

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 2											
TITLE (4) Main Steam Relief Valves Actuating Outside of Setpoint																									
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	3	0	7	8	5	8	5	0	0	2	0	0	0	4	0	2	8	5	0	5	0	0	0		
OPERATING MODE (9) N		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																							
POWER LEVEL (10) 0.010		20.402(b)				20.405(c)				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)				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)				Part 21											
		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 Stephen B. Jones										TELEPHONE NUMBER AREA CODE 2 0 5 7 2 9 - 2 5 3 8															
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															
X	S	B	I	R	V	T	O	2	I	O	N														
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)

The 13 two-stage Target Rock main steam relief valves (MSRV) on unit 2 were removed and sent to Wyle Laboratories for testing. Technical Specification 2.2.A requires actuation within 1 percent of the setpoint. This criteria was met by 4 of the valves and not met by 8 of the valves. The thirteenth valve is being disassembled to gather data on the setpoint drift phenomena.

The public health and safety was not affected. General Electric Company analysis shows a total average setpoint deviation of 5 percent would not affect nuclear safety. The total average deviation for the twelve valves tested was 2.33 percent.

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LIC. SEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Browns Ferry - Unit 2	0 5 0 0 0 2 6 0	8 5	-- 0 0 2	-- 0 0	0 2	OF	0 2

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

Unit 1 was at 92 percent power, unit 2 was in a refueling outage, and unit 3 was at 100 percent power. This event only affected unit 2.

The 13 two-stage Target Rock model 7567F-100 main steam relief valves (MSRV) on unit 2 were removed at the start of the refueling outage and shipped to Wyle Laboratories for testing as required by Technical Specification 4.6.D.1. On March 7, 1985, Wyle Laboratories informed TVA of the initial test results.

In order to collect additional information on MSRV setpoint drift problems, the 13 MSRVs had nitrogen applied to them in order to determine if the pilot disc was sticking. Test results showed 4 of the 7 valves had pilot disc sticking problems. These results confirm pilot disc sticking is a major contributor to high setpoint drift.

Following the nitrogen tests, the actuation pressure on 12 of the MSRVs were checked to see if they were within Technical Specification 2.2.A's limit of 1 percent of the setpoint. Actuation was within technical specification limit for 4 valves, within 3.2 percent of setpoint for 7 other valves, and the twelfth valve actuated 10.3 percent over its setpoint (see attached sheet for test results). The thirteenth valve is being disassembled and examined to collect data in regard to the setpoint drift phenomena. Testing is not required on this valve since reactor pressure limitations can be met with only 12 of the 13 MSRVs actuating. The apparent cause of the setpoint drift is sticking of the pilot disc in combination with inadequate clearance between the pilot rod and liner (guide) in the labyrinth seal. This problem is being assessed by the BWR Owner's Group. The 8 valves that failed to meet the technical specification requirements for actuation and the disassembled valve will have the setpoint reset and will be tested prior to installation.

There is no effect on public health and safety. The total average deviation was 2.33 percent. Previous calculations by General Electric Company indicated that a total average deviation in MSRV setpoint of 5.0 percent could have existed with no effect on nuclear safety. The evaluations performed in previous LERs remain valid in that this problem does not result in an overpressurized condition of reactor vessel piping nor does it result in any appreciable increase in minimum critical power ratio operating limit.

Responsible Plant Section - N/A

Previous Events - BFRO-50-296/83060, -259/83036, -259/81025, - 260/82027,
-260/81074, -296/80054

Cartridge S/N	Nameplate Set Pressure (psig)	Nitrogen Pressure Lifting Pilot Disc	Actuation Pressure	% of Nameplate Initial Actuation
1070	1115	Did not lift less than or equal 200 psig	N/A	N/A
1026	1125	N/A	1161	103.2
1016	1125	Did not lift less than or equal 200 psig	1148	102.0
1033	1105	Did not lift less than or equal 200 psig	1219	110.3
1031	1105	N/A	1107	100.1
1020	1105	N/A	1103	99.8
1057	1115	5	1133	101.6
1014	1125	N/A	1147	101.9
1022	1105	182	1133	102.5
1028	1115	5	1135	101.7
1032	1125	5	1160	103.1
1015	1125	N/A	1132	100.6
1021	1115	N/A	1125	100.8

Average Deviation 2.3 percent

TENNESSEE VALLEY AUTHORITY

Browns Ferry Nuclear Plant

P. O. Box 2000

Decatur, Alabama 35602

April 2, 1985

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

Dear Sir:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT (BFN) UNIT 2 -
DOCKET NO. 50-260 - FACILITY OPERATING LICENSE DPR-52 - REPORTABLE
OCCURRENCE REPORT BFRO-50-260/85002

The enclosed report provides details concerning the main steam relief valves actuating outside of setpoint. This report is submitted in accordance with 10 CFR 50.73 (a)(2)(i) and has been determined to be Part 21 reportable.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



G. T. Jones
Plant Manager
Browns Ferry Nuclear Plant

Enclosures

cc (Enclosures):

Regional Administrator
U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
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Atlanta, Georgia 30303

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Atlanta, Georgia 30339

NRC Resident Inspector, BFN