VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

January 4, 1991

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

Serial No. 90-776
NAPS/JHL
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. 50-338/90-28 AND 50-339/90-28
RESPONSE TO THE NOTICES OF VIOLATION

We have reviewed your letter of December 7, 1990 which referred to the inspection conducted at North Anna from October 23, 1990 through November 17, 1990 and reported in Inspection Report Nos. 50-338/90-28 and 50-339/90-28. Our responses to the Notices of Violation are attached. In addition, the attachment responds to your concern of inadequate design implementation reviews associated with recently implemented design changes.

If you have any further questions, please contact us.

Very truly yours,

W. L. Stewart
Senior Vice President - Nuclear

Attachment

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

Mr. M. S. Lesser
NRC Senior Resident Inspector
North Anna Power Station

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RESPONSES TO THE NOTICES OF VIOLATION REPORTED DURING THE NRC INSPECTION CONDUCTED BETWEEN OCTOBER 23, 1990 AND NOVEMBER 17, 1990 INSPECTION REPORT NOS 50-338/90-28 AND 50-339/90-28

NRC COMMENT

During an NRC inspection conducted between the period of October 21 through November 17, 1990, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, (1990), the violations are listed below:

A. 10 CFR 50, Appendix B, Criterion III, as implemented by Operational Quality Assurance Program Topical Report (VEP 1-5A) section 17.2.3, Design Control, requires that the Nuclear Design Control Program establish procedures to describe the design interface between the Company and the Architect/Engineer and to provide for verifying or checking the adequacy of design such as by the performance of design reviews. The Instruction Manual for Architect/Engineers, Chapter 3.12 and the Nuclear Design Control Manual, Chapters 3.3 and 3.6 collectively require that design verification be conducted to assure that the design meets the specified design inputs and that the engineering has been performed correctly.

   Contrary to the above, the design review for DCP 89-33-3, Diesel Generator Undervoltage Start Relay Modification was inadequate in that detailed investigation of the impact of the design change on the test circuits was not conducted, and consequently incorrect logic for the undervoltage relay test circuitry was not identified. This resulted in the loss of the 2J emergency bus on October 28, 1990, during the undervoltage relay test.

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

B. Technical Specification 6.8.1 requires that written procedures be established, implemented and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February, 1978. Included in Appendix A of Regulatory Guide 1.33 under Procedures Required for Combating Emergencies and Other Significant Events, is turbine trip.

   Contrary to the above, procedures for combating a turbine trip were not available. This contributed to a reactor trip on November 2, 1990 when, following a turbine trip and feedwater isolation, instructions were unavailable to direct operators to reset the feedwater bypass valves while restoring main feedwater to the steam generators.

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

RESPONSE TO VIOLATION A

1. ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

The violation is correct as stated.

2. REASON FOR THE VIOLATION

The cause of the violation was an inadequate design change preparation and review for Design Change Package (DCP) 89-33-3. The design change preparation and review did not fully recognize the impact on the testing feature of the emergency bus undervoltage and degraded voltage protection scheme. The design change as prepared and implemented, was therefore incomplete and prevented undervoltage blocking relays from remaining energized during the performance of Degraded Voltage/Loss of Voltage Functional Test, 2-PT-36.9.1J.

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

A Field Change was issued to DCP 89-33-3, to revise the deficient wiring design configuration. This revision provided enhanced test circuit capability by automatically blocking concurrent performance of the 72% undervoltage and 90% degraded voltage test. 2-PT-36.9.1J was reperformed and completed successfully.

The above noted Field Change corrected a similar condition that existed in the 2H emergency bus undervoltage test circuitry. A subsequent Field Change was issued to incorporate the test circuit modification into the Engineering Review and Safety Analysis section of DCP 89-33-3 as well as proposed revisions to the UFSAR.

Appropriate Engineering personnel have reviewed this event in an Engineering Technical Bulletin and emphasis has been placed on the importance of thorough reviews of design changes. Appropriate Architect/Engineer personnel have also reviewed this event and emphasis has been placed on the importance of thorough reviews of design changes.

Existing procedures controling interface responsibilities between Virginia Electric and Power Company and the Architect engineer have been reviewed and are considered adequate.

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

To address the general concern of inadequate design implementation reviews for recently implemented design modifications, the appropriate DCP, EWR and Safety Analysis procedures will be reevaluated. Enhancements to existing procedural requirements will be made if necessary.

5. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

DCP, EWR and Safety Analysis procedures will be evaluated and necessary enhancements will be completed by March 31, 1991.

RESPONSE TO VIOLATION B

1. ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

The violation is correct as stated.

2. REASON FOR THE VIOLATION

The violation was caused by an inadequate review for implementing Unit 2 DCP 88-04, Eliminate Reactor Trip on Turbine Trip at Less Than 30% Power. Personnel reviewing DCP 88-04 did not identify that a specific procedure for responding to a turbine trip without a reactor trip was required.

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

Procedures for responding to a turbine trip without a reactor trip have been developed and implemented.

Operations personnel have reviewed the procedures that have been developed for responding to a turbine trip without a reactor trip as part of required reading.

A root cause evaluation of the reactor trip has been performed. Corrective actions are being implemented as appropriate.

To address the concern of inadequate design reviews on recently implemented modifications and their affect on operating procedures, General Nuclear Standard STD-GN-0001 was revised. The Safety and Operational implications section of the Engineering Review and Safety Analysis was revised to include additional guidance for assessing the impact of the modification on plant operations.

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

Operators will be trained during licensed operator requalification training program (LORP) on the procedures for responding to a turbine trip without a reactor trip.

5. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Operators will be trained on the procedures for responding to a turbine trip without a reactor trip by March 19, 1991.