

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) NORTH ANNA POWER STATION, UNIT 1	DOCKET NUMBER (2) 05000338	PAGE (3) 1 OF 05
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TITLE (4)
UNIDENTIFIED FIRE BARRIER PENETRATIONS

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		
0	1	26	88	007	00	0	2	24	NORTH ANNA UNIT 2		
									DOCKET NUMBER(S)		
									05000339		

OPERATING MODE (9) 5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)									
POWER LEVEL (10) 000	<input type="checkbox"/> 20.402(a)	<input type="checkbox"/> 20.405(e)	<input type="checkbox"/> 50.73(a)(2)(ix)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(e)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(e)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 365A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)								

LICENSEE CONTACT FOR THIS LER (12)

NAME E. WAYNE HARRELL, STATION MANAGER	TELEPHONE NUMBER 703 894-1515
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
				N					

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (15)

At 1845 hours on January 26, 1988, with Unit 1 at 0 percent power (Mode 5) and Unit 2 at 100 percent power (Mode 1), it was discovered that a fire barrier breach existed between the Quench Spray Pump House and the piping tunnel to the Unit 1 Turbine Building. At 1600 hours on January 27, 1988 seven additional fire barrier breaches, connecting with the Unit 1 and Unit 2 Quench Spray Pump Houses, were discovered through supplementary walkdowns. Technical Specification 3.7.15 requires all fire barrier penetrations protecting safety related areas to be functional. Since these barriers were not functional, fire watches were established in compliance with Technical Specifications. This event is reportable pursuant to 10CFR50.73 (a)(2)(i).

As a corrective action, the breached fire barrier penetrations have been sealed in accordance with station design requirements.

The health and safety of the public were not affected at any time during this event.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		

TEXT (if more space is required, use additional NRC Form 366A's) (17)

1.0 Description of Event

At 1845 hours on January 26, 1988, with Unit 1 at 0 percent power (Mode 5) and Unit 2 at 100 percent power (Mode 1), it was discovered that a fire barrier breach existed between the Unit 1 Quench Spray Pump House (QSPH) and the piping tunnel to the Unit 1 Turbine Building. Technical Specification 3.7.15 requires all penetration fire barriers protecting safety related areas to be functional, therefore, this event is reportable pursuant to 10CFR50.73 (a)(2)(A).

On January 3, 1988, during a walkdown of the Unit 1 QSPH, operations personnel discovered a metal plate welded to the lower level northeast wall which contained a three inch hole. (At this time, it was not understood that a reportable condition existed as a result of the breached fire barrier caused by the three inch hole.) To cover the hole, a temporary blank flange was approved and installed in accordance with the station jumper procedure.

A design engineering review on January 26, 1988 determined that neither the temporary blank flange nor the seal around the metal plate met the requirements for an adequate three hour fire barrier. A continuous fire watch was then posted, in accordance with the Technical Specifications, until an acceptable seal could be established. Also, the temporary blank flange was removed in accordance with the station jumper procedure.

On January 27, 1988, supplementary field inspections were performed throughout all of the tunnels connected with the Unit 1 and Unit 2 QSPH's. Seven additional fire barrier breaches were found (See Table 1). All of these penetrations have been sealed either with high temperature foam or with metal plates and approved sealant.

2.0 Safety Consequences and Implications

No significant safety consequences resulted from this event for the following reasons:

- o The station is divided into various fire zones in which fire resistant structures envelope safety related equipment. The total area occupied by the eight fire barrier breaches represents an insignificant fraction of the overall area of the respective fire resistant structures.
- o There has never been a fire in any of the affected areas to challenge the fire barrier.
- o The breaches were primarily into long pipe tunnels which contained very little combustible material to promote the spread of a fire.

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3.0 Cause of the Event

The cause of this event was inadequate design/construction controls during the initial construction of the station. Original station drawings indicate that the areas in question were to be constructed as bounded fire barrier zones.

Investigation into the initial discovery of a fire barrier breach has also revealed that the surveillance procedure, 1-PT-105.1.4, Fire Protection System - Fire Barriers, has been inadequate since the Unit 1 initial start-up. This procedure is used to visually inspect all fire barrier penetrations for both Unit 1 and Unit 2 and to verify the integrity of the station fire barriers protecting safety related area and all penetrations within these barriers. Currently, the surveillance procedure does not show the lower levels of the Unit 1 and Unit 2 QSPH's as fire zones. As a result, the lower levels of the QSPH's were not inspected during any performance of the surveillance procedure.

Additionally, plant walkdowns for Appendix "R" fire barrier modifications did not detect any of the eight fire barrier breaches. These walkdowns were conducted during the last quarter of 1984.

4.0 Immediate Corrective Action

As an immediate corrective action, fire watches were posted in all affected areas in accordance with each Unit's Technical Specifications.

5.0 Additional Corrective Actions

An additional corrective action taken was the sealing of the breached penetrations. The work required to seal the fire barrier penetrations did not impact the structural/material integrity of any existing equipment or buildings.

6.0 Actions to Prevent Recurrence

A further action to prevent recurrence of this event is:

- o Inadequacies in the Fire Protection System - Fire Barriers surveillance procedure, 1-PT-105.1.4, will be reviewed and corrected to ensure that required fire zone boundaries are routinely inspected.

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7.0 Similar Events

No similar events of unidentified fire barriers have been reported at either North Anna Unit 1 or North Anna Unit 2.

8.0 Additional Information

This event is believed to be isolated to the Unit 1 and Unit 2 piping tunnel fire barriers. Although Appendix "R" walkdowns failed to detect the breaches, the additional walkdowns performed on January 27, 1988, have adequately addressed the piping tunnel fire barriers. Previous Appendix "R" inspections have been performed to identify any problems with cable penetration seals and fire doors. Any problems found during these inspections were corrected or addressed by an exemption request.

Additionally, existing North Anna Power Station modification, design and construction procedures properly address fire zone boundary activities. These procedures assure adherence to the appropriate design criteria and Technical Specifications.

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TABLE 1

Unit 1

1. Quench Spray Pump House (QSPH) to Auxiliary Feedwater Pump House pipe tunnel penetration.
2. Auxiliary Feedwater Pump House-Motor side to Quench Spray Pump House pipe tunnel penetration.
3. Auxiliary Feedwater Pump House-Turbine side to Quench Spray Pump House pipe tunnel.

Unit 2

4. Quench Spray Pump House to Turbine Building pipe tunnel penetration.
5. Quench Spray Pump House to Auxiliary Feedwater Pump House pipe tunnel penetration.
6. Auxiliary Feedwater Pump House-Motor side to Quench Spray Pump House pipe tunnel penetration.
7. Auxiliary Feedwater Pump House-Turbine side to Quench Spray Pump House pipe tunnel penetration.



VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION
P. O. BOX 402
MINERAL, VIRGINIA 23117

February 24, 1988

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

Serial No. N-88-009
NO/MLT: nih
Docket No. 50-338
50-339

License No. NPF-4
NPF-7

Dear Sirs:

The Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to North Anna Units 1 and 2.

Report No. LER 88-007-00

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be forwarded to Safety Evaluation and Control for their review.

Very Truly Yours,

E. Wayne Marrell
Station Manager

Enclosure

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

Mr. J. L. Caldwell
NRC Senior Resident Inspector
North Anna Power Station

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