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)
Inadvertent Scram

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 0 0 0
0 9	0 8	8 5	8 5	–	0 4 8	–	0 1	1 0	2 9	8 5		0 5 0 0 0

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)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
		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
Richard C. Steele, Compliance Engineer	2 0 5 7 2 9 - 3 5 8 1 3

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 8, 1985, an inadvertent scram occurred on unit 1 during performance of a weekly surveillance instruction (SI) on the average power monitors (APRMs). The unit was in a refueling outage with all control rods fully inserted. The inadvertent scram occurred when an APRM mode switch for the channel under test was placed in the "standby" position in accordance with the SI. The computer logs indicated that a half scram on the reactor protection system produced by the previously tested APRM channel had not reset. The SI was repeated as a test, but the failure of the RPS channel to reset could not be reproduced. To prevent similar recurrence, the SI will be revised to add explicit steps to verify that the half scram is fully reset and the scram solenoid group indicating lights are illuminated before proceeding to test the next APRM channel.

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

Units 1 and 2 were in refueling outages, and unit 3 was in an extended outage.

On September 8, 1985, at 1023, an inadvertent scram signal occurred on unit 1 during performance of a weekly plant surveillance instruction (SI 4.2.C-1A) on the average power range monitors (APRMs). The affected unit had all control rods fully inserted at the time of the event.

A portion of the SI requires that individual APRM channel mode switches be moved from the "operate" position to the "standby" position. This action will generate a scram signal in one of four trip channels in the reactor protection system (RPS), thus causing a half scram. In this particular case when the operator placed the channel mode switch for the APRM channel being tested (channel "C") in the "standby" position, a full scram unexpectedly occurred. The exact sequence of the event could not be determined because the sequence of events recorder (SER) was previously out of service. The alarm printer was functional, and the printout indicated the following sequence of alarms:

A. The previously tested APRM channel "D" was tripped.

B. The RPS trip channel "B2" was tripped.

C. The APRM channel "D" trip was reset.

D. The RPS trip channel "B2" remained in the tripped state.

When the operator proceeded to test APRM channel "C" by placing the APRM channel mode switch in the "standby" position, a scram signal was generated on RPS trip channel "A2," and a full scram occurred due to the presence of trip signals on channels "A2" and "B2" of the RPS. The operator reset the scram signal and completed the SI without further incident.

On September 22, 1985, a special test was conducted to simulate the event. APRM channel "D" was tripped and the channel "B-D-F" bypass switch placed in the "bypass" position while the channel was still in the tripped condition. APRM channel "C" was then placed in the "standby" condition in order to simulate the event. The reset failure did not recur in any of the repeated simulations.

A similar event had previously occurred on August 25, 1985, on the same unit during performance of the same SI as reported in LER BFRO-50-259/85043. In the investigation of the August 25, 1985 event, a defective channel bypass switch was discovered and repaired. The SI (SI 4.2.C-1A) has been successfully performed six times since the September 8, 1985 event.

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

Both events constituted a failure in the conservative direction (scram). This surveillance test is routinely performed, and it is highly desirable to prevent spurious scrams. Therefore, to prevent similar recurrences, the SI will be revised to add explicit steps to verify that the half scram obtained in the SI is fully reset; and the scram solenoid group indicating lights are illuminated before proceeding to test the next APRM channel.

Responsible Plant Section - N/A

Previous Events - BFRO-50-259/85043

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

October 29, 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-50-259/85048 R1

The enclosed report provides details concerning an inadvertent scram. The deleted information is being addressed as a separate LER (BFRO-50-259/85051). This report is submitted in accordance with 10 CFR 50.73 (a)(2)(iv).

Very truly yours,

TENNESSEE VALLEY AUTHORITY

Robert L. Lewis
Acting Plant Manager
Browns Ferry Nuclear Plant

Enclosures
cc (Enclosures):
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