991

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

Serial No. 89-572B  
SPS/JWH/pmk R3  
Docket No. 50-280  
License No. DPR-32

Gentlemen:

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**SURRY POWER STATION UNIT 1**  
**GENERIC LETTER 89-13**  
**SERVICE WATER SYSTEM PROBLEMS**  
**AFFECTING SAFETY-RELATED EQUIPMENT**

Generic Letter 89-13 provided recommended actions to address various problems with service water systems which have, in the past, led to system degradation or failure. By letter (Serial No. 90-572) dated January 29, 1990, Virginia Electric and Power Company described the program which would be implemented to ensure that the service water system at Surry Power Station will be in compliance with appropriate regulations, specifications, and design basis documentation. In accordance with the generic letter, we are notifying you that the required program has been implemented during the Surry Unit 1 Cycle 10 refueling outage. This letter is to confirm that the activities of the program, as described below, have been initiated.

**CHEMICAL TREATMENT EVALUATION**

An evaluation of chemical control techniques to reduce the incidence of flow blockage from biofouling was performed. An interim chemical treatment system will be implemented by April 30, 1991. A conceptual design for long-term biofouling control has been initiated but additional study of the James River ecosystem must be completed before a design can be finalized. This evaluation is scheduled for completion by April, 1992.

**INSPECTION AND MAINTENANCE PROGRAM**

Inspections of the Unit 1 high level intake structure, RSHX service water inlet and outlet piping, and Control Room Chiller Condenser service water lines were performed. The service water supply lines to the RSHXs were cleaned of marine growth. Future inspection scope and frequency will be based on initial inspection results, ecosystem study results, and the effectiveness of operational changes and biofouling control measures. Other heat exchangers cooled by service water are currently monitored, tested or inspected on a routine basis and cleaned as necessary. These activities were reviewed and determined to constitute an adequate inspection and maintenance program.

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## HEAT TRANSFER CAPABILITY VERIFICATION

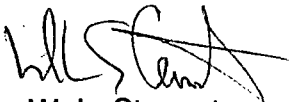
A program to verify the heat transfer capability of safety-related heat exchangers cooled by service water has been developed. Service water flow testing of Unit 1 RSHXs was performed during the outage. Heat transfer testing of the three recently replaced Component Cooling Water Heat Exchangers (CCWHX) will be completed prior to the 1991 Unit 2 refueling outage. Testing of the Control Room Chiller Condensers and remaining CCWHX will be conducted following completion of component replacements or related system modifications which impact heat transfer requirements or capability. These heat transfer tests will be performed during plant operation (with normal heat loads) and are scheduled for completion by August 31, 1991. Other heat exchangers cooled by service water are subject to periodic monitoring, testing, inspection, or cleaning. These activities have been reviewed and determined adequate to verify the capability of these heat exchangers to perform their design basis function.

## DESIGN BASIS CONFIRMATION

A review of the service water system was performed to identify any vulnerabilities to single active failures and none were found. A physical verification walkdown of the Unit 1 service water system was performed with no significant discrepancies being identified. The Design Basis Document for the service water system has been completed with the exception of minor corrections and is scheduled for distribution by March 31, 1991.

Remaining actions will be completed in accordance with the schedule provided in our January 29, 1990, letter. Please contact us if you have any questions.

Very truly yours,



W. L. Stewart  
Senior Vice President - Nuclear

cc: U. S. Nuclear Regulatory Commission  
Region II  
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Suite 2900  
Atlanta, Georgia 30323

Mr. W. E. Holland  
NRC Senior Resident Inspector  
Surry Power Station

COMMONWEALTH OF VIRGINIA )  
 )  
COUNTY OF HENRICO )

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by W. L. Stewart who is Senior Vice President - Nuclear, of Virginia Electric and Power Company. He is duly authorized to execute and file the foregoing document in behalf of that Company, and the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 18<sup>th</sup> day of January, 1991.

My Commission Expires: May 31, 1994.

Vicki L. Nuee  
Notary Public

(SEAL)