NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
NORTH ANNA POWER STATION, UNIT 2	0 5 0 0 0 3 3 9	1 OF 0 3

TITLE (4)

HIGH LIFT SETPOINTS ON MAIN STEAM SAFETY 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)
											0 5 0 0 0
0 2	2 1	8 6	8 6	— 0 0 1	— 0 0		0 3	2 1	8 6		0 5 0 0 0

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)	0 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.38(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.38(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	X 50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
E. Wayne Harrell, Station Manager	7 0 3 — 8 9 4 - 5 1 5 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
X	S B	R V	C 7 1 0	Y							

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 5	3 0	8 6

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

At 0355 hours on February 21, 1986, eight Main Steam Line Code Safety Valves on Unit 2 were declared inoperable after failing functional testing. The Unit was in Mode 3 (Hot Standby) with RCS temperature at 539 degrees F and pressure at 1800 PSIG. The valves were determined to be inoperable while performing Periodic Testing in accordance with Section XI of the ASME Boiler and Pressure Vessel Code. With such a large number of valves found inoperable, Wyle Labs was selected to perform offsite testing on the Safety Valves. Discrepancies existed between the lift set pressures that station personnel found and those determined by Wyle Labs. All valves have been reset by Wyle Labs and will be operable upon installation. The cause of failure for the large percentage of Safety Valves has not been determined at this time. Results of Wyle Labs' investigation into the failures and the results of a Safety Analysis on the consequences of the failures will be included in a supplemental report. This event is reportable pursuant to 10 CFR 50.73(a)(2)(ii)(A).

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
NORTH ANNA POWER STATION, UNIT 2	0 5 0 0 0 3 3 9	8 6	— 0 0 1	— 0 0	0 2 OF 0 3

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

At 0355 hours on February 21, 1986, eight Main Steam Line (EIIS System Identifier SB) Code Safety Valves (EIIS Component Identifier RV) on Unit 2 were declared inoperable after failing functional testing. The Unit was in Mode 3 (Hot Standby) with RCS temperature at 539 degrees F and pressure at 1800 PSIG. An initial sample of five of the fifteen Main Steam Safety Valves were selected in accordance with Section XI of the ASME Boiler and Pressure Vessel Code so that Periodic Testing could be performed. The test used a pneumatic assist test device in addition to the pressure in the Main Steam Lines. The pneumatic assist test device was used in accordance with instructions supplied by the valve manufacturer Crosby Valve & Gage Company (EIIS Vendor Identifier C710). Out of this initial sample, two valves would not lift at the maximum pressure available, two were declared operable after adjustment, and one was found within its setpoint range. Due to the failures, additional testing was performed in accordance with ASME Section XI. Testing of the second sample of five yielded two more Safety Valves that would not lift, two declared operable after adjustment, and one found operable. The remaining valves were tested as a result of the additional failures. Testing of the last set of five valves determined that four valves would not lift and one valve was adjusted within its setpoint range.

With such a high percentage of Safety Valves inoperable, a decision was made to have the valves retested with an all steam pressure system. Wyle Labs was selected to perform the offsite testing and refurbishing on the Safety Valves. On February 28, 1986, Wyle Labs was shipped a total of ten Safety Valves. Included in this shipment were the eight Safety Valves that did not lift, one valve that was initially found operable, and one valve that was determined operable after adjustment. Discrepancies existed between lift set pressures that station personnel found and those determined by Wyle Labs. The eight valves that would not lift on site were found to lift at or above the maximum pressure available at the station test. The valve which passed the station test after adjustment lifted at Wyle Labs within 0.8% of the station's "as left pressure". The valve which passed the station test without adjustment lifted above the station's "as left" pressure by 0.9% to 4.0% after multiple testing. Nine out of the ten valves retested by Wyle labs needed adjustment because they were out of their setpoint ranges. The remaining five Safety Valves were sent to Wyle Labs on March 10, 1986, after the report on the first shipment of valves showed that the originally thought operable valves were actually set high. A list of the Main Steam Safety Valve 1986 test results follows in the Appendix.

Testing of the Safety Valves during the previous outage of September 1984 was performed offsite by ITT Henze. All fifteen valves were sent to ITT Henze to be tested, reworked and adjusted as necessary to meet setpoint requirements.

The cause of the failure of such a large percentage of Safety Valves has not been determined at this time. Wyle Labs is preparing a technical report on the Safety Valve failures. Results of that report and any planned corrective actions will be included in a supplemental report. A Safety Analysis on the consequences of the as-found lift pressures is presently being performed. Results of that analysis will also be included in the supplemental report. This event is reportable pursuant to 10 CFR 50.73(a)(2)(ii)(A).

APPENDIX

VALVE	SET PRESSURE (PSIG)	VIRGINIA POWER AS FOUND (PSIG)	VIRGINIA POWER AS LEFT (PSIG)	WYLE LABS AS FOUND (PSIG)	WYLE LABS AS LEFT (PSIG)
2-MS-SV-201A	1085 (±11)	1109	1094	1105	1093
2-MS-SV-201B	1085 (±11)	1133	1077	1168	1091
2-MS-SV-201C	1085 (±11)	1149*		1133	1084
2-MS-SV-202A	1095 (±11)	1096	1098	1123	1100
2-MS-SV-202B	1095 (±11)	1156*		1166	1088
2-MS-SV-202C	1095 (±11)	1147*		1147	1097
2-MS-SV-203A	1110 (±11)	1124	1111	1111	1111
2-MS-SV-203B	1110 (±11)	1125	1106	1196	1116
2-MS-SV-203C	1110 (±11)	1131	1112	1105	1105
2-MS-SV-204A	1120 (±11)	1127	1128	1155	1118
2-MS-SV-204B	1120 (±11)	1159*		1182	1117
2-MS-SV-204C	1120 (±11)	1149*		1223	1127
2-MS-SV-205A	1135 (±11)	1161*		1168	1136
2-MS-SV-205B	1135 (±11)	1160*		1196	1132
2-MS-SV-205C	1135 (±11)	1149*		1164	1126

Values are averages
*Failed to lift at this pressue

Vepco

VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION

P. O. BOX 402

MINERAL, VIRGINIA 23117

March 21, 1986

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

Serial No. N-86-008
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Docket No. 50-339

License No. 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. LER 86-001-00

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,

E. Wayne Harrell
Station Manager

Enclosures (3 copies)

cc: Dr. J. Nelson Grace, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 2900
Atlanta, Georgia 30323

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