VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

June 3, 1996

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

Serial No.	96-251
NAPS/MPW/ETS	R3
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
INSPECTION REPORT NOS. 50-338/96-03 AND 50-339/96-03
REPLY TO A NOTICE OF VIOLATION

We have reviewed your letter of May 3, 1996, which referred to the inspection conducted at North Anna Power Station from February 25, 1996 through April 6, 1996, and the associated Notices of Violation which were reported in Inspection Report Nos. 50-338/96-03 and 50-339/96-03. Our reply to the Notices of Violation is attached.

If you have any further questions, please contact us.

Very truly yours,

James P. O'Hanlon

James P. O'Hanlon
Senior Vice President - Nuclear

Attachment

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

Mr. R. D. McWhorter
NRC Senior Resident Inspector
North Anna Power Station

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REPLY TO NOTICES OF VIOLATION
INSPECTION REPORT NOS. 50-338/96-03 AND 50-339/96-03

NRC COMMENT

During an NRC inspection conducted on February 25, 1996 through April 6, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG 1600, the violations are listed below:

A. Unit 1 Technical Specification 6.8.1 requires that written procedures be established, implemented and maintained including, by reference to Appendix A of Regulatory Guide 1.33, procedures for maintenance for safety-related equipment.

VPAP-0801, Maintenance, step 6.7 states that for maintenance of seismic components, the maintenance performed on qualified structures, equipment, and components is controlled to ensure its qualified state is maintained throughout its installed life.

MDAP-0002, Conduct of Maintenance, step 6.12.3, states that for maintenance of seismic components the disassembly and reassembly shall be performed in accordance with appropriate procedures or work instructions.

Tubing support frame for the A reactor coolant loop flow transmitters 01-RC-FT-1414, 1415, and 1416 is a seismic component.

Contrary to the above, a seismic tubing support frame for 01-RC-FT-1414, 1415 and 1416 was not disassembled and reassembled in accordance with appropriate procedures or work instructions. On March 4, 1996, this tubing support frame was found partially disassembled, as evidence by missing sub components which included a base plate, support post, frame connection pieces and tube clips. However, no work instructions were performed this refueling outage to disassemble the support and no work instructions were open to reassemble the support.

This is a Severity Level IV violation (Supplement I).

B. Unit 1 Technical Specification Limiting Condition for Operation 3.5.4.2 requires that two independent channels of heat tracing be operable for the boron injection tank and associated flow paths in MODES 1, 2, and 3. If

only one channel is operable, the action statement requires that for operation to continue, the tank and flow path temperatures must be verified to be greater than or equal to 115 °F at least once per eight hours. Technical Specification Limiting Condition for Operation 3.0.4 requires that entries into operational modes not be made unless all the Technical Specification Limiting Conditions for Operation are met without reliance upon action statements.

Contrary to this requirement, between 5:11 a.m. on March 10 and 6:05 p.m. on March 11, 1996, operational MODES 1, 2, and 3 were entered while boron injection tank heat tracing circuit was inoperable, and the associated action statement was relied upon to meet operability requirements.

This is a Severity Level IV violation (Supplement I).

REPLY TO NOTICE OF VIOLATION A

1. REASON FOR THE VIOLATION

The reason for the violation was a failure to track and review the status of safety-related instrument tubing affected by design modification and/or maintenance activities. During a walkdown of the Unit 1 containment loop rooms, three tubing support frames were noted by the NRC to have missing parts and/or partial damage (i.e. bent tubing). It is believed the supports with missing parts were removed to support other work activities during previous outages and not properly re-installed. The bent tubing is believed to be caused by previous work activities in the vicinity of the supports.

2. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

A field inspection was performed by engineering on the loop flow transmitter tubing in each of the three loop rooms. Minor support repairs were noted to be needed in each loop room to restore the hangers to the as-designed configuration. A second field inspection was performed by an engineering mechanics stress analyst. The original instrument tubing support configuration was confirmed to be adequate. However, for certain tubing runs additional supports and/or modification of existing supports were identified as desirable for providing greater confidence in the seismic integrity of the tubing. Applicable repairs and restoration of the seismic integrity of the loop flow transmitter tubing were completed in accordance with the design change program.

In addition, seismic walkdowns were previously completed in Unit 1 containment in accordance with the Seismic Qualification Users Group (SQUG) guidelines. The scope of the SQUG program walkdowns was adequate to ensure the seismic adequacy of safe shutdown equipment.

