

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

November 18, 1992

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

Serial No. 92-693
JHL/EJW R5
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
INSPECTION REPORT NOS. 50-338/92-18 AND 50-339/92-18
RESPONSE TO THE NOTICES OF VIOLATION

We have reviewed your letter of October 19, 1992, which referred to the inspection conducted at North Anna Power Station from August 16, 1992, through September 19, 1992, and reported in Inspection Report Nos. 50-338/92-18 and 50-339/92-18. Our response to the Notices of Violation is attached.

In your letter that transmitted the Notices of Violation, you expressed concern about Violation A, because management programs for corrective action failed to identify and promptly correct recurrent failures of the containment air lock door. We are in agreement that this issue requires additional attention.

As stated in the violation response, the potential adverse trend was identified in May 1992. However, the corrective action system failed to identify that the issue required increased attention by station management. Station management expectations for bringing adverse trends to management's attention in a timely manner have been re-emphasized to personnel responsible for implementing the corrective action program. We fully recognize that the early detection and resolution of problems is critical to the success of our nuclear operations.

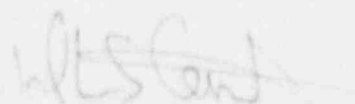
You also expressed concern with Violations B and C, which involved the failure to provide, maintain and adequately inspect fire barrier penetration seals. We are also in agreement that this issue requires additional attention. To resolve the issue, walls upgraded by the implementation of 10 CFR 50 Appendix R have been inspected to ensure they are adequately sealed. In addition, controlling procedures will be reviewed to determine those enhancements necessary to ensure re-inspection of fire barriers following the completion of work. Fire penetration barrier inspection procedures will be upgraded to include the recommendations from the 1991 Engineering Study that was performed.

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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
Region II
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Atlanta, Georgia 30323

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

RESPONSE TO THE NOTICES OF VIOLATION
INSPECTION REPORT NOS. 50-338/92-18 AND 50-339/92-18

NRC COMMENT

During an NRC inspection conducted on August 16 - September 19, 1992 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, the violations are listed below:

- A. 10 CFR 50, Appendix B, Criterion XVI as implemented by Operational Quality Assurance Program Topical Report (VEP 1-5A) requires in part that measures be established to assure that conditions adverse to quality such as failures, malfunctions, and deficiencies are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

Contrary to the above, corrective maintenance on the containment personnel air lock outer door performed between May 2 and September 10, 1992 failed to assure that the cause of leakage, in excess of that allowed by Technical Specification 4.6.2.3.a, was determined and failed to preclude repetition of a significant adverse condition in that as-found leakage testing, conducted pursuant to the Technical Specification following door operation, failed on six separate occasions.

This is a Severity Level IV Violation applicable to Unit 2 only (Supplement I).

- B. Unit 1 License Condition 2.D.(3).u. and Unit 2 License Condition 2.C.(23) requires in part that the licensee implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility and as approved in the SER dated February 1979.

Final Safety Analysis Report, Chapter 16, Technical Requirement 16.2.1.3 requires all penetration fire barriers protecting safety-related areas shall be functional. For non-functional fire barriers Technical Requirement 16.2.1.3 requires compensatory actions such as establishing a fire watch within one hour.

Contrary to the above, on September 2, 1992, penetration fire barriers separating the Unit 2 cable vault from the Unit 2 emergency switchgear air handler room, were identified to be non-functional since April 1992, without implementing compensatory actions; and on September 5, 1992, penetration fire barriers on the south wall separating all charging pump cubicles from a common pipe chase were identified to be non-functional since construction and compensatory actions not implemented.

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

- C. Technical Specification 6.8.1.f requires that written procedures be established and implemented covering activities including Fire Protection Program implementation.

Fire Protection Program Section 7.0, Quality Assurance, step 7.3 Instructions, Procedures and Drawings states in part that the Fire Protection Program is implemented and maintained via programs, instructions, procedures and drawings including periodic test procedures.

