NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/85

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 UNPLANNED START OF EMERGENCY EQUIPMENT COOLING WATER PUMP

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 9	0 1	8 8	8 8	— 0 2 7	— 0 0	0 9	2 9	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)(ix)	

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 September 1, 1988, at 1723 hours, with all three units defueled, during the performance of a post modification test on the 3ED 4KV shutdown board, the B1 residual heat removal service water (RHRSW) pump started inadvertently. This was an unplanned engineered safeguard feature (ESF) actuation. This occurred during the section of the test which verified correct operation of the 3D core spray (CS) pump breaker. The cause of this event was a procedural inadequacy. The test required closing the 3D CS pump breaker in the test position. Per plant design, this provides an auto start signal to the C3 and B1 RHRSW pumps after a 28 second time delay. The C3 pump was already running at the time of the event and the B1 pump started after the time delay. The test procedure did not identify the ESF actuation. At 1729 hours, the B1 RHRSW pump was stopped and the test was stopped until the procedure could be corrected. Procedures governing preparation and review of tests will have cautions placed in them on ESF actuation. All systems responded as designed placing the plant in a conservative configuration.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Description of Event

At the time of this event, all three units were defueled.

On September 1, 1988, at 1723 hours, the B1 and C3 residual heat removal service water (RHRSW) pumps (EIIS identifier BI) received an autostart signal. This was an unplanned engineered safeguard feature (ESF) actuation and occurred during the performance of a post-modification test. The test consisted of a functional test of 4KV shutdown board (EIIS identifier EA) following a fuse replacement modification. The test was specifically intended to verify correct operation of the 3D core spray (CS) pump (EIIS identifier BM) feeder breaker. The 3D CS breaker was placed in the test position and closed using the TEST CLOSE switch at the breaker. This action, per plant design, initiates an autostart after a 28 second time delay of RHRSW pumps aligned for supplying emergency equipment cooling water (EECW) (EIIS identifier BI). Pump C3 was already running at the time of the event and the B1 pump started after the time delay. This ESF actuation was not identified in the procedure nor part of the preplanned test sequence and is being reported in accordance with 10CFR 50.73 (a)(2)(iv). At 1729 hours, the B1 RHRSW pump was shutdown and the test stopped pending procedure revision. At 1910 hours, the required 4-hour report was made to the NRC per 10CFR 50.72 (b)(2)(ii).

Cause of Event

The cause of this event was procedural inadequacy. The ESF actuation which occurred was consistent with plant design but was not identified in the post modification test. The test received all required reviews prior to performance and was run in accordance with the approved procedure. The plant standard practice which controls preparation and approval of post modification tests does not stress the need for or provide guidance to ensure all ESF actuations initiated by the test are identified.

Analysis of Event

As identified above, the cause of this event was a procedural inadequacy. Plant procedures governing the preparation and review of test instructions do not stress the importance of identifying ESF actuations. These procedures should provide guidance in this area. The elapsed time of the event was 6 minutes. All systems performed as designed, placing the plant in a conservative configuration. Closure of CS breaker 3D is expected to start the C3 and B1 RHRSW pumps. The system would have responded in a similar manner during power operation.

Corrective Action

The immediate corrective action was to stop the B1 RHRSW pump and stop the test. The procedure was revised prior to continuing the test.

The recurrence control will be the revision of plant procedures governing conduct of testing (PMI 17.1), Preparation and Review of Post Modification Tests (SDSP 17.2), Restart Test Program (SDSP 12.1), and onsite Technical Review and Approval of Procedures (SDSP 7.4) to stress the importance of identifying and documenting ESF actuations prior to performance of tests.

Previous Similar Events - BFRO-50-259/88003
BFRO-50-259/88021

Commitments

Revise the following procedures to include caution on adequate review for ESF actuation:

* SDSP 7.4 - Onsite Technical Review and Approval of Procedures

* PMI 17.1 - Conduct of Testing

* SDSP 17.2 - Post Modification Test Program

* SDSP 12.1 - Restart Test Program

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

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-50-259/88027

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

Guy G. Campbell
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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