



Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609

O. J. "Ike" Zeringue
Vice President, Browns Ferry Operations

MAY 26 1992

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

Dear Sir:

TVA - BROWNS FERRY NUCLEAR PLANT (BFN) UNIT 1 - DOCKET NO. 50-259 - FACILITY
OPERATING LICENSE DPR-33 - LICENSEE EVENT REPORT LER-50-259/92002

The enclosed report provides details concerning unplanned engineered safety
feature actuations because of a unexpected failure on the reactor protection
system circuit 1B motor generator. This report is submitted in accordance
with 10 CFR 50.73(a)(2)(iv).

Sincerely,



O. J. Zeringue

Enclosure
cc: see page 2

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U.S. Nuclear Regulatory Commission

MAY 26 1992

cc (Enclosure):

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

Paul Krippner
American Nuclear Insurers
The Exchange, Suite 245
270 Farmington Avenue
Farmington, Connecticut 06032

NRC Resident Inspector
Browns Ferry Nuclear Plant
Route 12, P.O. Box 637
Athens, Alabama 35609-2000

Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 2900
Atlanta, Georgia 30323

Thierry M. Ross
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Crows Ferry Nuclear Plant (BFN)										DOCKET NUMBER (2) 0501010215		PAGE (3) 91101015			
TITLE (4) Unplanned Engineered Safety Features Actuation Because of an unexpected Reactor Protection System failure.															
EVENT DAY (5)				LER NUMBER (6)				REPORT DATE (7)				OTHER FACILITIES INVOLVED (8)			
				SEQUENTIAL				REVISION				FACILITY NAMES			
MONTH DAY YEAR YEAR				NUMBER				MONTH DAY YEAR				BFN Unit 2			
032492				002				052692				BFN Unit 3			
OPERATING MODE (9) THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5:															
(Check one or more of the following)(11)															
N				20.402(b)				20.405(c)				X 50.73(a)(2)(iv)			
POWER				20.405(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)			
LEVEL				20.405(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vii)			
(10) 000				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					
James E. Wallace, Compliance Licensing Engineer										AREA CODE					
										205729-7874					
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)															
CAUSE				SYSTEM				COMPONENT				MANUFACTURER			
SUPPLEMENTAL REPORT EXPECTED (14)															
YES (If yes, complete EXPECTED SUBMISSION DATE) X NO															
DATE (15)															

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

On March 24, 1992, with Units 1 and 3 defueled and Unit 2 at 100 percent power, the Unit 1 reactor protection system experienced an unexpected failure, thereby causing the actuation of BFN's engineered safety features. This challenge to the ESFs is reportable in accordance with 10 CFR 50.73(a)(2)(iv).

The root cause for this event is an unexpected failure which could not be identified.

The immediate corrective actions were: an ASOS was dispatched to the Unit 1 board room to investigate the event. Unit 1 RPS bus 1B was placed on alternative power, alarms were reset, and ESF actions were returned to normal. The voltage regulator was replaced and tested under load conditions. The long-term corrective action is to contact the vendor for identifying similar problems to initiate corrective actions as required based on vendor findings.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)			
Browns Ferry Unit 1			SEQUENTIAL		REVISION				
		YEAR	NUMBER		NUMBER				
	050002159912	002	00	00	02	00	02	05	05

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

I. PLANT CONDITIONS

Unit 2 was at approximately 100 percent power (Power Operations). Units 1 and 3 were shutdown and defueled.

II. DESCRIPTION OF EVENT

A. Event:

On March 24, 1992, at 1841 hours, the Unit 1 control room unit operator (UO) [utility, licensed] received engineered safety feature actuations when the Unit 1 Reactor Protection System (RPS) bus 1B deenergized. At that time, the Shift Operations Supervisor (SOS) [utility, licensed] told the UO not to reset the alarms until a cause for the event could be determined. The SOS dispatched an Assistant Shift Operations Supervisor (ASOS) [utility, licensed] to the Unit 1 Battery Board room to investigate the cause of the event. From a preliminary investigation they found that the circuit protectors were open. After the preliminary investigation, the ASOS called a System Engineer (SE) to perform a more indepth investigation. They found the overvoltage relay energized and sealed in. They concluded that a generator field overvoltage trip had occurred.

