TENNESSEE VALLEY AUTHORITY DIVISION OF NUCLEAR POWER BROWNS FERRY NUCLEAR PLANT

MONTHLY OPERATING REPORT September 1, 1982 - September 30, 1982

DOCKET NUMBERS 50-259, 50-260, AND 50-296 LICENSE NUMBERS DPR-33, DPR-52, AND DPR-68

Submitted by:

Plant Superintendent

DESIGNATED ORIGINAL

CONTESTED BY LIKE 11/6/82

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Operations Summary

September 1982

The following summary describes the significant operation activities during the reporting period. In support of this summary, a chronological log of significant events is included in this report.

There were 25 reportable occurrences and six revisions to previous reportable occurrences reported to the NRC during the month of September.

Unit 1

There was one scram on the unit during the month. On September 7, the reactor scrammed due to low pressure on the scram pilot air header which was caused by a procedure error and out-of-date drawings allowing unit 1 air supply to the pilot air header to be isolated when unit 2 control air dryer was being isolated to allow maintenance on the dryer outlet valve.

The unit was in its EOC-4 refueling outage the entire month.

Unit 3

There was no scrams on the unit during the month.

Operations Summary (Continued)

September 1982

Fatigue Usage Evaluation

The cumulative usage factors for the reactor vessel are as follows:

Location		Usage Facto	r
	Unit 1	Unit 2	Unit 3
Shell at water line	0.00557	0.00448	0.00388
Feedwater nozzle	0.27208	0.19544	0.14700
Closure studs	0.21555	0.15641	0.12638

NOTE: This accumulated monthly information satisfies Technical Specification Section 6.6.A.17.B(3) reporting requirements.

Common System

Approximately 3.37E+05 gallons of waste liquids were discharged containing approximately 3.25E-01 curies of activities.

Operations Summary (Continued) September 1982

Refueling Information

Unit 1

Unit 1 is scheduled for its fifth refueling beginning on or about March 18, 1983, with a scheduled restart date of July 18, 1983. This refueling will involve loading 8 X 8 R (retrofit) fuel assemblies into the core; finishing the torus modification; turbine inspection; finishing TMI-2 modifications; post-accident sampling facility tie-ins; core spray changeout; and changeout of jet pump hold-down beams.

There are 764 fuel assemblies in the reactor vessel. The spent fuel storage pool presently contains 52 new fuel assemblies; 260 EOC-4 fuel assemblies; 232 EOC-3 fuel assemblies; 156 EOC-2 fuel assemblies; and 168 EOC-1 fuel assemblies. The present capacity is 1,148 locations. Modification work and testing is in progress to increase the spent fuel pool capacity to 3,471 assemblies.

Unit 2

Unit 2 began its fourth refueling on July 30, 1982 with a scheduled restart date of January 19, 1983. This refueling outage will involve completing relief valve modifications; torus modifications; "A" low-pressure turbine inspection; generator inspection; MG set installation for LPCI modification; loading additional 8 X 8 R fuel assemblies into the core; TMI-2 modifications; post-accident sampling facility tie-ins, and changeout of jet pump hold-down beams.

There are no fuel assemblies in the reactor vessel. At the end of the month there were 248 new fuel assemblies; 764 EOC-4 fuel assemblies; 353 EOC-3 fuel assemblies; 156 EOC-2 fuel assemblies; and 132 EOC-1 fuel

Operations Summary (Continued)

September 1982

Refueling Information

Unit 2 (Continued)

assemblies in the spent fuel storage pool. The present available capacity of the spent fuel pool is 97 locations.

Unit 3

Unit 3 is scheduled for its fifth refueling on or about October 1, 1983, with a scheduled restart date of January 31, 1983. This refueling will involve loading 8 X 8 R (retrofit) assemblies into the core; finishing the torus modifications; post-accident sampling facility tie-in; core spray changeout; finishing TMI-2 modifications; turbine inspection; and changeout of jet pump hold-down beams.