Periodic test procedure 0-PT-105.1.4, Fire Protection System - Fire Barriers is established for implementing inspections of fire barriers.

Contrary to the above, periodic test procedure 0-PT-105.1.4, effective 4/16/92, was not adequately established in that drawings used to perform inspections were not accurate, inspection areas were missing, and incorrect information was provided.

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

RESPONSE TO NOTICE OF VIOLATION A

1. REASON FOR THE VIOLATION

The violation was caused by 1) improper identification of the failure mechanism which caused the Unit 2 containment personnel air lock outer door to fail leakage testing on six occasions and 2) insufficient sensitivity to the adverse trend. In addition, the description below includes a containment personnel air lock outer door failure that occurred after the reporting period. The NRC Resident Inspectors requested that this failure be included in the violation response.

Personnel initially concluded that the seal on the air lock outer door was the cause of the leakage test failures. As a result, the seal was cleaned and lubricated with grease upon each failure and the door was successfully leak tested. The seal was also replaced on several occasions. However, it was subsequently determined that the cause of the containment personnel air lock outer door failures was improper door alignment. Adjustments were made and the door was successfully leak tested. At this time a specific procedure was developed and approved to address maintenance and adjustments of the containment personnel air lock. The air lock door failed its leakage test again on October 8, 1992. Using the new maintenance procedure, it was determined that additional door alignments were required. The door was then adjusted and leakage testing was satisfactorily completed.

The potential adverse trend on Unit 2 containment personnel air lock outer door failures was noted by personnel involved with the corrective action process. The potential adverse trend was communicated to the Maintenance Department in May 1992. However, maintenance personnel believed that the seal on the personnel air lock outer door was the cause of the failures and indicated that no other corrective actions were required. This corrective action response was accepted, and the need for further station management attention was not recognized.

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

Personnel responsible for the implementation of our corrective action program have been coached on station management's expectations for bringing any adverse trend on the performance of safety related equipment or systems to management's attention at the earliest possibility.

Adjustments have been made to the Unit 2 containment personnel air lock outer door in accordance with recommendations from the vendor representative.

A specific procedure has been approved to perform future containment personnel air lock door maintenance.

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

An additional inspection of the Unit 2 containment personnel air lock outer door will be performed during the 1993 refueling outage. Refurbishments will be made as necessary.

4. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance has been achieved.

RESPONSE TO NOTICE OF VIOLATION B

1. REASON FOR THE VIOLATION

The violation was caused by 1) an inadequate controlling procedure used for upgrading service water system piping from the Unit 2 cable vault to the Unit 2 emergency switchgear air handling room in March 1992 and 2) inadequate implementation of 10 CFR 50 Appendix R requirements for sealing the wall penetrations in the charging pump cubicles.

The penetrations affected by the service water system piping upgrade from the Unit 2 cable vault to the Unit 2 emergency switchgear air handling room were properly sealed with silicone foam. However, craft personnel repositioned the service water system piping to facilitate the final tie-in welds. This movement damaged the silicone foam and caused the penetration breaches. The controlling procedure did not require a re-inspection of the penetration seals following completion of work.

10 CFR 50 Appendix R required the walls of the charging pump cubicles to be upgraded to three hour fire barriers (fire walls). The North Anna Appendix R Report reflected that an upgrade of the charging pump cubicle fire walls was required. However, the modification package did not properly implement penetration seals to agree with the assumptions made in the North Anna Appendix R Report.

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

Upon discovery of the inadequately sealed penetrations fire watches were initiated.

The penetrations affected by the service water system piping upgrade from the Unit 2 cable vault to the Unit 2 emergency switchgear air handling room were repaired and returned to functional status. The fire watch in this area was then terminated.

The penetrations in the south wall of the charging pump cubicles at elevation 244 feet were properly sealed with silicone foam.

