

# Vepco

VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION

P. O. BOX 402

MINERAL, VIRGINIA 23117

10 CFR 50.73

April 3, 1992

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

Serial No. N-92-13  
NAPS:WCH  
Docket Nos. 50-339  
License Nos. NPF-7

Dear Sirs:

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

Report No. 50-339/92-004-00

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

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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 2	DOCKET NUMBER (2) 05000339	PAGE (3) 1 OF 13
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TITLE (4)  
EMERGENCY DIESEL GENERATOR LOAD SEQUENCING TIMER SETPOINT DRIFT

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)
0	3	13	9	2	004	0	4	03			0500000
											0500000

OPERATING MODE (9) 6	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5 (Check one or more of the following) (11)											
POWER LEVEL (10) 000	20.402(b)			20.405(c)			50.73(a)(2)(v)			73.71(b)		
	20.407(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)			73.71(c)		
	20.409(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vi)			OTHER (Specify in Attach. below and in Text, NRC Form 365A)		
	20.405(a)(1)(iii)			<input checked="" type="checkbox"/> 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: 703 894-2101

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
X	E	K	T	M	R				
			A	1	0	9			Y

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)

On March 13, 1992, with Unit 2 in cold shutdown, it was determined during Emergency Diesel Generator (EDG) load sequencing timer testing that the "D" Control Rod Drive Mechanism cooling fan timer had drifted outside its setpoint tolerance listed under Technical Specification (TS) Table 4.8-1. In addition, on March 15, 1992, the "B" motor driven Auxiliary Feedwater pump timer was found outside its setpoint tolerance. Since this condition was prohibited by the TS, these events are reportable pursuant to 10CFR50.73 (a) (2) (i) (B).

The probable cause of these events is setpoint drift. As an immediate corrective action, the timer was reset and successfully retested.

Engineering performed an evaluation to review the impact that the setpoint drift of the timers would have on the operation of the EDG load sequencing scheme and determined that no significant safety consequences resulted from these events. Therefore, the health and safety of the public was not affected at any time due to these events.

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 (F-590), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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		YEAR 92	SEQUENTIAL NUMBER 004	REVISION NUMBER 00	

TEXT (11) - 1 SPACE IS REQUIRED FOR EACH CHARACTER NRC Form 306A (8) (17)

1.0 Description of the Event

On March 13 and 15, 1992, with Unit 2 in cold shutdown, it was determined during Emergency Diesel Generator (EDG) (EIIF EK-DG) load sequencing timer (EK-TMR, Vendor A109) testing that the "B" motor driven Auxiliary Feedwater (AFW) pump (EIIIS BA-P) timer and the "D" Control Rod Drive Mechanism (CRDM) cooling fan (EIIIS CD-FAN) timer had drifted outside their respective setpoint tolerance bands listed under Technical Specification (TS) Table 4.8-1. Since this condition was prohibited by the TS, these events are reportable pursuant to 10CFR50.73 (a) (2) (i) (B).

Timer 2FWEB01-62A was found outside its specified range of 23.75 to 26.25 seconds at 23.39 seconds. This timer prevents restart of AFW pump 2-FW-P-3B for 25 seconds to ensure sufficient margin exists to allow the diesel to increase to rated speed during the previous load block. Engineering has determined that the most limiting load sequencing event for this timer is a Loss Of Off-site Power (LOOP) occurring 1 hour after a Containment Depressurization Actuation (CDA). In this scenario, the "B" Inside Recirculation Spray pump (BE-P) starts at 20 seconds, and the "B" AFW pump starts at 25 seconds.

Engineering calculations show that diesel voltage and frequency would recover completely in 2.6 seconds given an initial loading of 2473 KW and starting a load block consisting of a 450 HP motor. Based on data obtained from 2-PT-83.3, the 300 HP IRSP motor would have started at 19.64 seconds with a diesel loading of 1845 KW. Applying the conservative 2.0 second recovery time mentioned above, the diesel would have recovered to rated speed at 22.24 seconds. Therefore, at 23.39 seconds the diesel would have been available to accept the "B" AFW pump start loading.

Timer 2HVRD04-62 was found outside its specified range of 9.5 to 10.5 seconds at 10.53 seconds. This timer prevents restart of 1-HV-F-37D for 10 seconds to ensure sufficient margin exists to allow the diesel to increase back to rated speed prior to the next load block. During a LOOP/SI condition, the next load block is the AFW pump at 20 seconds and during a LOOP condition the next load block is the Component Cooling (CC) pump (EIIIS CC-P) at 15 seconds. Although the timer setpoint was found greater than the TS tolerance limit, sufficient margin still existed to ensure EDG operability at the next load block. In addition, this fan trips on a Containment Depressurization Actuation (CDA) signal and therefore does not cause an EDG concern.

2.0 Significant Safety Consequences and Implications

The EDG load sequencing scheme is provided to ensure the EDGs have sufficient time to recover to rated speed following the start of safety equipment in the previous load block. Load sequencing timers are set in accordance with TS requirements to start equipment at appropriate times with respect to their

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

2.0 Significant Safety Consequences and Implications (continued)

load block. Engineering performed an evaluation to review the impact that the setpoint drift of the affected timers would have on the operation of the EDG load sequencing scheme and determined that no significant safety consequences resulted from these events. Therefore, the health and safety of the public was not affected at any time due to these events.

3.0 Cause of the Event

The probable cause of the event is setpoint drift.

4.0 Immediate Corrective Actions

The timer was reset and successfully tested within its TS tolerance limits.

5.0 Additional Corrective Actions

The remaining Unit 2 EDG Load sequencing timers were successfully tested.

6.0 Actions to Prevent Recurrence

An Engineering evaluation is being performed (in accordance with the Action Plan of LER N1-92-005-00) to determine the cause of the timer setpoint drift. Corrective actions will be implemented as required based on the results of the evaluation.

7.0 Similar Events

LER N1-92-005-00 documents EDG load sequencing timer setpoint drift identified during the 1992 mid cycle steam generator tube inspection outage.

LER N1/2-91-018-00 documents a failure to perform time response testing on the 72% undervoltage relays and associated time delay settings outside TS requirements.

LER N2-91-005-00 documents a degraded voltage relay time delay setting outside its TS tolerance limit.

8.0 Additional Information

Unit 1 was operating in Mode 1 when the deviation was discovered and was not affected by this event.