

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Browns Ferry - Units 1, 2, and 3										DOCKET NUMBER (2) 0 5 0 0 0 2 5 1 9					PAGE (3) 1 OF 0 2	
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TITLE (4)
Design Oversight on Load Shed Logic and Single Failure Criteria

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	1	2	8	4	8	4	0	2	2	0	5	0	0	0	2	6	10
										Browns Ferry - Unit 2								
										Browns Ferry - Unit 3								
										0	5	0	0	0	2	9	6	

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)

OPERATING MODE (9) N	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0 1 9 6	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)	X 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)	Part 21
	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)										TELEPHONE NUMBER				
NAME Alan W. Gordon										AREA CODE 2 0 5				
										7 2 1 9 1 - 2 1 5 3 1 7				

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)										X NO				

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

An IE Bulletin 79-01B investigation determined that a single failure or a loss of coolant accident and a loss of offsite power, could cause equipment necessary for electrical board room cooling to be lost. The cause of this condition is a design oversight.

Single failure of a distribution board could cause the loss of redundant cooling equipment in some electrical board rooms. During a loss of coolant accident in conjunction with loss of offsite power, normal ventilation for electrical board rooms is load shed with no provisions for manual restart.

As interim corrective measures, operating instructions have been revised to allow for restarting the necessary equipment within one hour by using electrical jumpers and/or mechanically providing an exhaust air duct opening. The power feeds to the EL621 air conditioner units will be changed from Division I to Division II for all three units. The load shed logic contacts in the feeds to the shutdown board room exhaust and board room emergency supply fans will be bypassed for units 1 and 2. These modifications are scheduled to be performed during the current refueling outage on unit 2 and will be accomplished on units 1 and 3 during their next refueling outages.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0114

EXPIRES: 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Browns Ferry - Units 1, 2, and 3	0500025984	-	022	-	04	02 OF 02

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

Unit 1 was operating at 96 percent power, unit 2 was operating at 59 percent power, and unit 3 was in a refueling outage. All three units were affected by this event.

On May 12, 1984, during IE Bulletin 79-01B evaluations, it was determined that during a loss of coolant accident in conjunction with loss of offsite power (EK), necessary cooling equipment for some electrical board (BD) rooms for units 1 and 2 could be lost. Because of a design error, the normal exhaust fans (FAN) (common to board rooms "A" and "B" on unit 1, and board rooms "C" and "D" on unit 2) are automatically and permanently load shed (ED) from their power supply upon receipt of an accident signal (LOCA) and concurrent loss of offsite power. This condition would not affect unit 3 electrical board room cooling, because unit 3 has no comparable load shed logic contacts.

A single failure of a 480V reactor motor operated valve board (RMOV) (ECBD) (1A, 2A, or 3A) causes the loss of redundant cooling equipment for some electrical board rooms. The equipment affected is the normal exhaust fan (1A board affects electrical board rooms A and B; 2A board affects electrical board rooms C and D; 3A board affects electrical board rooms 3A and 3B) and the emergency air-conditioners (ACU) for electrical board rooms A, C, and 3A. This is contrary to Final Safety Analysis Report, Section 10.12.5. (Note: Room cooling is dependent upon either the exhaust fan or the emergency air-conditioner.)

The Plant Operating Instruction - 57, and Emergency Operating Instruction - 36 were revised May 12, 1984 for operating units 1 and 2, and June 15, 1984 for outage unit 3 (cycle 5 refueling outage) to include appropriate action to be taken upon loss of the cooling units listed above. The instruction options include jumpering the 480V load shed logic contacts on the units 1 and 2 fans affected within the first hour of losing ventilation, and/or providing an exhaust path in the exhaust fan ductwork following the loss of a 480V RMOV BD (1A, 2A, or 3A) (DUCT).

Analysis shows that all essential equipment in the electrical board rooms would function for one hour during which time the above operator action would be necessary.

The power feeds to the EL.621 air conditioner units will be changed from Division I to Division II for all three units. The load shed logic contacts in the feeds to the shutdown board room exhaust and board room emergency supply fans will be bypassed for units 1 and 2. These modifications are scheduled to be performed during the current refueling outage on unit 2 and will be accomplished on units 1 and 3 during their next refueling outages.

This event is deemed Part 21 reportable. TVA, Office of Engineering, is the designer of the electrical board room cooling system.

Responsible Section - ED

Previous Similar Events - None

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

April 26, 1985

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

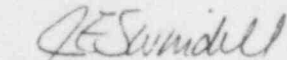
Dear Sir:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT (BFN) UNIT 1 -
DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - REPORTABLE
OCCURRENCE REPORT BFRO-50-259/84022 R4

The enclosed report provides additional details concerning design oversight on load shed logic and single failure criteria. This report is submitted in accordance with 10 CFR 50.73 (a)(2)(ii) and has been determined to be 10 CFR 21 reportable.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



G. T. Jones
Plant Manager
Browns Ferry Nuclear Plant

Enclosures

cc (Enclosures):

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