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 2	0 5 0 0 0 2 8 1	1 OF 0 3

TITLE (4)

ENGINEERED SAFETY FEATURE ACTUATION DUE TO PERSONNEL ERROR

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
1 0	1 4	8 7	8 7	— 0 0 5	— 0 0	1 1	1 2	8 7		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)			
		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	1 0 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)	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
David L. Benson, 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)	NO				

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

On October 14, 1987, Unit 2 was operating at 100% power. At 1037 hours, an Electrician investigating a spurious flood sensor alarm on the Train "A" Turbine Building flood control (EIIS-VK) panel (TBFT-A) inadvertently completed the flood protection circuit. This caused two of the four condenser circulating water inlet valves, MOV-CS-206A and C (EIIS-BS V), to begin automatically closing as designed. Operations personnel, responding to a decreasing condenser vacuum, identified the affected valves and fully opened them.

The spurious flood sensor alarm was caused when a leak developed on a level sensing line above one of the Turbine Building flood level probes and dampened the probe. The probe was dried, and the flood control system was returned to normal status. The leak on the sensing line above the probe was repaired.

A procedure will be developed to provide instructions and precautions to Maintenance personnel when working on the Turbine Building flood control circuits.

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(9 83)

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Surry Power Station, Unit 2	0 5 0 0 0 2 8 1	8 7	— 0 0 5	— 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 14, 1987, Unit 2 was operating at 100% power. At 1037 hours, an Electrician investigating a spurious flood sensor alarm on the Train "A" Turbine Building flood control (EIIS-VK) panel (TBFT-A) inadvertently completed the flood protection circuit. This caused two of the four condenser circulating water inlet valves, MOV-CW-206A and C (EIIS-BS V), to begin automatically closing as designed. Operations personnel, responding to a decreasing condenser vacuum, identified the affected valves and fully opened them.

2.0 Safety Consequences and Implications

The condenser circulating water inlet valves are designed to close in order to maintain an 18 foot level in the intake canal to preserve the Station heat sink during certain accident conditions. They also close to prevent flooding in the Turbine Building and thus protect safety related equipment from possible malfunction. The signal that completed the flood protection logic was spurious, and the valves cycled in accordance with their design. Therefore, the health and safety of the public were not affected.

3.0 Cause

An Electrician, who was troubleshooting a flood sensor alarm (EIIS-LA) on the train "A" Turbine Building flood control panel, inadvertently completed the flood protection circuit when attempting to determine the status of various relays (EIIS-RLY) in the circuit. The spurious flood sensor alarm was caused when a leak developed on a level sensing line (EIIS-TBG) above one of the Turbine Building flood level probes and dampened the probe.

4.0 Immediate Corrective Action

Operations personnel identified the affected valves (MOV-CW-206A and C), placed them in the full open position and returned the unit to stable operation.

5.0 Additional Corrective Action

The damp flood sensor probe was dried, and the flood control system was returned to normal status. The leak on the level sensing line above the probe has been repaired.

6.0 Action Taken to Prevent Recurrence

A procedure will be developed to provide instructions and precautions to Maintenance personnel when working on the Turbine Building flood control circuits.

7.0 Similar Events

None.

8.0 Manufacturer/Model Number

N/A

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

November 13, 1987

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

Serial No.: 87-031
Docket No.: 50-281
Licensee No.: DPR-37

Gentlemen:

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

REPORT NUMBER

87-005-00

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,

David L. Benson

David L. Benson
Station Manager

Enclosure

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

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POW 28-06-01-01

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 2	0 5 0 0 0 2 8 1	1 OF 0 3

TITLE (4)

Containment Isolation Valve Inoperable Due to Ruptured Diaphragm in Air Pilot Relay

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 8	3 1	8 7	8 7	— 0 0 4	— 0 0	0 9	3 0	8 7		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)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
1 0 0		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
	AREA CODE
D. L. Benson, Station Manager	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	C C	I S V	I 2 0 8	Y					

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 August 31, 1987 at 1130 hours, with Unit 2 operating at 100% power, a Unit No. 2 containment component cooling water (CCW) {EIIS-CC} outlet header isolation trip valve {EIIS ISV} was determined to be inoperable during the performance of a routine surveillance procedure. The valve, 2-CC-TV-209B, failed to close when a manual signal was initiated from the control room. This is contrary to Technical Specification 3.8.A.1 which requires that all automatic containment isolation valves be operable. The valve was successfully closed two hours later following valve actuator maintenance.

The failure of the valve to close was caused by a malfunctioning air pilot relay. The relay was determined to have a ruptured diaphragm which prevented the relay from functioning properly. The relay was replaced.

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NRC Form 366A
(9-83)

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

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Surry Power Station, Unit 2	0 5 0 0 0 2 8 1	8 7	— 0 0 4	— 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 August 31, 1987 at 1130 hours, with Unit 2 operating at 100% power, a Unit No. 2 containment component cooling water (CCW) {EIIS-CC} outlet header isolation trip valve {EIIS ISV} was determined to be inoperable during the performance of a routine surveillance procedure. The valve, 2-CC-TV-209B, failed to close when a manual signal was initiated from the control room. This is contrary to Technical Specification 3.8.A.1 which requires that all automatic containment isolation valves be operable.

The valve was successfully closed two hours later following valve actuator maintenance.

2.0 Safety Consequences and Implications

The CCW trip valve is a containment isolation valve that is required to close in response to a Phase I isolation signal. The valve is normally open during unit operation to allow CCW outlet flow from various loads inside the containment and closes if a Safety Injection occurs to preserve containment integrity in the event of a LOCA. The trip valve forms one of two isolation barriers, the other being the system membrane barrier, i.e., piping and heat exchanger tubing. The membrane barrier remained intact. Therefore, this event did not constitute an unreviewed safety question and the health and safety of the public were not affected.

3.0 Cause

The CCW trip valve is an air operated butterfly type valve. The valve actuator requires air pressure to open and to close the valve. A backup air accumulator is provided to close the valve upon a loss of normal supply air pressure.

The failure of the valve to close was caused by a malfunctioning air pilot relay. The relay was determined to have a ruptured diaphragm which prevented the relay from functioning properly.

★U.S.GPO:1986-0-824-538/455

NRC Form 366A (9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Surry Power Station, Unit 2	0 5 0 0 0 2 8 1	8 7	— 0 0 4	— 0 0	0 3 OF 0 3

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

4.0 Immediate Corrective Action

An operator was stationed at the CCW return header manual isolation valve to isolate the header if Phase I isolation was required, and valve maintenance was initiated.

5.0 Additional Corrective Action

It was determined that the air pilot relay was malfunctioning and the relay was replaced. The surveillance procedure was then completed satisfactorily and the trip valve was returned to operable status.

6.0 Actions Taken to Prevent Recurrence

None required.

7.0 Similar Events

None

8.0 Manufacturer/Model Number

ITT Conoflow/GV B12 air relay.

★U.S.GPO:1986-0-624-538/455

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

September 30, 1987

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

Serial No.: 87-027
Docket No.: 50-281
Licensee No.: DPR-37

Gentlemen:

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

REPORT NUMBER

87-004-00

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,

David L. Benson

David L. Benson
Station Manager

Enclosure

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

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