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 1	0 5 0 0 0 2 5 9	1 OF 0 3

TITLE (4)
Inadequate Procedure Causes Inadvertent Start of Emergency Equipment Cooling Water Pumps

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
0 1	1 2	8 8	8 8	0 0 3	0 0	0 2	0 5	8 8	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)	0 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
	AREA CODE
Earl D. Nave, Engineer, Plant Operations Review Staff	2 0 5 7 2 9 - 2 5 3 7

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)	X NO				

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

On January 12, 1988, at 0043 hours, with all three units defueled, four emergency equipment cooling water (EECW) pumps were inadvertently started due to a procedure deficiency. While attempting to put a raw cooling water (RCW) pump into service and take another pump out of service, the RCW header pressure dropped below the low pressure setpoint. This is a designed start signal for the EECW pumps. This was an unplanned actuation of an engineered safety feature.

The assistant unit operator and the assistant shift engineer restarted the required RCW pumps and returned four EECW pumps to standby readiness.

The operating instructions for the RCW system will be revised to provide instructions for alternating pumps in and out of service. A review of this event will be provided to current operations personnel.

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

Description of Event

BFN units 1, 2, and 3 were defueled during this event. Emergency equipment cooling water (EECW) system (EIIS code BI) is common to all three units.

On January 12, 1988, at 0043 hours, four EECW pumps were inadvertently started while attempting to put a raw cooling water (RCW) (EIIS code KG) pump into service and take another pump out of service. At the time of the event, the 3B and the 3D RCW pumps were in service. The A3 and D3 EECW pumps were in service and the A1 and B3 EECW pumps were tagged out. Operations personnel attempted to put the 3E RCW pump in service in place of the 3D pump. The assistant unit operator (AUO) started 3E RCW pump locally and observed a pressure increase on pump discharge and went to stop the 3D RCW pump. The AUO was not aware that the 3E RCW pump had tripped on high RCW header pressure. He then manually tripped the 3D pump. This caused the RCW header pressure to drop. The AUO restarted the 3D RCW pump locally and the assistant shift engineer (ASE) restarted the 3E RCW pump from the main control room. The RCW header pressure dropped below the 30 psig EECW pump start set point during the transient. This is a designed start signal for the EECW pumps. The C1, B1, D1, and C3 EECW pumps auto started as designed. At 0055 hours, on January 12, 1988, the 3D RCW pump was removed from service and EECW pumps C1, C3, D1, and D3 were returned to standby readiness. RCW pumps 3B and 3E and EECW pumps A3 and B1 remained in service. This was an unplanned engineered safety feature actuation.

Cause of Event

This event was caused by an inadequate operating instruction for the RCW system. The AUO was not aware that the control room handswitch for RCW pump 3E was in the auto position. With the handswitch in auto the pump will trip on high system pressure of 57 psig. RCW pump 3E tripped on high system pressure of 57 psig as designed. The AUO did not see this and shutdown 3D RCW pump locally. The resulting pressure transient dropped the RCW header pressure to the auto start setpoint of 30 psig for the EECW pumps, and caused the auto start of the four EECW pumps.

There is no section or precautions for alternating RCW pumps in the unit 1 or 3 operating instruction for the RCW system. The AUO should have been instructed to verify the RCW pump 3E handswitch in manual before starting the pump.

Corrective Action

The immediate corrective action was to return the 3E RCW pump to service and return four EECW pumps to standby readiness.

The RCW operating instruction for units 1 and 3 will be revised to include a section for alternating pumps. This has been completed for unit 2. A review of this event will be provided to current operations personnel.

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

Analysis of Event

The operable EECW pumps successfully responded to the start signal generated by low pressure in the RCW header. Their function was accomplished as designed. An inadvertent start of the EECW pumps does not adversely affect the nuclear safety of the plant. The severity of this event would not have been increased had the units been at power; the system response would have been the same.

Previous Similar Events - None

Commitments - The operating instruction for the units 1 and 3 RCW system will be revised to include a section on alternating RCW pumps.

A review of this event will be provided to current operations personnel.

TENNESSEE VALLEY AUTHORITY

Browns Ferry Nuclear Plant
Post Office Box 2000
Decatur, Alabama 35602

FEB 11 1988

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

Dear Sir:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 1 - DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - REPORTABLE OCCURRENCE REPORT BFRO-50-259/88003

The enclosed report provides details concerning the inadequate procedure which caused the inadvertent start of the emergency equipment cooling water pumps. This report is submitted in accordance with 10 CFR 50.73 (a)(2)(iv).

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. Martin / for

D. G. Walker
Plant Manager
Browns Ferry Nuclear Plant

Enclosures
cc (Enclosures):
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NRC Resident Inspector, Browns Ferry Nuclear Plant

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