

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) BROWNS FERRY UNIT 2	DOCKET NUMBER (2) 0 5 0 0 0 2 6 0	PAGE (3) 1 OF 0 4
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TITLE (4)
UNPLANNED ENGINEERED SAFETY FEATURE ACTUATIONS DUE TO INADEQUATE PROCEDURES

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)
08	03	88	88	005	00	09	02	88	BROWNS FERRY UNIT 1		0 5 0 0 0 2 5 9
									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 0 0	20.402(b)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	<input type="checkbox"/>	73.71(b)					
	20.406(a)(1)(i)	<input type="checkbox"/>	50.73(a)(2)(v)	<input type="checkbox"/>	73.71(c)					
	20.406(a)(1)(ii)	<input type="checkbox"/>	50.73(a)(2)(vi)	<input type="checkbox"/>	OTHER (Specify in Abstract below and in Text, NRC Form 305A)					
	20.406(a)(1)(iii)	<input type="checkbox"/>	50.73(a)(2)(vii)(A)	<input type="checkbox"/>						
	20.406(a)(1)(iv)	<input type="checkbox"/>	50.73(a)(2)(vii)(B)	<input type="checkbox"/>						
20.406(a)(1)(v)	<input type="checkbox"/>	50.73(a)(2)(viii)	<input type="checkbox"/>							

LICENSEE CONTACT FOR THIS LER (12)	
NAME Stephen C. Willard, Engineer, Plant Operations Review Staff	TELEPHONE NUMBER AREA CODE: 210 5 712 91-12 51316

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

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

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

On August 3, 1988, at 1653 hours with all three units defueled, unit 2 received spurious low reactor water level signals which completed the initiation logic for reactor scram, secondary containment and primary containment isolations of Residual Heat Removal (RHR), Reactor Water Cleanup (RWCU), purging and venting, and Traversing Incore Probe (TIP). The RPS scram function, RWCU, and TIP were previously disabled and did not actuate. The spurious signals were initiated while releasing the clearance on pressure and level transmitters following modifications which relocated the instruments. The sensing lines were drained during the modification and were not backfilled prior to initially returning the valves to their normal positions. The sensing lines were backfilled and the affected systems were returned to service at 0225 hours the following day.

Several procedural inadequacies were identified which allowed the equipment clearance to be lifted following the modification with an inadequately coordinated plan of action for returning the equipment to service. The workplan procedure will be revised to ensure that a planned sequence exists for the equipment removal and return to service. The clearance procedure has been recently revised and will require planned sequences for removing and returning equipment to service. The conduct of maintenance procedure will be reviewed and revised as necessary to assure that proper guidance is provided to the maintenance personnel when working without a specific procedure under the direction of operations.

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		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

Browns Ferry units 1, 2, and 3 were defueled during this event with no fuel handling activities in progress. Unit 2 systems and common ventilation systems were involved.

On August 3, 1988, at 1653 hours unit 2 received spurious low reactor water level signals from reactor vessel level switches 2-LIS-3-203A and 203B. The low level signals completed the initiation logic for the following engineered safety features (ESF).

1. Unit 2 Reactor Protection System (RPS) scram, channels A and B (EIIS Code JC)
2. Containment Isolations/Actuations (EIIS code JM)

-Unit 2

- Group 2 (Residual Heat Removal) (RHR) isolation (EIIS code BO)
- Group 3 (Reactor Water Cleanup) (RWCU) isolation, (EIIS code CE)
- Group 6 (purging and venting) isolation (EIIS code VB)
- Group 8 (Traversing Incore Probe) (TIP) isolation (EIIS code IG)
- Reactor zone isolation (EIIS code VA)

-Common

- Standby Gas Treatment trains A, B, and C (EIIS code BH)
- Control Room Emergency Ventilation, trains A and B (EIIS code VI)
- Units 1, 2, and 3 refuel zone isolations (EIIS code VG)

The RPS scram function, RWCU, and TIP were previously disabled and did not actuate.

