

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

March 29, 1993

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC. 20555

Serial No. 93-057
MAE/DCH R9
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNITS 1 AND 2
PROPOSED TECHNICAL SPECIFICATION CHANGE
RESIDUAL HEAT REMOVAL SYSTEM--ADDITIONAL INFORMATION

By letter dated April 27, 1990 (Serial No. 90-183), Virginia Electric and Power Company (Virginia Power) requested a license amendment in the form of changes to the Technical Specifications associated with the Residual Heat Removal (RHR) system. The primary purpose of the proposed change was to remove the RHR suction valves autoclosure interlock feature. Additional information was submitted by letter dated December 21, 1990 (Serial No. 90-660). On January 26, 1993, a meeting was held between the NRC and Virginia Power to discuss the proposed change. This letter is in response to your request at that time for additional information involving valve position indication and the potential cost of modifications.

As you know, industry experience has shown that the RHR suction valves autoclosure interlock has been a significant cause of inadvertent loss of decay heat removal capability while the RHR system is in service. The proposed change would enhance RHR system reliability by removing the RHR suction valves autoclosure interlock feature and prevent the inadvertent loss of decay heat removal during shutdown conditions. As discussed during the meeting, the RHR system at North Anna varies significantly from the standard Westinghouse design. The RHR system is not connected to, nor is it part of, the Safety Injection system and performs no Emergency Core Cooling System function. Specifically, the North Anna RHR system is located entirely within the containment.

The autoclosure interlock feature is designed to prevent overpressurization of the RHR system. The autoclosure interlock setpoint for the RHR suction valves is 582 psig. This

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will prevent overpressurization of the RHR system, which has a design pressure of 600 psig. However, at North Anna, the RHR suction isolation valves are closed in accordance with operating procedures prior to reaching the RHR pump suction relief valve setpoint of 467 psig to prevent inadvertent lifting of the relief valves. Thus, the autoclosure interlock is not required to provide overpressure protection during startup.

During the meeting, the principle concern identified by the NRC staff was the potential mispositioning of one of the two in-series RHR system suction valves prior to pressurization of the Reactor Coolant System (RCS). Assurance that this event will not occur at North Anna is provided through procedural compliance and administrative controls. The following actions are taken to ensure proper RHR suction valve position during unit startup.

A licensed control room operator closes the RHR isolation valves by operating the motor operated valve control switch in the main control room. The operator observes the light indications change from indicating full open to intermediate and to full closed for each of the valves. The operator turns the procedure over to the unit supervisor who assigns another licensed control room operator to independently verify that the valves have been closed. The unit supervisor then assigns a qualified operator to open the power supply breakers for the RHR isolation valves and lock the breakers in the open position. The procedure is then returned to the unit supervisor and another qualified operator independently verifies that the power supply breakers are locked open. By independently verifying that both the RHR isolation valves are closed and their power supply breakers locked open, it is ensured that the valves will not open under any credible conditions.

We also plan to revise the unit startup procedures to provide further assurance of correct valve position. This procedure change--which is in addition to the administrative controls described above--would be implemented during unit startup after the RHR isolation valves are closed and deenergized. At that time, a containment entry would be made by two operators who will simultaneously verify that the RHR suction valves are closed by observing the mechanical indication on the valves. With the addition of the revised procedure, further assurance would be provided that the valves are in the correct position. This new administrative control would be implemented subsequent to NRC approval of the proposed change.

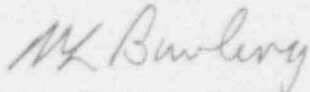
The NRC staff also requested additional information regarding the costs for a design change that would install additional control room indications or alarms consistent with that described in the NRC-approved WCAP supporting this initiative. We have conducted a conceptual estimate of such a modification. We estimate the cost for installing the additional control room indications for both units to be approximately \$730,000. This cost estimate includes both indirect and overhead costs. As discussed in our previous submittals, we consider this to be a substantial cost without commensurate safety benefit since the RHR suction valves are closed and deenergized before RCS pressure is increased to the RHR relief valve setpoint of 467 psig.

In summary, the approval of this proposed change will not decrease the overpressure protection of the RHR system due to the unique design of the RHR system at North Anna. Approval of the proposed change will increase the overall reliability of the RHR

system by decreasing the probability of inadvertent actuation of the automatic closure interlock. We request that you approve the proposed change as submitted.

If you have any questions or require additional information, please contact us.

Very truly yours,



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