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

10 CFR 50.73

November 10, 1992

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

NAPS:MPW
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

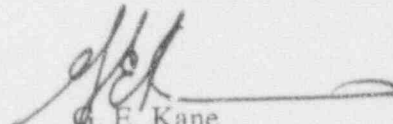
Dear Sirs:

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

Report No. 50-338/92-013-00

This Report has been reviewed by the Station Nuclear Safety and Operating Committee and will be forwarded to the Corporate Management Safety Review Committee for its review.

Very Truly Yours,


G. E. Kane
Station Manager

Enclosure:

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

Handwritten initials: JED

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)
North Anna Power Station Units 1 & 2

DOCKET NUMBER (2)
050003381

PAGE (3)
1 OF 4

TITLE (4)
MISSED SURVEILLANCE ON ENGINEERED SAFETY FEATURE RESPONSE TIME TESTING FOR AUXILIARY FEED WATER PUMP STARTS DUE TO STATION BLACKOUT AND MAIN FEED WATERPUMPS TRIPPED CAUSED BY PERSONNEL ERROR RESULTING IN AN INADEQUATE TEST PROCEDURE.

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 NAME(S)	DOCKET NUMBER(S)												
1	0	2	1	9	2	9	2	-	0	1	3	-	0	0	1	1	1	0	9	2	North Anna Unit 2	05000339
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)																			
POWER LEVEL (10)			20.402(b) 20.405(c) 50.73(a)(2)(iv) 73.71(b)																			
			20.405(a)(1)(i) 50.36(c)(1) 50.73(a)(2)(v) 73.71(c)																			
			20.405(a)(1)(ii) 50.36(c)(2) 50.73(a)(2)(vi) OTHER (Specify in Abstract below area in Text NRC Form 366A)																			
			20.405(a)(1)(iii) 50.73(a)(2)(i) 50.73(a)(2)(vii)(A)																			
			20.405(a)(1)(iv) 50.73(a)(2)(ii) 50.73(a)(2)(vii)(B)																			
			20.405(a)(1)(v) 50.73(a)(2)(iii) 50.73(a)(2)(x)																			

LICENSEE CONTACT FOR THIS LER (12)

NAME
G. E. Kane, Station Manager

TELEPHONE NUMBER
AREA CODE
703894-2101

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	CAUSE	SYSTEM

SUPPLEMENTAL REPORT EXPECTED (14)

YES (if yes, complete EXPECTED SUBMISSION DATE) ☒ NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On October 21, 1992, with Unit 1 at 70 percent power (Mode 1), the continuing evaluation of surveillance requirements being performed as a corrective action reported under LER 50-338/92-007-00 identified two missed surveillances. During this review, it was determined that the Engineered Safety Feature (ESF) response time testing for Auxiliary Feedwater (AFW) pump starts due to Station Blackout (SBO) and Main Feedwater (MFW) pump trip had not been performed as required by Technical Specification (TS) 4.3.2.1.3, Table 3.3-5 Items 10 and 11. Subsequently, TS 4.0.3 was entered and AFW pump start testing due to SBO was successfully completed. Testing of the AFW pump start due to MFW pump trip was not performed due to the potential for causing a turbine trip/reactor trip. A temporary waiver of compliance was requested and granted by the NRC. An emergency TS change was submitted, and approved by the NRC on October 30, 1992, to exempt this testing for the remainder of Unit 1 operating cycle. The action was cleared at 1057 hours, on October 22, 1992. This event is reportable pursuant to 10CFR50.73 (a) (2) (i) (B).

The cause of the missed surveillance is personnel error resulting in inadequate surveillance test procedures used to satisfy TS.

The SBO and MFW anticipatory AFW start signals are not taken credit for in the Safety Analysis and have been demonstrated functional during surveillance testing. Therefore, the health and safety of the public were not affected at any time during this event.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

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North Anna Power Station Units 1 & 2

YEAR

SEQUENTIAL
NUMBERREVISION
NUMBER

0 | 5 | 0 | 0 | 0 | 3 | 8 | 9 | 2 | - | 0 | 1 | 3 | - | 0 | 0 | 0 | 2 | OF | 0 | 4

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

1.0 Description of the Event

On October 21, 1992, with Unit 1 at 70 percent power (Mode 1), the continuing evaluation of surveillance requirements being performed as a corrective action reported under LER 50-338/12-007-00 identified two missed surveillances. During this review, it was determined that the Engineered Safety Feature (ESF) response time testing for Auxiliary Feedwater (AFW) pump (EIIIS System SA, Component P) starts due to Station Blackout (SBO) and Main Feedwater (MFW) pump (EIIIS System SJ, Component P) trip had not been performed as required by Technical Specification (TS) 4.3.2.1.3, Table 3.3-5 Items 10 and 11. Subsequently, TS 4.0.3 was entered and AFW pump start testing due to SBO was successfully completed. Testing of the AFW pump start due to MFW pump trip was not performed due to the potential for causing a turbine trip/reactor trip. A temporary waiver of compliance was requested and granted by the NRC. An emergency TS change was submitted, and approved by the NRC on October 30, 1992, to exempt this testing for the remainder of Unit 1 operating cycle. The action was cleared at 1057 hours, on October 22, 1992. This event is reportable pursuant to 10CFR50.73 (a) (2) (i) (B).