There are 764 fuel assemblies presently in the reactor vessel. There are 280 EOC-4 fuel assemblies; 124 EOC-3 fuel assemblies; 144 EOC-2 fuel assemblies; and 208 EOC-1 fuel assemblies in the spent fuel storage pool. The present available capacity of the spent fuel pool is 993 locations.

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Significant Operational Event

Date	Time	Event
9/01/82	0001	Reactor thermal power at 98%, limited by main steam line switches (vibration).
	0335	Commenced power ascension for vibration check on MSIVs.
	0445	Reactor thermal power at 99%, maximum flow, rod limited.
9/03/83	2245	Commenced reducing thermal power for turbine control valve tests and SIs.
	2300	Reactor power at 68% for turbine control valve tests complete, holding for SIs.
9/04/82	0045	Reduced thermal power to 66%, holding for CRD exercise SI 4.3.A.2.
	0312	SI 4.3.A.2 (CRD Exercise) complete, holding at 66% for SI 4.1.B.2 (APRM Gain).
	0910	SI 4.1.B.2 (APRM Gain) complete, commenced PCIOMR from 66% power (sequence "B").
9/05/82	2130	Reactor thermal power at 99%, maximum flow, rod limited.
9/06/82	0104	Received 1/4 isolation on "B" MSL low-pressure switch, commenced reducing thermal power.
	0500	Reactor power at 96% due to 1/4 isolation on "B" MSL.
	0700	Commenced power ascension from 96% power.
	1020	Commenced PCIOMR from 97% thermal power (sequence "B").
	1300	Reactor thermal power at 99%, maximum flow, rod limited.
	1603	Received 1/4 isolation on "B" MSL, commenced reducing thermal power.
	1700	Reactor power at 97% due to 1/4 isolation on "B" MSL.
9/07/82	1745	Reactor Scram No. 160 from 97% thermal power on "low" scram pilot air header pressure. This was apparently caused due to valving on unit 2 air dryer.
9/08/82	0503 0951	Commenced rod withdrawal for startup. Reactor Critical No. 179.
	1415	Rolled T/G.
	1438	Synchronized generator, commenced power ascension.

Significant Operational Event

Date	Time	Event
9/09/82	0230	Commenced PCIOMR from 75% thermal power (sequence "B").
9/10/82	0730	Reactor thermal power at 96%, maximum flow, rod limited.
	2200	Commenced reducing thermal power for control rod pattern adjustment.
9/11/82	0110	Reactor thermal power at 67% for control rod pattern adjustment.
	0830	Control rod pattern adjustment in progress, commenced power increase.
	1430	Control rod pattern adjustment complete, commenced PCICMR from 81% thermal power.
9/12/82	0920	Holding up on PCIOMR due to problems with aquatic growth at intake. Reactor power at 95%.
	1230	Commenced PCIOMR from 95% thermal power (sequence "B").
	1500	Reactor thermal power at 99%, maximum flow, rod limited.
9/18/82	0100	Reduced thermal power to 97% for turbine control valve tests and SIs.
	0310	Turbine control valve tests and SIs complete, commenced power ascension.
	0500	Reactor thermal power at 99%, maximum flow, rod limited.
9/19/82	0245	Commenced reducing thermal power to insert control rod 38-39 for replacement of level switch in accumulator.
	0300	Reactor power at 83%, holding for maintenance on control rod 38-39 accumulator.
	0415	Maintenance complete on control rod 38-39 accumulator, commenced power ascension.
	0505	Reactor power at 93%, commenced PCIOMR (sequence "B").
	0800	Reactor power at 99%, maximum flow, rod limited.
9/20/82	0815	Reduced reactor thermal power to 82% when "C" reactor feedwater pump tripped which caused recirculation pumps to run back on low reactor water level signal. The "C" reactor feedwater pump tripped while maintenance personnel were working on an amplifier.

