

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) Surry - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 8 0	PAGE (3) 1 OF 0 3
-------------------------------------	--------------------------------------	----------------------

TITLE (4)

Reactor Trip

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	1	18	8	4	002	0	0	2	1384	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) 100		20.402(b)		20.405(c)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)		73.71(b)	
		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(e)	
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER (Specify in Abstract below and in Text, NRC Form 365A)	
		20.405(a)(1)(iii)		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 J. L. Wilson - 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	SJ	FCV	C635	Y					
X	IG	RI	W120	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH DAY YEAR
---	--	-------------------------------	----------------

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

The unit was at full power on 1-18-84, at 0834 hours numerous Control Room indications and annunciators started behaving erratically. It was determined that a voltage spike was in progress and the unit was manually tripped to place it in a safe condition.

During cable removal from a no longer used heat tracing breaker for a Design Change, a cable fell out of an adjacent breaker because of an apparent loose screw. This adjacent breaker was the feeder for the Semi Vital Bus. The loose cable began arcing, and this was the cause of the erratic indications.

The Semi Vital Bus breaker was opened for about one minute so the loose cable could be reconnected.

8402220435 840213
PDR ADOCK 05000280
S PDR

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
SURRY POWER STATION	0 5 0 0 0 2 8 0 8 4 -	0 0	2 -	0 0	0 2	OF	0 3

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

1. Description of the Event

Unit 1 was at 100% steady power on 1-18-84, at 0834 hours numerous Control Room Indications and annunciators started behaving erratically. Among these indications were the megawatt chart, the rod position indicators (EIIS No. ZIC), and the semi-vital bus (EIIS No. BU) voltage. The Shift Supervisor determined that the plant was experiencing a voltage transient. The reactor was manually tripped to place the unit in a safe condition because of uncertainties in actual plant conditions. A runback was in progress as a result of the loss of the semi vital bus, however, power spiking of various strip charts recorders masked this fact.

Initially following the trip, "A" main feed regulating valve (FRV) (EIIS No. FCV) did not go fully closed.

The source range detector (EIIS No. RI) failed to automatically reinstate due to an apparent compensation problem with intermediate channel NI-36 (EIIS No. RI). In addition, the source range detector did not reinstate when the manual reinstatement pushbuttons were used.

2. Safety Consequences and Implications

The semi vital bus supplies power to numerous control room indications and several non-vital component controller's. A plant shutdown and cooldown can be accomplished with a complete loss of the semi vital bus.

The feed reg. valves provide feedwater isolation during a Safety Injection (SI) and following a reactor trip as Tavg decreases. The "A" FRV was manually isolated following this trip and redundant feedwater isolation was available for S.I. through feed pump (EIIS No. P) trips with closure of the feed pump discharge MOV.

The source range detector was reinstated through a manual backup method. The circumstances of this event are considered in the plant safety analysis, therefore an unreviewed safety question was not created and the health and safety of the public were not affected.

3. Cause

While implementing Design Change 80-98A (Heat Tracing), (EIIS No. EHTR) construction electricians were removing obsolete cables from a no longer used heat tracing breaker. This heat tracing breaker was in a MCC cubical that was also occupied by a semi vital bus feeder breaker. The cable to be removed was routed behind the "C" phase cable for the semi vital bus breaker. When the heat tracing cable was pulled, some tension was applied to the "C" phase cable which fell out of the breaker and began arcing. This caused the erratic control room indications. It appears that the screw used to secure the "C" phase cable to the breaker was loose.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1) SURREY POWER STATION	DOCKET NUMBER (2) 0 5 0 0 0 2 8 0 3 4 —	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		0 0 2 —	0 0	0 3	OF	0 3	

TEXT (If more space is required, use additional NRC Form 365A's) (17)

The reason that the "A" FRV did not fully close following the trip was not determined.

A problem with the reinstating circuitry prevented the source range channel from being re-energized. A specific cause was not determined, however a problem with what is called the crowbar circuit is suspected.

4. Immediate Corrective Actions

After plant conditions were stable, the semi vital bus breaker was opened for about a minute to reinstall the "C" phase cable.

Air was isolated and vented from the "A" FRV operator and the FRV remained partially open. However, when maintenance personnel went to work on the valve, it had closed.

The source range drawer instrument fuses were removed and reinstalled. This action resulted in reinstating the source range instrumentation.

5. Additional Corrective Action

The "A" FRV was cycled several times with no apparent discrepancies.

6. Action Taken to Prevent Recurrence

The FRV operator and valve will be disassembled and inspected with the assistance of a valve manufacturing representative.

In June, 1977, a .1 μF capacitor was added to the source range circuit to correct a problem with reinstating the source range detectors similar to what was experienced during this event. It is suspected that the condition of this capacitor has deteriorated and it's replacement will again correct the problem.

7. Generic Implications

None.

Vepco

84 FEB 16 A 8:58

FEB 18 1984

VIRGINIA ELECTRIC AND POWER COMPANY

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

Serial No: 84-007

Docket No: 50-280

License No: DPR-32

Mr. James P. O'Reilly
Regional Administrator
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia 30303

Dear Mr. O'Reilly

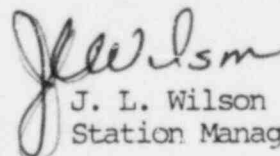
Pursuant to Surry Power Station Technical Specifications, the Virginia Electric and Power Company hereby submits the following Licensee Event Report for Surry Unit 2.

Report Number

002-00

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,



J. L. Wilson
Station Manager

Enclosure

cc: Document Control Desk, USNRC
016 Phillips Bldg.
Washington, D. C. 20555

OFFICIAL COPY

TE22

1/1