

VIRGINIA ELECTRIC AND POWER COMPANY

Surry Power Station
P.O. Box 315
Surry, Virginia 23883

November 14, 1989

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

Serial No.: 89-051
Docket No.: 50-280
License No.: DPR-32

Gentlemen:

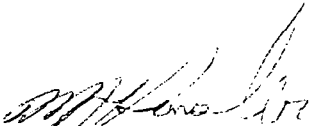
Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report for Unit 1.

REPORT NUMBER

89-037-00

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be reviewed by Safety Evaluation and Control.

Very truly yours,



M. R. Kansler
Station Manager

Enclosure

cc: Regional Administrator
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia 30323

Handwritten initials: T-R-22

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Surry Power Station, Unit 1						DOCKET NUMBER (2) 0 5 0 0 0 2 8 0				PAGE (3) 1 OF 0 3	
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TITLE (4) "A" S/G Header to Line SI Channel IV Declared Inoperable Due to Malfunctioning Pressure Comparator

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)
10	17	89	89	037	00	10	14	89			0 5 0 0 0

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																				
POWER LEVEL (10) 1 0 0	20.402(b)	20.405(a)(1)(i)	20.405(a)(1)(ii)	20.405(a)(1)(iii)	20.405(a)(1)(iv)	20.405(a)(1)(v)	20.406(c)	50.38(c)(1)	50.38(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)(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 365A)
										X											

LICENSEE CONTACT FOR THIS LER (12)											
NAME M. R. Kansler, Station Manager								TELEPHONE NUMBER AREA CODE: 8 0 4 3 5 7 - 3 1 8 4			

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	J E	X X X X	W 1 2 0	Y						

SUPPLEMENTAL REPORT EXPECTED DATE								EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)								X NO				

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

On October 17, 1989 at 0612 hours with Unit 1 at 100% power, the "A" Steam Generator (S/G) steam line to steam header high differential pressure Safety Injection channel IV was declared inoperable. With this channel inoperable and not in the trip mode, the degree of redundancy requirements of Technical Specification (T.S.) Table 3.7-2 was not met. The channel was placed in trip at 0712 hours and subsequently repaired and tested and returned to service at 0826 hours. At 0931 hours, the channel was again declared inoperable. It was placed in the trip mode at 0954 hours and tested and returned to service at 1340 hours. The cause of each event was the failure of a pressure comparator.

Following each event, the pressure comparator was replaced, and the channel was tested and returned to service. A review of the repair and testing methods of failed instrumentation components will be performed to determine if any enhancements are required.

**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) Surry Power Station, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 8 0	LER NUMBER (6)			PAGE (3)		
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		8 9	- 0 3 7	- 0 0	0 2	OF	0 3

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

1.0 Description of the Event

On October 17, 1989 with Unit 1 at 100% power at 0612 hours a control room annunciator (F-E-4), spuriously alarmed indicating a high steam line to steam header (EIIS-SB) differential pressure existed on "A" steam generator (S/G) (EIIS-SSG) channel IV. No abnormal steam line or header pressures were noted, and the channel was declared inoperable. With this channel inoperable and not in the trip mode, the minimum degree of redundancy for the header to line high differential pressure Safety Injection (SI) (EIIS-JE) protection logics specified in Technical Specification (T.S.) Table 3.7.2 was not met and T.S. 3.0.1 was in effect.

At 0712 hours, instrument technicians placed the "A" S/G steam line pressure channel IV in the trip mode satisfying the T.S. requirement and initiated an investigation to determine the cause of failure. The channel IV pressure comparator, PC-1-476, was determined to be malfunctioning and was replaced and the channel was tested and returned to service at 0826 hours. However, at 0931 hours, annunciator F-E-4 alarmed again, and the "A" S/G high steam line to header pressure SI channel IV was declared inoperable. The channel was placed in trip at 0954 hours, and it was determined that the recently replaced pressure comparator, PC-1-476, had malfunctioned. The pressure comparator was subsequently replaced, and the channel was tested and returned to service at 1340 hours.

2.0 Safety Consequences and Implications

A SI is initiated when two out of three steam header pressure channels are greater than two out of three steam line pressure channels by 120 psid on any S/G in order to mitigate the consequences of a steam line break upstream of the main steam non-return valves (EIIS-V). During the time the inoperable channel was not in the trip mode, the minimum number of channels required to initiate the above protection logic were maintained. In addition, all other protection channels for initiation of SI on a steam break remained fully operable. Therefore, the health and safety of the public were not affected.

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

3.0 Cause

For both events, the malfunction of channel IV was due to the failure of the "A" S/G pressure comparator, PC-1-476, resulting in an erratic change in the comparator's trip setpoint.

4.0 Immediate Corrective Action(s)

For each event, instrumentation technicians placed the affected channels in the trip mode and initiated an investigation to determine the cause.

5.0 Additional Corrective Action(s)

For each event, the pressure comparator was replaced with a rebuilt spare, and the channel was satisfactorily tested and returned to service.

6.0 Action(s) Taken to Prevent Recurrence

The reactor protection and safety injection instrumentation is periodically tested and calibrated, however, random failures such as the first event, cannot be prevented.

Presently, failed instrumentation components are repaired and tested on site and stored for later use as replacement components. Although the repair and testing methods used are considered satisfactory, a review of these methods will be performed to determine if any enhancements are required.

7.0 Similar Events

Unit 1 LERs: 88-023, 87-032, 87-039.
Unit 2 LERs: 88-018, 83-043.

In these events, components in the reactor protection instrumentation system failed decreasing the minimum degree of redundancy required by T.S. An immediate failure of the replaced component did not occur during these events, however.

8.0 Manufacturer/Model Number(s)

Hagan/4111 082-001.