Response time testing is normally performed to provide assurance that the protective and ESF actuation functions are completed within the time limits assumed in the accident analyses. Of the four AFW start signals: (1) Undervoltage (UV), (2) Loss of MFW pumps, (3) Safety Injection (SI), (4) low-low Steam Generator (SG) level only (3) SI and (4) low-low SG level are taken credit for in the Safety Analysis. The UV and loss of MFW pump signals are anticipatory starts for which no credit is taken in the Safety Analysis.

Engineered Safety Feature response time testing for AFW pump starts due to SBO (i.e. loss of offsite power) was performed successfully on October 21, 1992 for Unit 1.

While preparing a test procedure to conduct the ESF response time testing for AFW pump starts due to MFW pump trip it was determined that the actuation of two relays in the AFW pump start circuit (Relays 3-CKT-1FWSA05 and 3-CKT-1FWSB05) due to a loss of main feedwater would cause a turbine trip. Lifting a lead to prevent relay actuation is possible, however, an error or an arc on the contacts could cause relays to actuate and cause a turbine trip/reactor trip. This surveillance test is normally performed while the unit is in a shutdown condition. Unit 1 is currently in coastdown operation at approximately 70% power and near the end of its cycle prior to its 1993 Steam Generator Replacement Outage which is scheduled to begin January 2, 1993.

Engineered Safety Feature response time testing for Unit 2 AFW pump starts due to SBO and MFW pump trip were performed satisfactorily during the last outage. However, prior to the last Unit 2 outage these surveillances had not been performed.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
North Anna Power Station Units 1 & 2	05000338	92	013	00	03	OF	04

TEXT (If more space is required, use additional NRC Form 365A's) (17)

2.0 Significant Safety Consequences and Implications

No significant safety consequences resulted from these events because the AFW pump start relays have repeatedly been demonstrated functional during surveillance testing. Response time testing of identical relays in similar configurations has consistently demonstrated a response time, typically much less than 0.1 seconds, well within that assumed in the response time acceptance criterion that forms the basis for the TS requirement. Additionally, no credit is taken in the Safety Analysis for AFW pump starts due to SBO or MFW pump trip start signals. Therefore, the health and safety of the public were not affected at any time during this event.

3.0 Cause of the Event

The cause of the missed surveillances is personnel error for failure to develop adequate surveillance test procedures to satisfy the Technical Specification Surveillance Requirements. Unit 1 TS Amendment No. 32, issued June 2, 1981 provided the new requirements for ESF response time testing of AFW pump start due to SBO and MFW pump trip.

When the full power license for Unit 2 was issued, in August 1981, the ESF response time testing of AFW pump start due to SBO and MFW pump trip was a requirement not previously applicable in the low power license.

Personnel failed to recognize that the periodic test procedures used to satisfy TS 4.3.2.1.3 did not include testing requirements for AFW pump starts due to SBO and MFW pump trip.

4.0 Immediate Corrective Actions

Testing of the Unit 1 AFW pump start due to SBO was performed on October 21, 1992. A temporary waiver of compliance and emergency TS change was requested and granted by the NRC for the testing of the Unit 1 AFW pump start due to MFW pump trip for the remainder of the Unit 1 operating cycle.

A examination of Unit 2 testing showed UV and MFW response times could be derived from available information and total response times calculated. Undervoltage and MFW response time on Unit 2 meets specification requirements.

5.0 Additional Corrective Actions

Procedures controlling the AFW pump testing are being revised to ensure actions for ESF response time testing for AFW pump starts due to SBO and MFW pump trip are performed. Procedure revisions will be completed prior to the next performance of the AFW pump tests.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 80.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) North Anna Power Station Units 1 & 2	DOCKET NUMBER (2) 0500033892	LER NUMBER (8)				PAGE (3)															
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER																	
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

6.0 Actions to Prevent Recurrence

Controlling procedure revisions for Unit 1 & 2 ESF response time testing of APW pump starts due to SBO and MFW pump trip will ensure proper testing.

7.0 Similar Events

Missed surveillances concerning failure to test entire component circuitry include LER N1/2-92-009-01 and N1/2-92-014-00.

8.0 Additional Information

An organized review of the TS surveillance program was initiated to ensure full compliance with the TS at North Anna. The review involves a line-by-line examination to verify that TS surveillance requirements are completely addressed by station procedures. These reviews are currently scheduled to be completed by June 1993. Status to date includes: Chapters 4 RCS & 5 ECCS - complete, Chapter 8 Electric Power - essentially complete, Chapter 6 Containment - near completion, Chapter 7 Plant Systems - approximately 75 percent complete, and Chapter 3 Monitoring Instrumentation Only - initiated.

North Anna Unit 2 was in Mode 1 at 100 percent power on October 21, 1992.