The tripping of the circuit protector resulted in a Unit 1 Group 6 primary isolation system (POTS) actuation [JM]; reactor and refuel zone ventilation [VA] isolated on Units 1, 2, and 3; standby gas treatment (SGTS) [BH] initiated; and Unit 1 control room emergency ventilation (CREV) [VI] initiated.

At 1932 hours the RPS bus 1B was transferred to alternate power source. By 1954 hours the UO reset the alarms, and ESF actuations were returned to standby.

TVA reports this event in accordance with 10 CFR 73(a)(2)(iv) as any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature (ESF).

B. Inoperable Structures, Components, or Systems that Contributed to the Event:

None

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)			
Browns Ferry Unit 1				SEQUENTIAL		REVISION			
		YEAR		NUMBER		NUMBER			
		050002	1992	--001	--00	03	OF	05	

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

C. Dates and Approximate Times of Major Occurrences:

April 24, 1992 at 1842 CST	UO received ESF actuations. The SOS and ASOS were notified. ASOS was dispatched to the Unit 1 Battery Board room.
April 24, 1992 at 1 CST	RPS bus 1B was placed on alternative power source.
April 24, 1992 at 1954 CST	UO reset the alarms, and ESF actuations were returned to standby.
April 24, 1992 at 2111 CST	An ENS report was made to the NRC in accordance with 10 CFR 50.72(a)(2)(ii).

D. Other Systems or Secondary Functions Affected:

None

E. Method of Discovery:

This event was immediately known to the UO upon receiving indication of an isolation of the reactor building and refueling zone ventilation and the initiation of ESF equipment.

F. Operator Actions:

Unit 1 RPS Bus B was placed on alternative power, alarms were reset, and ESF actuations were returned to standby.

G. Safety System Responses:

Loss of power to RPS bus 1B resulted in a partial Group 6 PCIS actuation. The PCIS actuation included the reactor building and refueling zone ventilation system isolation; A, B, C SGTS starting; and A and B CREV systems starting.

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		SEQUENTIAL REVISION	
Browns Ferry Unit 1		YEAR NUMBER NUMBER	
	050002 5 9 2	0 0 1	n 0 0 4 OF 0 5

TEXT (If more space is required, use additional NRC Form 356A's) (17)

III. CAUSE OF THE EVENT

A. Immediate Cause:

The immediate cause for the RPS bus 1B to deenergize was an unexpected failure resulting in a generator field overvoltage trip. At the time of the event, no work activities, surveillance instructions were in progress that could have caused the RPS bus 1B to deenergize.

B. Root Cause:

The root cause was an unexpected failure of which the reason for could not be identified. Based on electrical troubleshooting, TVA concluded the generator field experienced an overvoltage trip.

IV. ANALYSIS OF THE EVENT

All equipment performed as designed during the event; therefore, the inadvertent actuation of several ESF components did not adversely affect the health and safety of the public.

V. CORRECTIVE ACTIONS

A. Immediate Corrective Actions:

The ASOS was dispatched to the Unit 1 Battery Board room to investigate the event. Unit 1 RPS bus 1B was placed on alternative power. Alarms were reset and ESF initiations were returned to standby. The voltage regulator was replaced, and post maintenance testing was performed on the new voltage regulator under load conditions.

B. Corrective Actions to Prevent Recurrence:

The vendor will be contacted for identifying similar problems to initiate corrective actions as required based on vendor findings.

VI. ADDITIONAL INFORMATION

A. Failed Components:

None.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	NUMBER	REVISION			
Browns Ferry Unit 1	0500025992	--	001	--	00	05	015

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

B. Previous LERs on Similar Events:

None.

VII. Commitments

The vendor will be contacted for identifying similar problems to initiate corrective actions as required based on findings. This contact will be completed by June 30, 1992.

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].