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)
Surry Power Station, Unit 1	0 5 0 0 0 2 8 0	1 OF 0 3

TITLE (4)

Loss of Charging Pump Service Water Pumps

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 9	2 9	8 6	8 6	0 2 9	0 0	1 0	2 8	8 6		0 5 0 0 0
										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(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	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
R. F. Saunders, Station Manager	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	

SUPPLEMENTAL REPORT EXPECTED (14)		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 September 29, 1986 with Surry Units 1 and Unit 2 at 100% power, all service water flow to the Unit 1 Charging Pump Service Water Subsystem was lost due to the pump becoming air bound. This abnormal condition affected the heat sink for the charging pump lubricating oil coolers and the intermediate heat sink for the charging pump mechanical seals.

Immediate attention was provided to return a flowpath to service. The affected Unit 1 pump was subsequently vented. Following verification of proper operation, the Unit 1 subsystem was returned to normal status.

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NRC Form 366A
(9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

1.0 Description of the Event

On September 29, 1986 with Surry Units 1 and 2 at 100% power, Service Water (SW) flow to the Unit 1 Charging Pump Service Water (ChgPSW) subsystem was lost. The approximate time of the event was 1445 hours.

Earlier in the day, one of the redundant Unit 1 ChgPSW pumps {EIIS-P}, 1-SW-P-10A, had been removed from service for replacement. Maintenance activities in the 1-SW-P-10A room required that grinding be performed on a pump support prior to pump replacement. The grinding activity resulted in actuation of a smoke detector which automatically closed a SW fire isolation valve. Due to a leak on a strainer blow down line in the SW supply line, closure of the SW fire isolation valve allowed air in-leakage which caused 1-SW-P-10B to become air bound.

2.0 Safety Consequences and Implications

During normal operation, the charging pumps are used as part of the Reactor Coolant Chemical and Volume Control System (CVCS) and take suction from the Volume Control Tank (VCT) {EIIS-CB}. During accident conditions, with Safety Injection (SI) actuated, the charging pumps {EIIS-P} are used as High Head Safety Injection Pumps and take suction from the Refueling Water Storage Tank (RWST) {EIIS-BQ}.

The ChgPSW pumps provide a heat sink for the charging pump lube oil coolers and the component cooling water subsystem (which is the heat sink for the charging pump mechanical seal coolers) {EIIS-CLR}. Recent analyses and communications with the vendor indicate that no heat sink for the mechanical seal coolers is required. The effect of loss of heat sink to the charging pump lubricating oil coolers was monitored by the reactor operator on the plant computer. The highest bearing temperature observed during the event was approximately 160°F. Subsequent operating evaluation has revealed no pump degradation due to the short term lube oil temperature increase. Public health and safety were not affected during the event.

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

3.0 Cause

The cause of the event was introduction of air into the Charging Pump SW supply line. Grinding activities in the cubicle that houses ChgPSW pumps 1-SW-P-10A and 2-SW-P-10A actuated the smoke detector and closed the SW isolation valve.
A leak on the blowdown line for the in-line strainer {EIIS-STR} in the SW supply line provided an air in-leakage path into the system.

4.0 Immediate Corrective Action

Operators were dispatched to locate the source of the problem and return the pumps to normal. The temperatures of the operating charging pump were monitored.

5.0 Subsequent Corrective Action

The leak at the in-line strainer was repaired. The Maintenance Predictive Analysis Group subsequently monitored the Unit 1 charging pump that had been in operation during the event and found its operating parameters to be normal.

6.0 Actions Taken to Prevent Recurrence

This is considered an isolated event, therefore, no additional actions were taken.

7.0 Generic Implications

None.

Vepco

VIRGINIA ELECTRIC AND POWER COMPANY
Surry Power Station
P. O. Box 315
Surry, Virginia 23883

October 28, 1986

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

Serial No: 86-041
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 Surry Unit 1.

REPORT NUMBER

86-029-00

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,

H L Miller for
R. F. Saunders
Station Manager

Enclosure

cc: Dr. J. Nelson Grace
Regional Administrator
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia 30323

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