The spurious signals were initiated from level transmitters 2-LT-3-203A and 203B while releasing the clearance on transmitters 2-LT-3-206 and 2-PT-3-207 following modifications which relocated the latter instruments. All four listed transmitters are served by common sensing lines. The modification involved cutting and replacing the sensing lines to the instruments. These lines were drained during the modification and were not backfilled as a part of the workplan. Operations requested assistance from instrument maintenance in returning the valves to their normal positions following removal of the clearance. The instrument maintenance group did not consider this request as a request to return the instruments to service. The instrument technician placed the valves in their normal positions thereby initiating the actuation.

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TEXT (If more space is required, use additional NRC Form 388A's) (17)

Description of Event (continued)

The unit operator acknowledged the alarms and verified the actuations. A maintenance request was initiated to backfill the sensing lines feeding these instruments. Following completion of the sensing line backfill the affected systems were returned to service at 0225 hours the following day.

Cause of Event

Several procedural inadequacies were identified which allowed the equipment clearance to be lifted with an inadequately coordinated plan of action to return the equipment to service.

- 1) The workplan procedure (SDSP 8.4) does not require the workplan to address the removal and return to service of plant equipment.
- 2) The clearance procedure (BF 14.25) did not require a specific sequence be developed for inclusion or removal of components under clearance.
- 3) The conduct of maintenance procedure (PMI 6.2) did not address the work of the instrument technician while assisting operations; work not specifically identified as "returning the instrument to service."

Corrective Action

The workplan procedure (SDSP 8.4) will be revised to ensure that a planned sequence exists for the equipment removal and return to service.

The clearance procedure has been recently revised and now requires that a sequence always be specified for inclusion and removal of components under clearance, however, the change has not yet been implemented. The procedure is currently on administrative hold until training is completed on the procedure revisions. The procedure will then be implemented.

The conduct of maintenance procedure (PMI 6.2) will be reviewed and revised as necessary to assure that proper guidance is provided to the maintenance personnel when working without a specific procedure under the direction of operations.

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TEXT (If more space is required, use additional NRC Form 365A's) (17)

Analysis of Event

The reactor scram function on low water level is designed to shutdown the reactor in order to prevent fuel damage and protect the primary system boundary by reducing power and limiting the amount of heat generated in the event of a loss of coolant or reduction in coolant supply. The containment and vessel isolation functions are designed to limit the loss of coolant from the vessel and contain and process any radioactive releases.

Actuation of the operable isolation systems was a successful response to the spurious signal. These actuations were unnecessary challenges to plant safety systems. With the unit defueled and no fuel handling activities in progress there was little affect on unit operation; however, had the unit been at power a reactor scram would have occurred subjecting the unit to unnecessary transients. This modification would not have been performed in STARTUP or RUN modes since reactor shutdown would have been required by the technical specifications.

The event duration from ESF actuation to equipment being returned to normal was 9 1/2 hours.

Previous Similar Events - BPRO-50-259/88020
 -259/87029
 -260/88004
 -296/85021

Commitments

- The workplan procedure (SDSP 8.4) will be revised by December 1, 1988 to ensure that a planned sequence exists for the equipment removal and return to service.
- The clearance procedure has been recently revised and now requires that a sequence always be specified for inclusion and removal of components under clearance, however, the change has not yet been implemented. The procedure is currently on administrative hold until training is completed on the procedure revisions. The procedure will then be implemented.
- The conduct of maintenance procedure (PMI 6.2) will be reviewed and revised as necessary by December 1, 1988 to assure that proper guidance is provided to the maintenance personnel when working without a specific procedure under the direction of operations.

TENNESSEE VALLEY AUTHORITY

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

SEP 02 1988

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

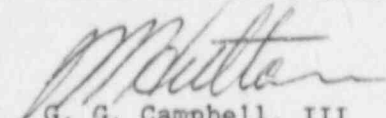
Dear Sir:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 2 - DOCKET
NO. 50-260 - FACILITY OPERATING LICENSE DPR-52 - REPORTABLE OCCURRENCE REPORT
BFRO-50-260/88005

The enclosed report provides details concerning the unplanned engineered safety
feature actuations due to inadequate procedures. This report is submitted in
accordance with 10 CFR 50.73 (a)(2)(iv).

Very truly yours,

TENNESSEE VALLEY AUTHORITY


G. G. Campbell, III
for 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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