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Significant Operational Event

Date	Time	Event
	0940	Maintenance comlete on amplifier "C", reactor feedwater pump back in service, commenced power ascension.
	1015	Commenced PCIOMR from 94% thermal power (sequence "B").
	1230	Reactor thermal power at 99%, maximum flow, rod limited.
9/23/82	0312	Commenced reducing thermal power for backwash and precoat of condensate demineralizars.
	0400	Reactor thermal power at 85% for backwash and precoat of condensate demineralizers.
	0613	Condensate demineralizer backwash and precoat complete, commenced power ascension.
	0700	Reactor thermal power at 99%, maximum flow, rod limited.
	2210	Commenced reducing thermal power for backwash and precoat of condensate demineralizers.
	2300	Reactor thermal power at 85% for backwash and precoat of condensate demineralizers.
9/24/82	0605	Condensate demineralizers backwash and precoat complete, commenced power ascension.
	0700	Reactor thermal power at 99%, maximum flow, rod limited.
	2320	Commenced reducing thermal power for control rod pattern adjustment.
9/25/82	0100	Reactor thermal power at 72% for control rod pattern adjustment.
	0200	Commenced power increase for control rod pattern adjustment.
	0730	Control rod pattern adjustment complete, commence PCIOMR from 82% thermal power (sequence "B").
9/26/82	0030	Reactor thermal power at 99%, maximum flow, rod limited.
9/28/82	0030	Commenced reducing thermal power due to high temperature in main steam tunnel. (Investigation revealed that the cause of the main steam line high temperature was a leak in C1 and C2 high-pressure heaters).
	0040	Isolated C1 and C2 high-pressure heaters, power reduction continues.

*18.

Significant Operational Event

Date	Time	Event
	0350	Reactor thermal power at 75%, holding due to C1 and C2 high-pressure heater leak.
	1000	Commenced PCIOMR from 75% thermal power (sequence "B").
	1550	Reactor thermal power at 85%, holding for C1 and C2 high-pressure heater maintenance.
. 9/30/82	0130	Commenced PCIOMR from 85% thermal power (sequence "B").
	0820	Stopped PCIOMR at 96%, holding due to C1 and C2 high-pressure heater maintenance.
	1645	Reduced thermal power to 93% due to C1 and C2 high-pressure heaters.
	2100	Commenced power ascension from 93% thermal power.
	2103	Received 1/4 scram on channel "B", holding load at 93% thermal power.
	2400	Reactor thermal power at 93%, holding due to 1/4 scram on channel "B".

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Zinificant Operational Event

Date	Time	Event
9/01/82	0001	End-of-cycle 4 refuel outage continues.

14.

Significant Operational Event

Date	Time	Event
9/01/82	0001	Reactor thermal power at 97%, control rod pattern adjustment in progress.
	0345	Commenced power ascension for control rod pattern adjustment.
	0400	Reactor thermal power at 99%, maximum flow, rod limited.
	0700	Commenced reducing thermal power due to "B" recirculation pump vibration.
	1500	Reactor power at 97%, "B" recirculation pump vibration limited.
	1930	Commenced power ascension from 97% power.
	2000	Reactor power at 99%, maximum flow, rod limited.
	2100	Reactor power at 98%, "B" recirculation pump limited.
9/02/82	0700	Reactor power at 97%, "B" recirculation pump vibration limited.
	1500	Reactor power at 97% for test of new computer software.
	1710	Computer software test complete, commenced power ascension.
	1800	Reactor thermal power at 99%, maximum flow, rod limited.
9/04/82	2320	Commenced reducing thermal power for control rod pattern adjustment.
9/05/82	0100	Reactor thermal power at 75%, control rod pattern adjustment in progress.
	0345	Control rod pattern adjustment complete, commenced power ascension from 82% thermal power.
	0430	Commenced PCIOMR from 85% thermal power.
	1500	Reactor power at 99%, maximum flow, rod limited.
9/11/82	2247	Commenced reducing thermal power for turbine control valve tests and SIs.
	2300	Reactor power at 80% for turbine control valve tests.
9/12/82	0020	Turbine control valve tests complete, holding for Si 4.1.A-11 (MSIV Closure).
	0125	SI 4.1.A-11 complete, commenced reducing thermal power for SI 4.7.D.1.b-2 (MSIV Closure).
	0130	Reactor power at 64% for SI 4.7.D.1.b-1 (MSIV Closure).

