

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

July 7, 1988

D. S. CRUDEN
VICE PRESIDENT-NUCLEAR

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

Serial No. 88-430
PES/ISI/DJF:vlh R7
Docket No. 50-280
License No. DPR-32

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNIT 1
ASME SECTION XI INSERVICE PUMP TESTING
INSIDE RECIRCULATION SPRAY PUMPS

We have recently modified the Surry Power Station Unit 1 inside recirculation spray system to permit hydraulic testing of the inside recirculation spray pumps in accordance with ASME Section XI. Flow and pressure instrumentation were installed during this modification to measure the pump hydraulic parameters. As a result of initial pump testing, we have determined that the $\pm 2\%$ accuracy requirement of the ASME Section XI Code for flow instrumentation cannot be met with the as-built piping configuration. Additional modifications of the piping system are required to achieve the $\pm 2\%$ accuracy. Reconfiguring the system at this time would significantly extend the present Unit 1 refueling outage.

We request relief from the ASME Section XI flow instrument accuracy requirement of $\pm 2\%$ for pumps 1-RS-P-1A and 1B until the next Unit 1 refueling outage, which is scheduled for September 1989. At that time the necessary modifications will be made in the test loop to improve the flow instrument accuracy to within $\pm 2\%$.

The manufacturer's specified accuracy for flow instrumentation for this piping configuration is $\pm 4\%$ of full scale. Full scale for this instrumentation is 0 to 4,000 gpm. Flow measurements were taken over the range of 0 to 3,500 gpm thereby meeting the ASME specified range criteria for flow instrumentation.

We have refurbished both the Unit 1 inside recirculation spray pumps and have re-established the pump curve with the existing piping configuration. Curve fit techniques were employed to develop the pump head-flow curve for the "as-left" condition for both the A and B pumps. The data points obtained during flow testing fall within a $\pm 4\%$ deadband of the derived pump curve. This provides reasonable assurance that the instrument performed within the manufacturers stated accuracy limits throughout the flow test.

8807190089 880707
PDR ADOCK 05000280
P FDC

A047
/10

Utilizing appropriate system curves, the approximate operating point for each refurbished pump is 3250 gpm. The LOCTIC computer program, which determines containment depressurization times, was run with an assumed IRSP flow of 3000 gpm. The acceptance criterion for a 3600 second depressurization time, as required for input to the docketed existing offsite dose calculations, was satisfied with this assumed flow. This analytical result, when compared to the flow test results, confirms the adequacy of the inside recirculation spray pumps to meet design basis requirements.

If you have any questions regarding this request, please contact us.

Very truly yours,



D. S. Cruden

cc: U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N.W.
Suite 2900
Atlanta, GA 30323

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