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
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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

*See previous concurrence				
*LA:PD22	PM:PD22	*MEB	D:PD22	OGC
DMiller	CPatel:bd	TMarsh	HBerkow	
12/28/87	01/4/88	12/30/87	01/5/88	01/ /88

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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 prtpresent 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

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