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)
Browns Ferry Unit 2	0 5 0 0 0 2 6 0	1 OF 0 2

TITLE (4)
Unplanned Engineered Safety Feature Actuation Due to Relay Failure

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)
									Browns Ferry Unit 1	0 5 0 0 0 2 5 9
0 9	2 7	8 6	8 6	0 1 3	0 0	1 0	2 4	8 6	Browns Ferry Unit 3	0 5 0 0 0 2 9 6

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)	X	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)		50.38(c)(1)		50.73(a)(2)(v)	73.71(c)
0 0 0		20.405(a)(1)(ii)		50.38(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
	AREA CODE
Stephen B. Jones, PORS Engineer	2 0 5 7 2 9 - 3 7 8 8

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	V A	R L Y	G 0 8 0	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 September 27, 1986, an unplanned initiation of the refueling zone isolation system, standby gas treatment (SBGT), and the control room emergency ventilation (CREV) occurred due to a failed relay in the refueling zone vent exhaust radiation trip logic. Operators initally believed a blown fuse in the logic circuit had caused the isolation, but the replacement fuse immediately failed after being installed. A maintenance request was written to investigate and correct the problem. The failed relay was identified and replaced. The refueling zone isolation was reset and SBGT and CREV were returned to standby readiness. Investigation into the relay failure determined the failure to be an isolated failure requiring no further corrective action.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Browns Ferry Unit 2	0 5 0 0 0 2 6 0	8 6	— 0 1 3	— 0 0	0 2 OF 0 2

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

Units 1 and 2 were in extended maintenance outages and unit 3 was in a refueling outage. All three units were affected by this event.

On September 27, 1986, at 0945, an unplanned initiation of the refueling zone isolation valves, standby gas treatment (SBGT) (BH), and control room emergency ventilation (CREV) (VI) occurred due to a failed relay (RLY) in the refueling zone vent exhaust radiation trip logic. This failure subsequently caused the associated fuse (FU) to fail. Operators initially replaced the blown fuse, believing a fuse failure had caused the problem. When the replacement fuse failed, a maintenance request was written to investigate and correct the problem. The failed relay was identified and replaced. At 1715 on September 27, 1986, the refuel zone isolation was reset, and SBGT and CREV returned to standby readiness.

The cause of the unplanned actuations of engineered safety features was a burned coil in a General Electric model CR120A relay. At Browns Ferry, this type relay experiences approximately a 0.4 percent relay failure rate per year. Because of this low failure rate, this coil failure is considered a isolated failure requiring no further corrective action.

This failure did not affect plant safety as all systems worked as required and placed the plants secondary containment in a conservative configuration. If this had occurred during any other mode of operation, the refueling zone would have isolated and SBGT and CREV would have initiated. Safe operation of the plant would not have been affected as the relay failure only results in placing secondary containment ventilation in a conservative configuration and has no effect on any other engineered safety features.

Responsible Plant Section - N/A

Previous Similar Events - BFRO 50-259/86009, 85024, 85011, 82057, 82048, 81063, 80034, 82039; 260/82025, 79018; 296/80009, 86005

TENNESSEE VALLEY AUTHORITY

Browns Ferry Nuclear Plant
P.O. Box 2000
Decatur, Alabama 35602

October 24, 1986

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

Dear Sir:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 2 - DOCKET NO. 50-260 - FACILITY OPERATING LICENSE DPR-52 - REPORTABLE OCCURRENCE REPORT BFRO-50-260/86013

The enclosed report provides details concerning the unplanned engineered safety feature actuation due to relay failure. This report is submitted in accordance to 10 CFR 50.73 (a)(2)(iv).

Very truly yours,

TENNESSEE VALLEY AUTHORITY

Robert L. Lewis
Plant Manager
Browns Ferry Nuclear Plant

Enclosures
cc (Enclosures):
Regional Administration
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II
101 Marietta Street, Suite 2900
Atlanta, Georgia 30303

INPO Records Center
Suite 1500
1100 Circle 75 Parkway
Atlanta, Georgia 30339

NRC Resident Inspector, Browns Ferry Nuclear Plant

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