

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

October 2, 1992

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

Serial No. 02-625
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Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNITS 1 & 2
FIRE BARRIER PENETRATION SEAL DEVIATIONS
SPECIAL REPORT

Pursuant to Updated Final Safety Analysis Report (UFSAR) Technical Requirement 16.2.1.3.B.2.2, several fire barrier penetration seals found to be in a nonfunctional condition are hereby reported. Although the identified deficiencies with the penetration seals varied between breaches, voids, and/or missing seals, the problems were isolated to penetrations conveying mechanical pipes.

On September 2, 1992, fire barrier silicone foam was found to be in a nonfunctional condition on the four Service Water (SW) lines that supply cooling water to the Unit 2 Control Room/Emergency Switchgear Room air conditioning units. The lines were installed in March 1992, during the Unit 2 refueling outage, to upgrade the SW system piping. The lines travel through the Cable Vault to the Emergency Switchgear Room then to the Air Conditioning Chiller Room.

Breaches were observed in the silicone foam between two of four SW pipes and the wall penetrations of the Cable Vault to the Emergency Switchgear Room. A station deviation report (DR) was written, and a fire watch was initiated. Subsequent inspections of the four lines and other associated penetrations were also performed. During these inspections, voids were observed in the silicone foam between all four SW pipes and the wall penetrations of the Emergency Switchgear Room to the Air Conditioning Chiller Room. A DR was written to address the voids. The breaches and voids in the piping penetrations were repaired and returned to functional status, and the fire watch was terminated.

Movement of the SW pipes after sealing the penetrations with silicone foam caused the breaches. The movement occurred when the SW piping was aligned to make the final tie-in welds. The controlling procedures are being evaluated to determine what enhancements are necessary.

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Inspections of additional station areas on September 10 and 18, 1992 identified missing pipe penetration seals in the south wall of the charging pump cubicles. DRS were written, and a fire watch was initiated. The piping penetrations are being sealed.

The cause of the missing seals is attributed to inadequate implementation of 10 CFR 50 Appendix R requirements. Implementation of 10 CFR 50 Appendix R required the walls of the charging pump cubicles to be upgraded to three hour fire barriers (fire walls). Penetrations through fire walls are required to be appropriately sealed such that the rated integrity of the fire barrier is not compromised. Subsequent to the wall upgrade, the wall penetrations were not sealed as required. Reviews of the Appendix R Report identified three additional walls which were upgraded to fire walls after the implementation of Appendix R. Inspections of these walls are being performed to ensure fire penetration barriers are adequately installed. Procedures controlling the surveillance inspections of pipe penetration fire barriers are being evaluated to determine what enhancements are necessary.

No significant safety consequences resulted from this condition because the installed fire suppression and/or detection equipment in the Cable Vault, Emergency Switchgear Room, Air Conditioning Chiller Room, and the charging pump cubicles have been operable or a fire watch assigned in accordance with administrative requirements. Therefore, the health and safety of the public were not affected as a result of this condition.

This Special Report has been reviewed by the Station Nuclear Safety and Operating Committee and will be provided to the Management Safety Review Committee.

Should you have any questions regarding this report, please contact us.

Very truly yours,



W. L. Stewart
Senior Vice President - Nuclear

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