

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

April 24, 1990

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

Serial No 90-193  
NAPS/PAK, R2  
Docket No. 50-338  
50-339  
License No. NPF-4  
NPF-7

Gentlemen:

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**NORTH ANNA POWER STATION UNITS 1 AND 2**  
**INSPECTION REPORT NOS. 50-338/89-35 AND 50-339/89-35**  
**RESPONSE TO THE NOTICES OF VIOLATION**

We have reviewed your letter of March 30, 1990 which referred to the inspection conducted at North Anna on November 18, 1989 through January 3, 1990 and reported in Inspection Report Nos. 50-338/89-35 and 50-339/89-35. Our response to the Notices of Violation are attached.

This event was also discussed in Licensee Event Report 89-019-00 for Unit 1, dated January 19, 1990.

We have no objection to this correspondence being made a matter of public record. If you have any further questions, please contact us.

Very truly yours,

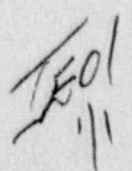


W. L. Stewart  
Senior Vice President - Nuclear

Attachment

cc: U. S. Nuclear Regulatory Commission  
101 Marietta Street, N.W.  
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Mr. M. S. Lesser  
NRC Senior Resident Inspector  
North Anna Power Station



**RESPONSE TO THE NOTICES OF VIOLATION**  
**REPORTED DURING THE NRC INSPECTION CONDUCTED**  
**BETWEEN NOVEMBER 18, 1989 AND JANUARY 3, 1990**  
**INSPECTION REPORT NOS 50-338/89-35 AND 50-339/89-35**

**NRC COMMENT**

During the Nuclear Regulatory Commission (NRC) inspection conducted on November 18, 1989 through January 3, 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, (1989), the violations are listed below:

1. Technical Specification 3.6.1.1, which is applicable with the unit in Modes 1-4, requires that, without primary containment integrity, restore containment integrity to the unit within one hour or be in a least hot standby within the next six hours and in cold shutdown within the following 30 hours. Containment integrity exists when each containment air lock is operable pursuant to Technical Specification 3.6.1.3., which requires that both doors for each air lock be closed except when the air lock is being used for normal transit.

Contrary to the above, Unit 1 was operated in Modes 1 and 2 between December 20, 1989 and December 29, 1989, without containment integrity on the equipment hatch escape air lock, and the unit was not placed in hot standby or cold shutdown within the required time. During this period, in which the equipment hatch escape air lock was not being used for normal transit, the handwheel operating mechanism for the escape air lock inner door was not secured in the fully closed position. Consequently, the pressure equalizing valve between the containment and the escape air lock was partially open resulting in the inner air lock door not being fully closed.

This is a Severity Level III violation (Supplement 1).

2. 10 CFR 50.72(b)(1)(ii) requires, in part, that if any event or condition during operation results in the condition of nuclear power plant, including its principal safety barriers, being seriously degraded the licensee shall notify the NRC as soon as practical and in all cases within one hour of the occurrence of the event or condition.

10 CFR 50.72(b)(2)(iii)(C) requires that the licensee notify the NRC as soon as practical and in all cases, within four hours of the occurrence of any event or condition that could alone have prevented the fulfillment of the safety function of a structure or system needed to control the release of radioactive material.

Contrary to the above, at 10:30 pm on December 28, 1989, with the plant in operation, it was discovered that the Unit 1 containment equipment escape air lock, which forms a portion of one of the plant's principal safety barriers, was unable to fulfill its safety function due to leakage through both the outer door and inner door's air lock equalizing valve. NRC was not notified of the event until 10:40 am December 29, 1989.

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

## **RESPONSE TO VIOLATION 1**

### **1. ADMISSION OR DENIAL OF THE ALLEGED VIOLATION**

The violation is correct as stated.

### **2. REASON FOR THE VIOLATION**

On December 20, 1989, containment integrity was required as a result of Unit 1 entering hot shutdown (Mode 4). At 2230 hours on December 28, 1989, with Unit 1 at 100 percent power (Mode 1), Health Physics personnel performing weekly survey rounds discovered the containment equipment escape air lock outer door drawing in air and notified the Operations Shift Supervisor. Following discovery of the outer door leakage, actions were initiated to perform Periodic Test (PT) 62.3, "Equipment Hatch Escape Lock Door Seals Testing", to quantify the seal leakage. At 0040 hours on December 29, 1989, Operations personnel preparing to quantify the outer door leakage noted that the escape hatch inner door operator was not in the fully closed position and immediately closed the door operator, thus restoring containment integrity. Investigation could not determine why the escape air lock inner door was not in the fully closed position on December 29, 1989.

At 0115 hours on December 29, 1989, the outer door failed to pass PT-62.3 and the Action Statement of Technical Specification 3.6.1.3 was entered for one containment escape air lock door inoperable. The O-rings on the outer door were cleaned and satisfactorily tested. The most probable cause of leakage past the escape air lock outer door, based on vendor information, was a build up of dirt and grease on the door's flange surface. The outer door was opened to provide access to the inner door. The inner door was successfully tested in accordance with PT-62.3. The outer door was subsequently reclosed and satisfactorily retested. The Action Statement of Technical Specification 3.6.1.3 was cleared at approximately 0315 hours on December 29, 1989.