Significant Operational Event

Date	Time	Event
	0237	SI 4.7.D.1.b-2 complete, commenced power ascension.
	0647	Reactor thermal power at 91%, holding due to aquatic growth problems at intake screens.
	0815	Reduced thermal power to 82% due to high back pressure caused by aquatic growth on intake trash racks.
9/12/82	1055	Commenced power ascension from 82% thermal power.
	1100	Reactor thermal power at 88%, holding due to aquatic growth on intake trash racks.
9/13/82	0055	Reduced thermal power to 87% due to high back pressure caused by equatic growth on intake trash racks.
	0600	Commenced PCIOMR from 87% thermal power (control cell core).
	1325	Commenced requeing thermal power from 94% to remove aquatic growth from intake trash racks.
	1400	Reactor power at 90%, "A" CCW pump off for cleaning aquatic growth off of trash racks.
	1450	"A" CCW pump back in service, commenced power ascension.
9/14/82	0418	Commenced reducing thermal power from 94% due to high back pressure caused by aquatic growth on intake trash racks.
	0500	Reactor power at 86%, holding due to high back pressure (aquatic growth on intake trash racks).
	0526	Commenced power ascension from 86% thermal power.
	0600	Commenced PCIOMR from 94% thermal power.
	1100	Reactor thermal power at 99%, maximum flow, rod limited.
9/17/82	2203	Commenced reducing thermal power for removal of "A" reactor feedwater pump from service for maintenance.
	2320	"A" reactor feedwter pump out of service for maintenance, reactor power at 73%.
9/18/82	0520	"A" reactor feedwater pump maintenance completed, pump back in service, commenced power ascension.
	0615	Commenced PCIOMR from 92% thermal power (control cell core).
	0700	Reactor thermal power at 99%, maximum flow, rod limited.

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Significant Operational Event

Date	Time	Event
9/21/82	2210	Commenced reducing thermal powr to remove "A" reactor feedwater pump from service for maintenance.
	2257	Reactor thermal power at 69%, holding for maintenance on "A" reactor feedwater pump.
9/22/82	0110	"A" reactor feedwater pump back in service, commenced power ascension.
	0150	"A" reactor feedwater pump tripped on high vibration, reactor power at 70%.
	0152	"A" reactor feedwater pump rolled again and tripped. Instrument mechanics found a loose connection to a detector on the inboard bearing.
	0500	Repairs complete to the loose connection to the vibration detector for "A" reactor feedwater pump, pump back in service, commenced power ascension.
	0700	Reactor thermal power at 99%, maximum flow, rod limited.
9/26/82	0111	Commenced reducing thermal power for turbine control valve tests and SIs.
	0130	Reactor thermal power at 87%, holding for turbine control valve tests and SIs.
	0150	Turbine control valve tests and SIs complete, commenced power ascension.
	0230	Commenced PCIOMR from 93% thermal power.
	0330	Reactor thermal power at 99%, maximum flow, rod limited.
9/30/82	2400	Reactor thermal power at 99%, maximum flow, rod limited.

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-259

UNIT Browns Ferry - 1

DATE 10-1-82

Ted Thom

TELEPHONE 205 729 0834

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	1040
18	1032
19	1026
20	1031
21	1047
	1050
	1021
	. 1003
	906
26	1054
	1068
	830
	879
	967
31	
	17 18 19 20 21 22 23 24 25 26 27 28 29 30

INSTRUCTIONS

1 1

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. ____50-260

UNIT ___Browns Ferry - 2

DATE ___10-1-82

COMPLETED BY ___Ted_ Thom

TELEPHONE ____205_729_0834

AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
-7	17	
-7	18	-3
-7	19	-4
- 7	20	
-7	21	-4
-7	22	-4
- 7	23	-4
- 7	24	-4
-7	25	-4
-7	26	
- 7	27	-4
-6	28	
-5	29	-4
-4	: 30	-3
-4	31	
-4		

INSTRUCTIONS

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawart.