Additional walls, which were upgraded due to implementation of 10 CFR 50 Appendix R requirements, were inspected. These areas include the Technical Support Center, Fuel Oil Pumphouse, Auxiliary Building Stairwell and Service Building Stairwell. Appendix R penetrations in these areas are adequately sealed.

A walkdown of the charging pump cubicle walls was also performed. Discrepancies in the qualifications of several penetrations with respect to a previously approved exemption request were identified in the south wall at elevation 254 feet of cubicle 1-CH-P-1C (into the adjacent pipe tunnel) and in the ceiling of several cubicles.

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

A review of controlling procedures to determine what enhancements are necessary to ensure a re-inspection of fire barriers following the completion of work will be completed by December 15, 1992. Any necessary revisions to the procedures will be completed by March 15, 1993.

A documented inspection of walls that were upgraded by the implementation of 10 CFR 50 Appendix R will be completed by November 20, 1992.

Surveillance inspection procedure 0-PT-105.1.4B will be revised by February 1, 1993. Other procedures in the 0-PT-105.1.4 series will be revised at a later date to ensure that any additional changes identified during the performance in 1993 are included.

Exemption request No. 1 in the North Anna Appendix R report, which has been approved by the NRC, addressed the lack of full area fire detection/suppression in the Auxiliary Building. The penetrations in the south wall of charging pump cubicle 1-CH-P-1C at elevation 254 feet and in the cubicle ceiling were inadvertently omitted from the scope of the original exemption request. A revision to exemption request No. 1 will be submitted to the NRC with appropriate justification to include those penetrations in the scope of the exemption. The North Anna Appendix R Report will be revised following NRC approval of the revised exemption request.

4. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved by February 1, 1993 following the revision of 0-PT-105.1.4B. Other Loss Prevention procedures in the 0-PT-105.1.4 series will be revised at a later date to ensure that any additional enhancements identified during their performance in 1993 are included.

RESPONSE TO NOTICE OF VIOLATION C

1. REASON FOR THE VIOLATION

The violation was caused by the inadequate implementation of an Engineering Study that was completed in July 1991. The Engineering Study was prepared because of concerns in the industry related to penetration seals. The Study had several recommendations and most were implemented. However, the recommendations related to enhancing drawings and correcting numerous deficiencies in inspection procedures were not implemented. Inadequate coordination between the Engineering And Loss Prevention Departments regarding the new inspection methodology was also a contributing factor.

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

An action plan has been developed to enhance fire penetration barrier inspection procedures. Enhancements to these procedures include:

Improving the methodology for implementing the inspection procedures, including use of existing station drawings for electrical penetration sleeve

arrays. Ladders or scaffolding will be used, and both sides of the penetrations will be inspected.

Enhancing the technical requirements acceptance criteria for penetration damming material and clarifying that any penetrations not shown on the drawings must be added to the drawings.

Reviewing sketches in the inspection procedure to ensure that all fire barriers that are required to be sealed are included and that sketch errors noted in the 1991 Engineering Study are corrected.

Reviewing inspection procedures to verify proper wall thickness.

In addition, the action plan includes actions to:

Revise specification NAS-1014 and administrative procedure ADM-3.3 to clarify penetration damming material technical requirements, to allow maximum depth of seal over 12 inches in certain cases, to allow sealing of mechanical seals and to clarify the need for damming on large blockout type penetrations.

Incorporate a briefing session prior to performing fire barrier penetration inspections to clarify methodology and answer questions on acceptance criteria.

Revise Engineering Standard STD-GN-0001 to require surveillance inspection procedures to be updated if a new penetration is added by a design change.

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

The revision of surveillance inspection procedure O-PT-105.1.4B by February 1, 1993. Other Loss Prevention procedures in the O-PT-105.1.4 series will be revised at a later date to ensure that any additional enhancements identified during their performance in 1993 are included.

4. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved by February 1, 1993 following the revision of O-PT-105.1.4B. Other Loss Prevention procedures in the O-PT-105.1.4 series will be revised at a later date to ensure that any additional enhancements identified during their performance in 1993 are included.