

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) North Anna Unit 2	DOCKET NUMBER (2) 05000339	PAGE (3) 1 OF 3
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TITLE (4)  
Inadvertent Opening of Accumulator Isolation Valves

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)		
1	10	18	4	8	4	0	1	0	0	0		05000339

OPERATING MODE (9) 3	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 000	20.402(b)	20.406(e)	<input checked="" type="checkbox"/>	80.73(a)(2)(iv)	73.71(b)					
	20.406(a)(1)(i)	80.38(a)(1)	<input type="checkbox"/>	80.73(a)(2)(v)	73.71(c)					
	20.406(a)(1)(ii)	80.38(a)(2)	<input type="checkbox"/>	80.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 362A)					
	20.406(a)(1)(iii)	80.73(a)(2)(i)	<input checked="" type="checkbox"/>	80.73(a)(2)(vii)(A)						
	20.406(a)(1)(iv)	80.73(a)(2)(ii)	<input type="checkbox"/>	80.73(a)(2)(vii)(B)						
20.406(a)(1)(v)	80.73(a)(2)(iii)	<input type="checkbox"/>	80.73(a)(2)(ix)							

LICENSEE CONTACT FOR THIS LER (12)

NAME E. Wayne Harrell	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

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15) MONTH:    DAY:    YEAR:
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

ABSTRACT

On November 1, 1984, with Unit 2 in Mode 3, the "A" & "B" accumulator isolation valves inadvertently opened when their breakers were energized. Actuation of the accumulator valves, (ESF components), is reportable pursuant to 10CFR50.73. Reactor Coolant System temperature was approximately 350 degrees; system pressure was approximately 511 psig. A primary plant heat-up was in progress. The "A" and "B" accumulators partially injected into the Reactor Coolant System before the Control Room Operator could close and deenergize their isolation valves. Operations personnel had energized the valves as they were entering Mode 3 to meet the requirements of Technical Specification 3.5.1. Deenergizing the valves was outside the Action Statement of Technical Specification 3.5.1 and reportable pursuant to 10CFR50.73.

Subsequent investigation revealed that the Solid State Protection System slave relay (which controls the accumulator valve auto open function) was in a de-energized state. The system logic and circuitry de-energizes the relay to open the accumulator valves. According to plant conditions at the time of the event, the relay should have been energized. A troubleshooting procedure was performed and the relay actuated to its correct position. Power was restored to the valves within the time frame of the Action Statement of Technical Specifications 3.0.3.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		0 1 0	0	0	0 2	OF 0 3

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

On November 1, 1984, at 1128 hours with Unit 2 in Mode 3, MOV-2865A ("A" Accumulator isolation valve) inadvertently opened when its breaker was energized. The accumulator (2-SI-TK-1A) partially injected into the Reactor Coolant System causing it to drop below its Technical Specification required minimum contained volume (T.S. 3.5.1.b). The Control Room Operator prevented total discharge of the tank by pushing the "CLOSE" pushbutton and holding the button in until power was removed from the valve. The "B" accumulator isolation valve also came open when its breaker was energized. Operator action was quick enough to prevent "B" accumulator from dropping below the Technical Specifications minimum volume limit. Actuation of the accumulator valves, (ESF components), is reportable pursuant to 10CFR50.73. Operations personnel had energized the valves as they were entering Mode 3 to meet the requirements of Technical Specification 3.5.1. Deenergizing the valves was outside the Action Statement of Technical Specification 3.5.1 and reportable pursuant to 10CFR50.73.

Subsequent investigation revealed Train "A" Solid State Protection System (SSPS) slave relay K628 to be in a de-energized state. The K628 relay is supposed to deenergize when pressurizer pressure exceeds 2000 psig (P-11 permissive signal). This provides an automatic open signal to the accumulator isolation valves in case they have not already been opened. At the time of the event, however, pressurizer pressure was approximately 511 psig. At that pressure the K628 relay should have been energized. Input for this function to the SSPS is from the pressurizer pressure bistables. The bistable outputs were checked and were found to be indicating properly. The master relay (K510) that actuates slave relay K628 was also found to be deenergized. These discoveries isolated the suspected malfunction to the logic portion of the SSPS. At this point it was decided to perform a SSPS troubleshooting procedure.

Troubleshooting performed on the affected logic card could find nothing wrong with the card. The procedure was then used to return Train "A" SSPS to normal, OPERABLE status. When the last step was completed, the master relay energized and in turn actuated slave relay K628 to its proper energized condition.

Train "B" SSPS slave relay K628 and its master relay (K510) were also found to be deenergized. This would have caused "C" accumulator isolation valve to open if power had been applied to the valve. Subsequent troubleshooting revealed proper operation of the logic card. Train "B" of the SSPS was then returned to normal, OPERABLE status. When the last step was completed, the master relay energized and in turn actuated slave relay K628 to its proper energized condition.

While the troubleshooting was being performed the "A" accumulator volume was brought back to within Technical Specification limits within the time frame of the Action Statement of Technical Specification 3.5.1.b. Power was restored to the isolation valves at 1400 hours thereby satisfying the requirements of T.S. 3.0.3. Periodic Test 2-PT-56.3 was performed after power was restored to the valves. This test verifies automatic opening of the accumulator isolation valves when pressurizer pressure exceeds 2010 psig. This test also verifies automatic opening of the accumulator isolation valves upon receipt of a Safety Injection signal. In addition, Periodic Test 2-PT-36.1 is performed monthly. This test verifies proper operation of the SSPS logic functions.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED O&B NO. 3150-0104  
EXPIRES: 8/31/85

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8   4	-   0   1   0	-   0   0	0   3	OF	0   3

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

Procedural restrictions at North Anna prevent the accumulator isolation valves from being energized until NDT (brittle fracture) protection is no longer required. Therefore, since the pressurizer was OPERABLE with a bubble, the partial accumulator dump presented no hazard to the integrity of the reactor coolant system. No change in Reactor Coolant System pressure was observed during the event. No further abnormalities were observed with respect to proper accumulator isolation valve operation. No further troubleshooting actions could be taken because the problem cleared. Sticking contacts may have caused the problem.



VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION

P. O. BOX 402

MINERAL, VIRGINIA 23117

November 30, 1984

U. S. Nuclear Regulatory Commission  
Document Control Desk  
016 Phillips Building  
Washington, D.C. 20555

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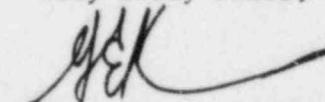
Dear Sirs:

The Virginia Electric and Power Company hereby submits the following License Event Report applicable to North Anna Unit No. 2.

Report No. LER 84-010-00

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,

  
for E. Wayne Harrell  
Station Manager

Enclosures (3 copies)

cc: Mr. James P. O'Reilly, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Suite 2900  
Atlanta, Georgia 30303

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