

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Browns Ferry - Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 2 5 9					PAGE (3) 1 OF 0 2	
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TITLE (4) Incorrect Wiring of Shutdown Board																
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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 2				0 5 0 0 0 2 6 0												
1	1	1	9	8	5	8	5	0	5	6	0	0	1	22	0	8	5	Browns Ferry - Unit 3				0 5 0 0 0 2 9 6			

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) 0 1 0 1 0	20.402(b)		20.405(e)		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)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)											
	20.405(a)(1)(iv)	X	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)										TELEPHONE NUMBER			
NAME Stephen B. Jones, Compliance Section Engineer										AREA CODE 2 0 5			
										7 2 9 - 1 2 5 3 8			

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
YES (if yes, complete EXPECTED SUBMISSION DATE) <input type="checkbox"/> NO <input checked="" type="checkbox"/>														

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

During performance of Surveillance Instruction 4.9.A.2.C, Battery Discharge Test, it was discovered that the normal and alternate control power supplies were reversed to 4kv shutdown board "A" because of a wiring error. This error was attributed to a failure to properly terminate the wiring when the shutdown board battery was originally installed. This wiring was properly terminated, and the wiring to the remaining shutdown boards was verified to be the proper configuration.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1) Browns Ferry - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 5 9	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 5	0 5 6	0 0	2	OF	0 2

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

Unit 1 and unit 2 were in refueling outages, and unit 3 was in cold shutdown. All three units were affected by this condition.

During the November 19, 1985 performance of Surveillance Instruction (SI) 4.9.A.2.C, Battery Discharge Test, on unit 1 and unit 2 "A" shutdown board (EK) battery (BTRY), DC control power was temporarily lost after the alternate DC power supply, battery board 2 (EI), had been aligned and the fuse (FU) pulled on the normal power supply, shutdown board battery "A." Power was restored when the fuse to the shutdown board battery was installed. An investigation into the cause for the power loss revealed the power cables from the two power sources were reversed at the terminal strip. The results of this reversal were the designed normal power supply, shutdown board battery, was actually the alternate DC power supply and the designed alternate DC power supply, battery board 2, was the normal supply. When the operator switched to the alternate control power source, the shutdown board battery was aligned and, therefore, control power was lost when the shutdown board battery fuse was pulled. The operator returned the system to service by aligning the shutdown board battery as the DC power source in order to put the plant in its designed configuration.

This wiring error was the result of a personnel error during performance of an Engineering Change Notice to install the shutdown board battery. Apparently, when the shutdown board batteries were installed in 1973, the wires to shutdown board "A" were incorrectly terminated. This assumption is based on the fact that there is no record of other modifications to these cables; and in order to properly terminate the cables, one of the cables had to have additional length spliced to it. The inadequate length of the cable also shows these cables could not have been rolled inadvertently while maintenance was performed on the cabinet. The wiring discrepancy in shutdown board "A" has been corrected, and the remaining shutdown boards were inspected and were found to have the proper wiring configuration. Inadequate labeling of the transfer switch contributed to this event and the failure to previously identify the wiring error during previous surveillances.

As discussed above, the wiring error reversed normal and alternate power supplies to 4kv shutdown board "A." The additional loading added to battery board 2 is small, and reserve capacity was available to power the shutdown board. Because of the wiring problem, battery board 2 was supplying two shutdown boards (1A and 3ED). Single failure (loss of power supply) analyses for accident scenarios involving simultaneous shutdown of all three units do not address the loss of two shutdown boards and associated emergency equipment. The configuration is, therefore, considered an unanalyzed case. Even with this postulated single failure, six shutdown boards and associated equipment would be in service. Also, each shutdown board has alternate feeders that could be aligned by operations. It is, therefore, unlikely that a safety problem could have resulted from this condition.

Responsible Plant Section - N/A

Previous Events - 3FRO-50-260/85010

TENNESSEE VALLEY AUTHORITY

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

December 20, 1985

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

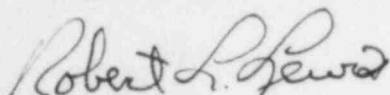
Dear Sir:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT (BFN) UNIT 1 -
DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - REPORTABLE
OCCURRENCE REPORT BFRO-50-259/85056

The enclosed report provides details concerning the incorrect wiring of the shutdown board. This report is submitted in accordance with 10 CFR 50.73 (a)(2)(iv). A 1-day extension on the 30-day request was agreed to by Region II.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



Robert L. Lewis
Acting Plant Manager
Browns Ferry Nuclear Plant

Enclosures

cc (Enclosures):

Regional Administrator
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II
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Atlanta, Georgia 30303

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

NRC Resident Inspector, BFN

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