

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

January 29, 1992

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

Serial No. 91-134F  
NL&P/CGL 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 REPLACEMENT**

As identified in our December 19, 1991 letter (Serial No. 91-134E), we committed to replace the condenser intermediate outlet expansion joints in the Units 1 and 2 circulating water systems. These replacements were scheduled for completion by February 28, 1992, subject to material availability and the ability to perform the replacement under the existing technical specifications. As also indicated in our December 19, 1991 letter, we intended to perform the replacements with double isolation provided by closure of the associated isolation valve and installation of the seal plates.

Our current assessment of expansion joint replacement activities is discussed below. To assist in this discussion, a simplified flow diagram illustrating the Unit 1 circulating water and service water systems is attached. The expansion joints immediately downstream of the condenser are referred to as the condenser intermediate outlet expansion joints. One condenser intermediate outlet expansion joint is associated with each circulating water line (A, B, C, and D) on both units. The conclusions of our assessment are as follows:

- Replacement of the condenser intermediate outlet expansion joints in the Units 1 and 2 circulating water lines B and D can be accomplished during power operation (with double isolation provided by closure of the associated isolation valve and installation of the seal plates at the high level intake) without entry into any technical specification action statements. Replacement of the expansion joints in the Unit 1 circulating water line B and in the Unit 2 circulating water lines B and D has been completed. Replacement of the expansion joint in the Unit 1 circulating water line D is in progress.
- Replacement of the condenser intermediate outlet expansion joints in the Units 1 and 2 circulating water lines A and C during power operation would require technical specification relief if double isolation is provided by closure of the

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associated isolation valve and installation of the seal plates at the high level intake. This relief would be necessary because isolation of the A and C circulating water lines by installation of the seal plates also results in isolation of the service water cooling the heat exchangers in one outside recirculation spray (RS) subsystem and in one inside RS subsystem.

As discussed during a January 22, 1992 conference call, we have developed an alternate means of double isolation that obviates the need to install seal plates at the high level intake, does not result in isolation of the service water cooling RS heat exchangers and, therefore, does not require technical specification relief. Instead of installation of the seal plates, the alternate means of double isolation entails the placement of a 1/16 inch thick 2-ply bithuthene and Ripstop membrane on the condenser inlet tubesheet. The viability of the material and isolation method was verified by a test performed on January 21, 1992. As also indicated during our January 22, 1992 conference call, the test demonstrated satisfactory performance of the material up to a pressure of 80 psi using a test rig which simulated a 36" diameter section of the condenser inlet tubesheet. The application of this alternate means of double isolation for in-condenser use has been assessed by formal safety evaluation, approved by the Station Nuclear Safety and Operating Committee (SNSOC), and reviewed by management.

Using this alternate means of double isolation, it is anticipated that replacement of the remaining expansion joints will be completed by February 28, 1992.

Our December 19, 1991 letter also 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. Following replacement of the expansion joints, the original flow shield design (with a gap of  $\sim 1/2$  inch) may be reinstalled, pending completion of an evaluation of the reduced gap flow shield design for permanent installation. This evaluation is scheduled for completion by May 4, 1992.

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

Very truly yours,

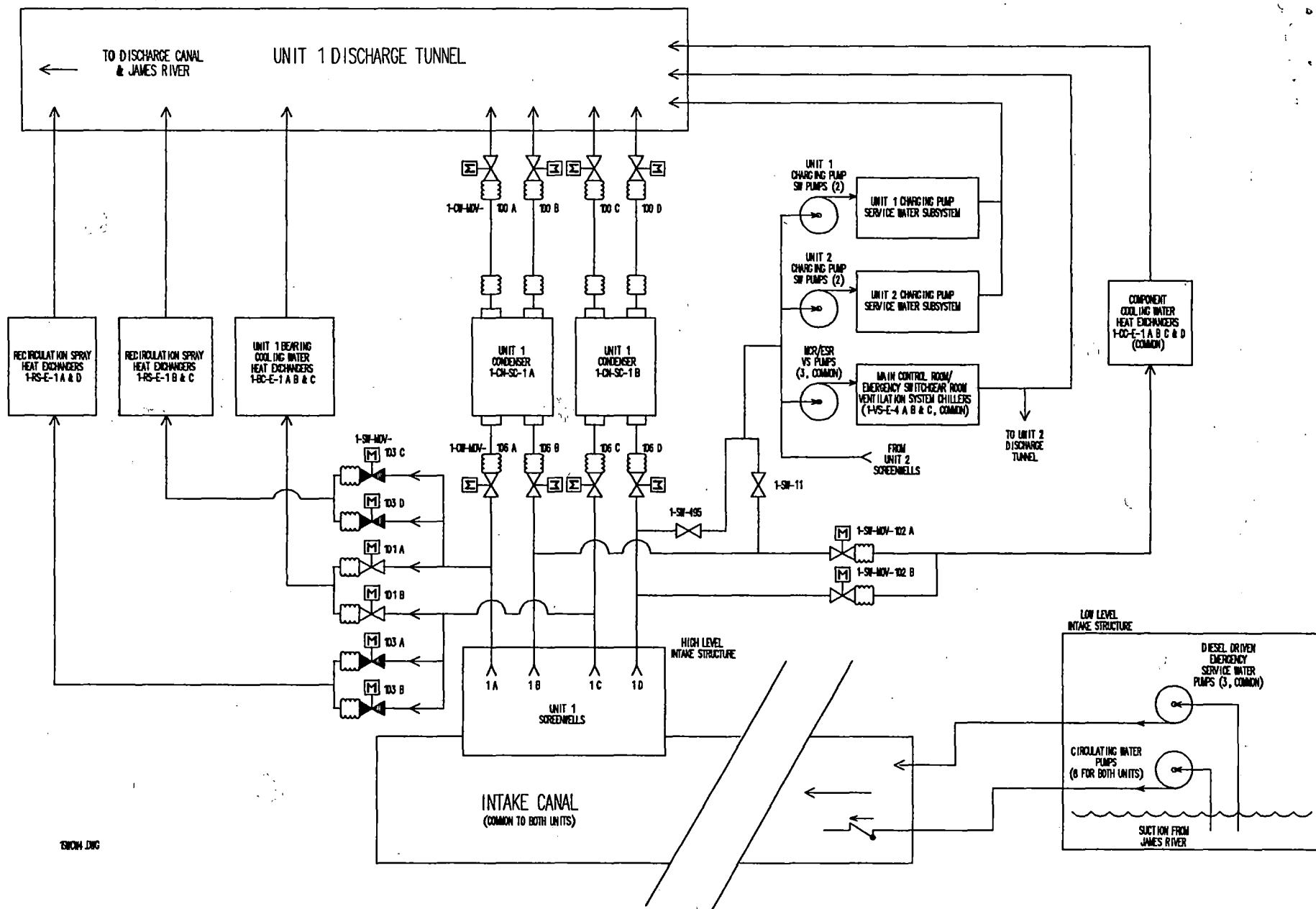


for W. L. Stewart  
Senior Vice President - Nuclear

Attachment - Circulating Water and Service Water Systems Simplified Flow Diagram

cc: U. S. Nuclear Regulatory Commission  
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Mr. M. W. Branch  
NRC Senior Resident Inspector  
Surry Power Station



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SIMPLIFIED FLOW DIAGRAM  
CIRCULATING WATER SYSTEM  
AND SERVICE WATER SYSTEM