Prior to this event, the escape hatch air lock door seals had been verified to be sealed by satisfactory performance of a Periodic Test on December 17, 1989. Following the completion of this seal leakage verification, the escape hatch air lock shield blocks and security door were installed. In addition, on December 24, 1989, the Security Department performed an alarm test on the security door at the containment equipment escape air lock and did not observe increased noise due to escape air lock leakage.

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

The escape hatch inner door operator was immediately closed to ensure containment integrity. The outer door was opened, inspected, and the sealing surface cleaned. Subsequently, both escape lock doors successfully passed their leakage tests.

The Unit 2 escape hatch doors were checked and verified to be fully closed.

Tamper indicating seals were installed on the escape hatch door operators located outside containment and placards were added to the escape hatch doors that address the need for the Control Room to be notified when the doors are operated.

Appropriate Periodic Tests were revised to require the installation of the shield blocks and security door prior to performing the seal leakage test, and to require verification that the tamper indicating seals are intact. If operational requirements preclude installation of the shield blocks and security door prior to the seal leakage test, appropriate administrative controls will be established to ensure that the escape hatch doors are not reopened.

A Root Cause Evaluation (RCE) of the event was also performed. The evaluation identified additional enhancements which are being implemented to preclude recurrence of a similar event.

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

The containment escape hatch doors will be inspected and preventative maintenance performed as necessary during the next refueling outages.

**5. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Full compliance has been achieved.

## **RESPONSE TO VIOLATION 2**

### **1. ADMISSION OR DENIAL OF THE ALLEGED VIOLATION**

The violation is correct as stated except that at 2230 hours on December 28, 1989, the Unit 1 containment equipment escape hatch inner door had not been identified as not being fully closed. At 0040 hours on December 29, 1989, the Unit 1 containment equipment escape hatch inner door was discovered as not being fully closed and was immediately closed.

### **2. REASON FOR THE VIOLATION**

Upon receiving notification of the escape hatch leakage at 2230 hours the Operations Shift Supervisor discussed the problem with the Superintendent of Operations. A procedure deviation was determined necessary to identify the "as found" leakage of the escape hatch outer door seal. The event was determined to be at least 30 day reportable at this time. Between 2330 and 0030 hours the Station Nuclear Safety and Operating Committee (SNSOC) discussed the situation with the Operations Shift Supervisor and approved the procedure deviation to allow testing of the outer door seal. The actions underway to measure the outer door leakage for a reportability determination were also discussed.

At 0030 hours on December 29, 1989, System Engineering was requested to review the documented  $L_a$  leakage and determine the amount of escape hatch leakage that could be allowed to maintain compliance with the Technical Specifications. This information was to aid in the reportability determination. At 0040 hours Operations personnel, attempting to test the outer door seal, discovered the inner door operator not in the fully closed position and immediately closed the door operator, thus restoring containment integrity. The Operations Shift Supervisor turnover occurred at 0100 hours and prompt reportability was discussed based upon receiving results of the outer door "as found" leakage testing. At 0115 hours the attempt to pressurize the outer door seal to quantify the leakage was unsuccessful. The outer door was subsequently opened, cleaned, and satisfactorily retested by 0315 without obtaining an "as found" leakage value.

The changing conditions (i.e., inner door not being fully closed with the inability to quantify the outer door "as found" leakage) from what was discussed earlier with SNSOC was rereviewed by the STA and discussed with management at 0620 hours. The NRC Senior Resident Inspector was notified by management at 0630 hours and informed that the escape hatch outer door was discovered leaking and the inner door was discovered not fully closed. Management reviewed the event at 0700 hours and determined a 4 hour report was necessary based upon 10CFR50.72(b)(2)(iii)(D) requirements. SNSOC re-reviewed the event at 1000 hours and based on an engineering assessment determined a 1 hour report was required under 10CFR50.72(b)(ii).

The initial delay in notifying the NRC was a result of a management decision to quantify the amount of escape hatch outer door leakage to accurately determine reportability requirements.

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

Special training was given to each operating shift to convey the small amount of leakage that is equivalent to  $L_a$ . This will assist the operators in assessing future leakage events to determine if the Technical Specification leakage limit has been exceeded.

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

Station Management will conduct coaching sessions on management expectations for reporting under 10 CFR 50.72 and 10 CFR 50.73 during Licensed Operator Requalification Training. These management expectations will include both conservatism and timeliness in reaching a decision on the needs for reporting.

Training materials for operations personnel will be enhanced to convey that the small amount of containment leakage that may occur is equivalent to the maximum leakage and the reportability requirements of 10 CFR 50.72 (b)(ii).

**5. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

The coaching sessions will be completed by May 25, 1990.

The enhanced training materials for operations personnel will be completed by October 30, 1990.