VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

November 9, 1993

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

Serial No. 93-727
NL&P/MAE: R5
Docket Nos. 50-339
License Nos. NPF-7

Gentlemen:

**VIRGINIA ELECTRIC AND POWER COMPANY**
**NORTH ANNA POWER STATION UNIT 2**
**HIGH HEAD SAFETY INJECTION FLOW BALANCE**
**REQUEST FOR ENFORCEMENT DISCRETION**

North Anna Unit 2 Technical Specification 4.5.2.h.1 specifies surveillance requirements for the flow balancing of the high head safety injection lines. Achieving an acceptable flow balance assures that adequate core cooling and negative reactivity is provided to mitigate the consequences of design basis accidents. Item b) under this surveillance requirement specifies that the total charging /high head safety injection (HHSI) pump flow rate with a single pump running is $\leq$ 660 gpm. Item c) under this surveillance requirement specifies that a value of $\geq$ 48.3 gpm be used to simulate reactor coolant pump seal injection flow during cold leg injection balancing. This letter documents NRC's recent exercise of enforcement discretion associated with this Technical Specification.

At 09:30 hours and again at 14:45 hours on November 8, 1993, North Anna Unit 2 entered an action statement to be in hot standby within six hours as required by Technical Specification 3.0.3. It had been determined that Technical Specification 3.5.2, which requires two operable HHSI pumps, could not be met. The HHSI pumps were determined to be inoperable because the total pump flow rate required by Technical Specification 4.5.2.h.1.b may not have been met. In addition, the limitation on seal injection flow specified by Technical Specification 4.5.2.h.1.c contributed to this determination. On the same day, this condition was discussed with the NRC. Enforcement discretion was requested for 1) a 24 hour period to readjust the seal injection flows to the reactor coolant pumps in order to meet the total pump flow rate in TS 4.5.2.h.1.b of $\leq$ 660 gpm, and 2) to eliminate the simulated reactor coolant pump seal injection flow requirement of TS 4.5.2.h.1.c of $\geq$ 48.3 gpm. The requested enforcement discretion was verbally approved by Mr. G. C. Lainas of the NRC on November 8,1993.

The total pump flow rate of $\leq$ 660 gpm in Technical Specification 4.5.2.h.1.b is specified to ensure that the HHSI pumps do not exceed flow capacity and protect against pump runout. It was determined that due to inaccuracies in the flow measurement instrumentation, the as-left total pump flow rate could be as high as 670 gpm. However, this limit is based on the HHSI pumps receiving suction boost from the low head safety injection pumps during the safety injection recirculation mode of operation. The



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manufacturer's actual runout limit is 675 gpm and original manufacturer testing demonstrated pump performance out to approximately 700 gpm. To ensure that the total pump flow rate does not exceed the 660 gpm Technical Specification limit, the reactor coolant pump seal injection has been lowered. The additional 24 hours requested to accomplish this action was necessary to revise affected procedures and operator logs, and to document the supporting engineering calculations.

Also, the need for enforcement discretion was due in part to an unintended consequence of a previous license amendment issued on August 4, 1993 involving Technical Specification 4.5.2.h.1. That license amendment added, as item c, a specific range of calculated values for seal injection flow to be used during the actual flow balancing process. Prior to this amendment, the specific flowrate had not appeared in the Technical Specifications. It was believed that by specifying the value in the Technical Specifications, a more complete picture of the flow balance process would be provided in the document. The primary purpose of seal injection flow is to provide the required minimum seal flows specified by the reactor coolant pump vendor. These flows are adjustable and may be changed due to plant operations and pump seal conditions. When the Reactor Coolant System (RCS) is depressurized during the design base accident, the differential pressure between the safety injection flow header and the RCS increases and causes the seal injection flow to increase. The accident analysis takes no credit for this flow, and it is presumed to be lost. By meeting Technical Specifications 4.5.2.h.1.a and b, the limits of safety analysis are met with margin. The requirement to specify a simulated seal injection flow rate has, in practice, inhibited our ability to meet the minimum and maximum flow rate specifications.

NRC's exercise of enforcement discretion will not affect the capability of the HHSI System to perform its design function. The system performance will remain bounded by the existing safety analysis. Compensatory measures--revisions to operating procedures and logs, shift briefings to inform operators of the change--have been implemented to ensure that the intent of the Technical Specification continues to be met. NRC's exercise of enforcement discretion does not affect the ability of the HHSI system to perform its intended safety function.

The proposed enforcement discretion does not result in a significant hazards consideration as defined in 10 CFR 50.92. Specifically, the proposed enforcement discretion does not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated. The enforcement discretion continues to require that with one HHSI pump running, the sum of the flows through the two lowest flow branch lines shall be $\geq$ 359 gpm and the total HHSI pump flow rate shall be $\leq$ 660 gpm. These requirements ensure the correct flow balance alignment and flow rates required to meet the safety analysis.

   Likewise, the consequences of the accidents previously evaluated will not increase as a result of the enforcement discretion. The system performance will remain bounded by the existing safety analysis for all postulated accident conditions.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated. The enforcement discretion will not affect the capability of the HHSI System to perform its design function. The enforcement discretion is bounded by the existing safety analysis and does not involve operation of plant equipment in a different manner from which it was designed to operate. Since a new failure mode is not created, a new or different type of accident is not created.

3. Involve a significant reduction in a margin of safety. The system performance will remain bounded by the existing safety analysis at the specified flow rates, therefore, safety margins are not reduced.

This enforcement discretion will not change the types of any effluents that may be released offsite, nor create a significant increase in individual or cumulative occupational radiation exposure.

As discussed on the November 8, 1993 conference call, an Emergency Technical Specification change will be submitted promptly to address and resolve the issues identified as a result of this enforcement discretion. A draft copy of the proposed Technical Specification change is included as Attachment 1. (It should be noted that since this change is applicable to Unit 1, an identical change for Unit 1 will be made at the same time.) Finally, this request for an enforcement discretion has been reviewed by the Station Nuclear Safety and Operating Committee. It has been determined that this request for an enforcement discretion involves no significant hazards consideration or adverse environmental consequence.

Very truly yours,

W. L. Stewart
Senior Vice President - Nuclear

Attachment

cc:
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Mr. R. D. McWhorter
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North Anna Power Station

Attachment 1