To better control the removal and re-installation of hangers, supports, restraints, etc. that interfere with design change activities, the existing procedures have been strengthened. Associated implementing procedures will include a step to require verification of proper re-assembly of interferences. Similarly, a control form has been developed for inclusion in work packages to control the removal and re-installation of hangers, supports, restraints, etc. that interfere with maintenance activities. The form documents the removal and re-installation of interferences.

3. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

Enhancements to the controlling procedures will help ensure safety-related seismic supports and hangers are tracked during design changes or maintenance activities so they are returned to the as-designed configuration.

4. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved with the completion of the restoration and repair of the affected tubing support.

REPLY TO NOTICE OF VIOLATION B

1. REASON FOR THE VIOLATION

The reason for the violation was due to personnel error. The boron injection flow path heat trace circuits were not adequately tracked during Modes 4 through 6. Subsequent departmental reviews failed to identify that the redundant boron injection flow path heat trace was inoperable prior to entry into Mode 3.

During the Unit 1 refueling outage, Operations noted that the heat trace circuit for the boron injection flow path was not maintaining temperature. The low temperature alarm locked in at 113 degrees Fahrenheit with only the redundant circuit in operation. When the normal heat trace circuit was placed in service the line temperature increased above the Technical Specification (TS) minimum temperature of 115 degrees Fahrenheit. A work request was initiated for the redundant circuit. A work order was entered in the work control system to check and/or repair the redundant circuit.

The unit was in Mode 6 at the time when the redundant heat trace circuit failed. Therefore, the TS Limiting Condition for Operation (LCO) and action statement were not applicable. Although not procedurally required, the expectation is to make an entry into the abnormal status or action statement log. However, this action was inadvertently overlooked by operations personnel.

The boron injection tank and associated flow path heat tracing are unique in that they are the only borated water source that requires both the normal and redundant heat trace circuits to be operable while in Modes 1 through 3. However, the mark number descriptions associated with the boron injection tank and associated flow path heat trace circuits are similar to other heat tracing systems that only require one circuit to be operable. As such, the safety-related work order reviews during unit restart failed to identify that both boron injection flow path heat trace circuits were required to be operable and the redundant heat trace was inoperable. As a result, Mode 3 was subsequently entered with the redundant heat trace circuit inoperable. Technical Specification 3.0.4 was applicable, where entry into an Operational Mode or other specified applicability condition shall not be made unless the conditions of the Limiting Conditions for Operations are met without reliance on provisions contained in the Action statement.

Although the LCO for TS 3.5.4.2 was not initiated upon Mode 3 entry, the boron injection flow path temperature was verified to be above the TS minimum temperature of 115 degrees Fahrenheit once every six hours in accordance with station procedures (operating logs) when a heat trace circuit is inoperable.

2. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

Once the error was discovered on March 14, 1996, Technical Specification 3.5.4.2 LCO was entered and verification of the normal circuit continued once every six hours to ensure the affected flow path temperature was greater than 115 degrees Fahrenheit. Technical Specification 3.5.4.2 LCO requires the minimum temperature, of 115 degrees Fahrenheit, be verified once per eight hours. The redundant heat trace was replaced, tested and returned to service on March 15, 1996. A Root Cause Evaluation was initiated for this event.

The mark number descriptions for the boron injection flow path heat tracing circuits and associated power supply equipment have been changed to include a unique identifier.

New heat trace alarm windows have been installed which identify the boron injection tank (BIT) heat trace (HT) alarms as separate from other TS alarms. The auxiliary building logs have been changed to check all circuits and refer to the Annunciator Response (AR) procedure for circuits outside their limits. Upon receipt of a BIT heat trace alarm the shift supervisor is to be notified immediately and the annunciator response procedure initiated. The AR procedure has been changed and now has three sections, one for the BIT HT, one for the boration flow path HT, and one for freeze protection. The AR identifies that both trains of heat trace for the boron injection tank and associated flow path are required to be operable and if one circuit is not operable, regardless of Unit Mode applicability, the TS action will be entered for one channel being inoperable. In addition, the Mode change check lists, Mode 4 to Mode 3, included in start-up procedures have been changed to ensure that the BIT HT and associated flow path circuits are operable.

3. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

Operations personnel are being coached to performed more detailed review of inoperable equipment for TS applicability. The controlling procedures will be changed to ensure all Limiting Conditions for Operation are identified and appropriately tracked including entries into action statement log regardless of Unit Mode applicability.

Results of the Root Cause Evaluation will be reviewed and corrective actions implemented as necessary. These actions along with those changes implemented for annunciator panels, procedures and personnel coaching will avoid further violations.

4. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance has been achieved.