

January 6, 1988

Docket Nos. 50-280  
and 50-281

Mr. W. L. Stewart  
Vice President - Nuclear Operations  
Virginia Electric and Power Company  
Post Office Box 26666  
Richmond, Virginia 23261

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Dear Mr. Stewart:

SUBJECT: REQUEST FOR RELIEF FROM ASME SECTION XI REQUIREMENTS REGARDING  
INSERVICE TESTING OF RECIRCULATION SPRAY PUMPS FOR SURRY  
UNITS 1 AND 2 (TAC NOS. 65555 AND 65556)

By letter dated April 16, 1987, as supplemented December 4, 1987, pursuant to 10 CFR 50.55a, paragraph g(5), you requested relief from certain ASME Boiler and Pressure Vessel Code (ASME Code) Section XI requirements with regard to inservice testing requirements for the inside containment recirculation spray pumps.

We have reviewed your request. Based on our review, we have concluded that an interim relief may be granted as requested. However, this relief is effective only until February 29, 1988. It may be extended after you have established a reasonable schedule for completing the piping modifications required to perform the hydraulic testing of these pumps. The staff will be available to discuss your design modifications if requested. The enclosed Safety Evaluation provides the details and conclusions of our review.

For the relief that has been granted, we have determined that the ASME Code Section XI requirements are impractical and that the relief request is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest, giving due consideration to the burden on VEPCO that could result if the requirements were imposed on the facility now.

Sincerely,

Original signed by

Herbert N. Berkow, Director  
Project Directorate II-2  
Division of Reactor Projects-I/II  
Office of Nuclear Reactor Regulation

Enclosure: Safety Evaluation

cc: See next page

*CP*  
\*See previous concurrence  
\*LA:PD22 PM:PD22  
DMiller CPatel:bd  
12/28/87 01/4/88

\*MEB D:PD  
TMarsh HBerkow  
12/30/87 01/5/88

OGC  
01/7/88

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P PDR

Mr. W. L. Stewart  
Virginia Electric and Power Company

Surry Power Station

cc:

Mr. Michael W. Maupin  
Hunton and Williams  
Post Office Box 1535  
Richmond, Virginia 23212

Attorney General  
Supreme Court Building  
101 North 8th Street  
Richmond, Virginia 23219

Mr. Dave L. Benson, Manager  
Surry Power Station  
Post Office Box 315  
Surry, Virginia 23883

Resident Inspector  
Surry Power Station  
U.S. Nuclear Regulatory Commission  
Post Office Box 166, Route 1  
Surry, Virginia 23883

Mr. Sherlock Holmes, Chairman  
Board of Supervisors of Surry County  
Surry County Courthouse  
Surry, Virginia 23683

W. T. Lough  
Virginia Corporation Commission  
Division of Energy Regulation  
Post Office Box 1197  
Richmond, Virginia 23209

Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
101 Marietta Street N.W., Suite 2900  
Atlanta, Georgia 30323

James B. Kenley, M.D., Commissioner  
Department of Health  
109 Governor Street  
Richmond, Virginia 23219



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

SAFETY EVALUATION BY THE OFFICE OF  
NUCLEAR REACTOR REGULATION RELATED TO RELIEF  
REQUEST NO. 5 OF THE INSERVICE TESTING PROGRAM  
VIRGINIA ELECTRIC AND POWER COMPANY  
SURRY POWER STATION UNITS 1&2  
DOCKET NOS. 50-280/281

RELIEF REQUEST

The licensee has requested relief from the ASME Code, Section XI, Paragraph IWP-3100 requirements to measure inlet pressure, discharge pressure, differential pressure, flow rate, vibration, and observe proper lubricant level or pressure for the inside containment recirculation spray pumps 1-RS-P-1A, 1-RS-P-1B, 2-RS-P-1A and 2-RS-P-1B.

LICENSEE'S BASIS FOR REQUESTED RELIEF

Flow testing of these pumps would require spraying water on components in containment as the present piping system does not have a recirculation loop to perform flow testing. The pump and motor are totally enclosed and air cooled. Therefore, the observation of lubricant level or pressure is not applicable to these pumps.

LICENSEE'S PROPOSED ALTERNATE TESTING

"Motor current is measured monthly and compared with previous readings. Also, it can be determined that the pump shafts are turning by rotation sensors which indicate in the Main Control Room."

EVALUATION

The licensee has requested relief from performing the code-required testing to measure the parameters used to determine the hydraulic and mechanical performance of the pumps. Alternatively, the licensee has proposed that these pumps be tested monthly with a dry pump run.

The licensee has no provisions for meeting the Code requirements with the present piping configuration for assessing the operational readiness of these pumps by flow testing. The piping system does not have a recirculation loop to perform flow testing. Thus, testing the pumps with a dry run is presently the only alternative to flow testing these pumps and spraying down the containment. Dry pump testing at power only ensures that there is no significant

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binding of the pump shafts and cannot be used to assess the mechanical and hydraulic performance of the pumps. Furthermore, there is no way with the present piping configuration to verify the post-maintenance operability of these pumps. The assessment of the operational readiness and verification of post-maintenance operability of these pumps is required by the ASME Code and 10 CFR 50.55a. It is the staff's understanding that these pumps have only been verified operable by flow testing once in the history of the plant and that was during the construction phase.

The proposed testing of monthly dry pump testing is not an acceptable long-term alternative to the Code requirements. Therefore, relief from the Code requirements on a permanent basis is denied. By letter dated December 4, 1987, the licensee provided the NRC with information to support interim relief from the Code requirements. The licensee stated that other plants with similar inside containment spray pumps have hydraulically tested their pumps without indication of pump performance degradation. Recently, North Anna Unit 2 performed a hydraulic test of their inside recirculation spray pumps which demonstrated no degradation in the head curve. In addition, the outside containment spray pumps at Surry are of a similar design except that the motor-to-pump shaft length on the outside pumps is significantly longer than that of the inside pumps. The outside pumps have been tested with flow on a monthly basis. This periodic flow testing has not identified pump performance concerns other than those related to shaft alignment problems.

#### CONCLUSION

Therefore, based on the past performance of the pumps of similar design and the fact that compliance with the Code requirements is impractical, interim relief may be granted to permit the proposed alternative of monthly dry pump testing at power. However, it is the staff's position that this system must be modified as soon as possible to permit flow testing.

Dated: January 6, 1988

Principal Contributor:

T. McLellan