Updated Report-Previous Report Dated 10/26/84 POW 28-06-01

NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

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)

Reactor Trip ('C' Reactor Coolant Pump)

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 6	8 4	8 4	0 2 0	0 1	0 9	0 5	8 5		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
N	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0 8 0	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)

ABSTRACT

On September 26, 1984, a reactor trip occurred as a result of "C" Reactor Coolant Pump Motor Trip. The RCP motor trip was due to complete fracture of the "A" phase main load connection bus bar. This failure initiated an instantaneous ground fault on all phases. Immediately following the trip, all control and protection systems functioned as expected with the exception of the rod bottom light for Rod J-7.

The bus bar failure was found to be similar to the fracture of "B" phase which occurred on "C" RCP during December 15, 1983. The exact cause for these failures could not be determined.

All the main load connection bus bars will be replaced in "C" Reactor Coolant Pump prior to the unit restart.

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NRC Form 366 (9-83)

NRC Form 366A (9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Surry Power Station, Unit 1	0 5 0 0 0 2 8 0	8 4	— 0 2 0	— 0 1	0 2 OF 0 3

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

REACTOR TRIP ('C' REACTOR COOLANT PUMP)

1. Description of the Event

On September 26, 1984, at 2227, with unit 1 at 80% power, a reactor trip was initiated when "C" RCP breaker opened. The breaker tripped due to instantaneous grounding of all phases.

Following the reactor trip, the Rod Bottom Light for Rod J-7 did not actuate, however, the IRPI indication worked correctly.

All other protection and control systems were noted to function properly. Operators followed appropriate plant procedures and stabilized the plant following the reactor trip.

2. Safety Consequences and Implications

Technical Specifications require that a sufficient number of reactor coolant pumps be operating to provide coastdown core cooling flow in the event of a loss of reactor coolant flow accident. The loss of one pump from a nominal reactor coolant system heat output of 100% (2441 MWt) with three loops operating is an analyzed event in the Design Basis of Technical Sepcifications. Further more, the reactor protection logic is designed to maintain sufficient margin above a DNBR of 1.30, with loss of RCS flow.

Technical Specifications require the rod position indication system be operable and capable of determining the control rod positions within ± 12 steps. In addition, all other safety related systems remained operable during the event and plant parameters remained within the bounds of the accident analysis. Therefore, this event did not constitute an unreviewed safety question nor affect the health and safety of the public.

3. Cause

The reactor trip was due to the 'C' RCP Trip on instantaneous ground fault on all phases. A preliminary inspection of the motor leads has revealed a complete separation of "A" phase main load connection bus bar. This failure initiated the instantaneous ground fault on all phases. The exact cause for this failure could not be determined. A visual inspection, liquid dye penetrant test, was performed on all phases for all pumps during the outage.

The failure of the rod bottom light for Rod "J-7" was due to a sticking relay.

NRC Form 366A (9-83)

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Surry Power Station, Unit 1	0 5 0 0 0 2 8 0	8 4	— 0 2 0	— 0 1	0 3 OF 0 3

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

REACTOR TRIP ('C' REACTOR COOLANT PUMP)

4. Immediate Corrective Action

Operators performed all appropriate Emergency Procedures and Function Restoration Procedures to ensure the plant was returned to a stable condition. In addition, the RPI system gave immediate and correct indication of Rod "J-7" position.

Also, the STA performed the critical safety function status tree reviews to ensure specific plant parameters were noted and the appropriate procedures were used to maintain those parameters within safe bounds.

5. Additional Corrective Actions

All main load connection Bus Bars were replaced in "C" RCP. The relay controlling the rod bottom light was reseated and cycled satisfactory. No additional corrective actions are deemed necessary for the rod bottom light relay.

6. Action Taken to Prevent Recurrence

Due to the extent of damage of the bus bar, a meaningful failure analysis could not be performed.

7. Generic Implications

A similar failure occurred on "C" RCP motor on "B" phase main load connection Bus Bar on December 15, 1983.

Vepco

VIRGINIA ELECTRIC AND POWER COMPANY

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

September 5, 1985

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

Serial No: 84-35A
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 update for Surry Unit 1.

REPORT NUMBER

84-020-01

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
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IE22
1/1