

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) North Anna Power Station Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 3 8 1	PAGE (3) CF 0 2
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TITLE (4)
Reactor Trip Due to Loss of Vital Bus 1-III

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)
11	14	84	84	019	010	11	24	85			0 5 0 0 0
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											

OPERATING MODE (9) 1	POWER LEVEL (10) 100	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(e)	90.38(a)(1)	90.38(a)(2)	90.73(a)(2)(i)	90.73(a)(2)(ii)	90.73(a)(2)(iii)	90.73(a)(2)(iv)	90.73(a)(2)(v)	90.73(a)(2)(vii)	90.73(a)(2)(viii)(A)	90.73(a)(2)(viii)(B)	90.73(a)(2)(ix)	73.71(b)	73.71(e)	OTHER (Specify in Abstract below and in Text, NRC Form 306A)
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LICENSEE CONTACT FOR THIS LER (12)

NAME E. Wayne Harrell	TELEPHONE NUMBER 7 0 3 8 9 4 - 5 1 5 1
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS												
X	E	F	I	N	V	T	S	2	5	0	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)

ABSTRACT

On November 14, 1984, at 0640 Unit 1 tripped from 100% power due to a vital bus inverter failure. The inverter was supplying power to the 125V AC vital bus 1-III. The inverter failure caused this bus and its associated equipment to become deenergized. Loss of power to the relay which senses "C" Reactor Coolant Pump (RCP) breaker position caused the reactor trip on loss of reactor coolant system flow coincident with reactor power greater than 30%. The "C" RCP never stopped running during this event.

Most parameters and equipment responded as expected for a post trip condition. The Unit was placed in Mode 2 on 11-17-84 and returned to 100% power on 11-19-84.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
North Anna Power Station Unit 1	0500033884	0	19	00	02	OF 02

TEXT (If more space is required, use additional NRC Form 368A's) (17)

On November 14, 1984, at 0640 Unit 1 tripped from 100% power due to a vital bus inverter (EIIS component identifier INVT) failure. The inverter was supplying power to the 125V AC vital bus I-III. The inverter failure caused this bus and its associated equipment to become deenergized. Loss of power to the relay which senses "C" Reactor Coolant Pump (RCP) breaker position caused the reactor trip on loss of reactor coolant system flow coincident with reactor power greater than 30%. The "C" RCP never stopped running during this event.

Vital bus I-III was deenergized for less than two minutes. The inverter had damaged SCRs and a blown fuse which prevented it from being reenergized. The bus was subsequently powered from its SOLA transformer. All equipment power from vital bus I-III responded as expected during loss and restoration of the bus. The most significant equipment response involved B steam generator. "B" Main Feed Valve (FCV-1488) and "B" Feed Bypass Valve (FCV-1489) both failed closed. "B" Wide Range Steam Generator Level indication (LI-1487) failed low. The Auxiliary Feedwater pump (1-FW-P-3B) which supplies "B" Steam Generator failed to auto start and was manually started by the Control Room Operator. These actions caused "B" Steam Generator level to drop below the narrow range indication while no wide range level indication was available. Level was restored to "B" Steam Generator within a few minutes.

Loss of vital bus I-III also deenergized all four water boxes' vacuum breakers which caused all Circulating Water Pumps to trip. This vital bus also supplies power to many containment isolation trip valves including Component Cooling to the reactor coolant pumps. Other significant equipment that was powered from the I-III Vital bus was one power range detector (N43), twenty-six incore thermocouples, SSPS channel III inputs, SSPS train "B" output relays, RVLIS train B, radiation monitor cabinet 1-2 and other equipment.

At 0654 the "B" Reactor Coolant Pump (RCP) was secured due to the number one seal leakoff flow indicating zero gpm and high stand pipe alarm. Shutting down the RCP was precautionary action and was not a required action to mitigate the effects of the reactor trip. Upon securing "B" RCP the number one seal leak off returned to normal and in a short period of time the stand pipe high level alarm cleared.

One of the blowdown containment isolation trip valves (TV-BD-100F) did not close automatically and would not close manually during this event. A SOV for this trip valve would not change position. Maintenance personnel agitated the SOV and the valve was subsequently cycled satisfactorily. Blowdown containment isolation trip valves are cycled every three months during a valve stroke time verification Periodic Test (1-PT-130). TV-BD-100F was last tested on 9-16-84 and stroked successfully during that test.

The source range excore detectors had to be manually reinstated due to one intermediate range detector (N35) being under compensated. This detector had its compensation voltage adjusted before the reactor was taken critical.

All parameters and equipment except those noted above responded as expected for a post trip condition. The Unit was placed in Mode 2 on 11-17-84 and returned to 100% power on 11-19-84.



VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION

P. O. BOX 402

MINERAL, VIRGINIA 23117

January 24, 1985

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

Serial No. N-84-034A
NO/RST: 11
Docket No. 50-338

License No. NPF-4

Dear Sirs:

The Virginia Power Company hereby submits the following Update License Event Report applicable to North Anna Unit No. 1. This report includes information in LER code block 8 which was inadvertently omitted when the report was initially prepared. Also the reasons for securing a Reactor Coolant Pump were revised to more accurately describe the concerns of the operating shift present during the reactor trip.

Report No. LER 84-019-01

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 Harrell
Station Manager

Enclosures (3 copies)

cc: Mr. James P. O'Reilly, Regional Administrator
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