



10 CFR 50.73

VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION

P. O. BOX 402

MINERAL, VIRGINIA 23117

May 3, 1990

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

Serial No. N-90-006
NAPS/RCS:rcs
Docket Nos. 50-338

License Nos. NPF-4

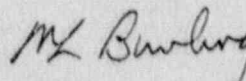
Dear Sirs:

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

Report No. LER 90-005-00

This Report has been reviewed by the Station Nuclear Safety and Operating Committee.

Very Truly Yours,

for 
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

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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 UNIT 1

DOCKET NUMBER (2)

0 5 0 0 0 3 3 8 1 OF 0 4

PAGE (3)

TITLE (4)

INCORRECT RWST AUTO SWITCHOVER LEVEL SETPOINT DUE TO PROCEDURAL AND PERSONNEL ERROR

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		DOCKET NUMBER(S)			
0	4	0	3	9	0	9	0	0	0	0	5	0	0	0
0	4	0	3	9	0	9	0	0	0	5	0	0	0	0

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)	1 0 0	20.402(b)	20.406(a)(1)(i)	20.406(a)(1)(ii)	20.406(a)(1)(iii)	20.406(a)(1)(iv)	20.406(a)(1)(v)	20.406(c)	50.36(c)(1)	50.36(c)(2)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vi)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(ix)	73.71(b)	73.71(c)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
G. E. Kane, Station Manager	7 0 3 8 9 4 7 2 1 0 1

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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input checked="" type="checkbox"/>	<input type="checkbox"/>				

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

From 1725 hours until 1925 hours on April 3, 1990, with Units 1 and 2 at 100 percent power (Mode 1), the automatic switchover setpoints on the Unit 1 Refueling Water Storage Tank (RWST) level instrument channels were improperly set high. If an Engineered Safety Feature (ESF) actuation had occurred during this time, the high setpoints would have caused premature automatic switchover of Low Head Safety Injection (LHSI) pump suction from the RWST to the containment sump. Thus, the amount of water available in the containment sump to provide Net Positive Suction Head (NPSH) to the LHSI Pumps and Recirculation Spray (RS) pumps would have been reduced, thus potentially affecting pump performance. This event is reportable pursuant to 10 CFR 50.73(a)(2)(v)(D).

The event was caused by both procedural and personnel errors. An incorrect circuit test point was cited in the calibration procedures. Additionally, test circuitry was connected to an incorrect test point. The resulting incorrect voltage readings caused the level setpoints to be adjusted high. The problem was discovered at approximately 1830 hours and corrective action was taken immediately to adjust the setpoints to the correct lower level. The procedures have been changed to cite the correct test point.

No ESF actuation occurred during the event and LHSI Pump suction was capable at all times of being manually switched back to the RWST in order to provide sufficient NPSH. Therefore, the health and safety of the general 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: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-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)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
NORTH ANNA POWER STATION UNITS 1 & 2	0 5 0 0 0 3 3 8	9 0	0 0 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

From 1725 hours until 1925 hours on April 3, 1990, with both Unit 1 and Unit 2 at 100 percent power (Mode 1), the automatic switchover setpoints on the Unit 1 Refueling Water Storage Tank (RWST) (EIIS System Identifier BP, Component Identifier TK) level instrument channels (mark numbers 01-QS-LS-100A, B, C, and D) (EIIS System Identifier BP, Component Identifier LT) were improperly set high. If an Engineered Safety Feature (ESF) actuation had occurred during this time interval, the high setpoints would have caused premature automatic switchover of the suction of the Low Head Safety Injection (LHSI) pumps (EIIS System Identifier BP, Component Identifier P) from the RWST for injection mode to the containment sump for recirculation mode. This event is reportable pursuant to 10CFR50.73(a)(2)(v)(D).

The incorrect setpoints were installed while performing Engineering Work Request (EWR) 89-571 which was written to install new manual and automatic switchover setpoints required as a result of an NRC Regulatory Guide 1.97 inspection. The new automatic switchover setpoint was calculated to be 24.9 percent level whereas the existing was 25.3 percent level. Inadvertently, all four channels were set to 37.25 percent level.

Work began at 1640 hours using EWR 89-571 and Instrument Calibration Procedures ICP-QS-1-L-100A, B, C, and D for the four channels of Unit 1. The calibration procedures for Units 1 and 2 had been revised and were approved by the Station Nuclear Safety and Operating Committee (SNSOC) on November 30, 1989 for the new 24.9 percent level setpoint per EWR 89-571. Because the setpoints were being changed as opposed to being calibrated, it was expected that the setpoints in the current revised procedure would not match the as found data. However, a standard for the as found data was not established by verifying the as left setpoint values from the last completed calibration procedure. This led to the failure to recognize that the test circuitry was not connected correctly.

The error was discovered after all four channels had been miscalibrated and the as left data from the last completed calibration procedure was verified as part of the as found criteria evaluation. Because there was such a large difference between the as found data and the as left data, it was realized that the test circuitry was incorrect. The correct value was installed in all four channels by 1925 hours.

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-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 (7) NORTH ANNA POWER STATION UNITS 1 & 2	DOCKET NUMBER (2) 0 5 0 0 0 3 3 8 9 0	LER NUMBER (6) <table border="1"><thead><tr><th data-bbox="1037 263 1146 293">YEAR</th><th data-bbox="1146 263 1301 293">SEQUENTIAL NUMBER</th><th data-bbox="1301 263 1382 293">REVISION NUMBER</th></tr></thead><tbody><tr><td data-bbox="1037 314 1146 344">00</td><td data-bbox="1146 314 1301 344">03</td><td data-bbox="1301 314 1382 344">00</td></tr></tbody></table>	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	00	03	00	PAGE (3) 03 OF 04
YEAR	SEQUENTIAL NUMBER	REVISION NUMBER							
00	03	00							

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

2.0 Significant Safety Consequences and Implications

While the condition existed with the higher RWST level automatic switchover setpoints, less water would have been available in the containment sump to provide NPSH to the LHSI and PS pumps if an ESF actuation had occurred. As a result, performance of the LHSI and RS pumps may have been affected if a design basis event had occurred. Even so, the LHSI pump suction could have been manually switched back to the RWST.

However, no ESF actuation occurred, and therefore, no automatic switchover was demanded. The probability for such an actuation in a two-hour time period is minimal. Therefore, the health and safety of the general public were not affected at any time during this event.

3.0 Cause of the Event

The event was caused by both procedural and personnel errors.

4.0 Immediate Corrective Action

Following discovery of the error, the technicians notified the Shift Supervisor and immediately began to recalibrate the setpoints to the correct level. At approximately 1925 hours the third channel was corrected and returned to service restoring the automatic switchover function to operable status. The fourth channel was corrected and returned to service at approximately 1940 hours.

A Station Deviation Report was initiated and a four-hour notification was made after determination by the SNSOC that the event was reportable pursuant to 10CFR50.72(b)(2)(iii)(D).

5.0 Additional Corrective Action

Personnel involved in this event were counseled.

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-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) 0 5 0 0 0 3 3 8 9 0 — 0 0 3 — 0 0 0 4 OF 0 4	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

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

6.0 Actions to Prevent Recurrence

The RWST level calibration procedures have been changed by Procedure Action Requests (PAR) to correct the comparator card test point error.

Procedures management has instructed the instrumentation procedures group on the importance of procedure verification by walk-down in the plant.

Instrumentation management has instructed instrumentation technicians on the importance of stopping work and resolving the problem when incorrect, incomplete, or unclear information is cited in a procedure.

A new format for instrument calibration procedures is now required by Virginia Power Nuclear Station Administration Procedure (VPAP) 0504, effective February 5, 1990. This format has the as found data analyzed for acceptance criteria at the time the as found data is taken. Thus, if the new procedure is complied with by its user, the as found acceptance criteria analysis can not be delayed until after a channel has been calibrated, as happened in this event. All North Anna Power Station instrument calibration procedures are scheduled to be revised by December 31, 1994 to comply with VPAP-0504.

This event will be incorporated into the continuing training program for Instrument Technicians.

7.0 Similar Events

No similar events have been previously reported.

8.0 Additional Information

Implementation of the revised Unit 2 RWST level manual and automatic switchover setpoints was performed on April 6, 1990.