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-296

UNIT Browns Ferry - 3

DATE 10-1-82

COMPLETED BY Ted Thom

TELEPHONE 205 729 0834

AVERAGE DAILY POWER LEVEL . (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1024	17	1033
1026	18	977
1045	19	1048
1042	20	1055
975	21	1033
1041	22	980
1050	23	1056
1048	24	. 1056
1050	25	1053
1046	26	1047
1021	27	1058
892	28	1050
953	29	1053
1013	: 30	1049
1048	31	
1046		

INSTRUCTIONS

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

OPERATING DATA REPORT

DOCKET NO. 50-259

DATE 10-1-82

COMPLETED BY TELEPHONE 205 729 0834

	OPERATING STATUS						
	Unit Name: Browns Ferry - 1		Notes				
	Reporting Period: September 1982						
	Licensed Thermal Power (MWt): 3293						
	Nameplate Rating (Gross MWe): 1152	THE PERSON NAMED IN					
	Design Electrical Rating (Net MWe): 1065						
	Maximum Dependable Capacity (Gross MWe):	1098.4					
	Maximum Dependable Capacity (Net MWe):	1065					
	If Changes Occur in Capacity Ratings (Items N	nce Last Report Give Re-	neone:				
_	NA NA		The Last Report, Or e Re-	30113.			
9	Power Level To Which Restricted, If Any (Net	MWe): NA					
	Reasons For Restrictions, If Any:	sine).					
10.	Reasons For Restrictions, if Any.						
		This Month	Yrto-Date	Cumulative			
11.	Hours In Reporting Period	720	6,551	71,593			
12.	Number Of Hours Reactor Was Critical	703.90	5,992.12	45,306.92			
13.	Reactor Reserve Shutdown Hours	16.10	405.98	5,621.18			
14.	Hours Generator On-Line	699.12	5,930.52	44,360.69			
15.	Unit Reserve Shutdown Hours	0	0	0			
	Gross Thermal Energy Generated (MWH)	2,151,871	18,261,316	125,136,223			
17.	Gross Electrical Energy Generated (MWH)	701,520	5,947,700	41,240,150			
18.	Net Electrical Energy Generated (MWH)	683,645	5,775,562	40,344,471			
19.	Unit Service Factor	97.1	90.5	62.0			
20.	Unit Availability Factor	97.1	90.5	62.0			
21.	Unit Capacity Factor (Using MDC Net)	89.2	82.8	52.5			
22.	Unit Capacity Factor (Using DER Net)	89.2	82.8	52.5			
23.	Unit Forced Outage Rate	2.9	9.5	25.1			
24.	Shutdowns Scheduled Over Next 6 Months (Ty	pe, Date, and Duration	of Each):				
	If Shut Down At End Of Report Period, Estim						
26.	Units In Test Status (Prior to Commercial Ope	ration):	Forecast	Achieved			
	INITIAL CRITICALITY						
	INITIAL ELECTRICITY						
	COMMERCIAL OPERATIO	V					

OPERATING DATA REPORT

DOCKET NO. 50-260
DATE 10-1-82
COMPLETED 8Y TELEPHONE 205 729 0834

	OPERATING STATUS						
	Unit Name: Browns Ferry - 2		Notes				
	Reporting Period: September 1982						
	Licensed Thermal Power (MWt): 3293						
	Licensed Thermal Power (Mire).						
	Namepiate Rating (Gross Mire).						
	Design Electrical Raining (19ct in 19c).	1098.4					
	Maximum Dependable Capacity (Gross MWe):	1065					
	Maximum Dependable Capacity (Net MWe):	1 . 0 . 0 . 0					
٥.	If Changes Occur in Capacity Ratings (Items No NA	umber 3 Through 7) Sii	nce Last Report, Give Res	isons:			
	Power Level To Which Restricted, If Any (Net Reasons For Restrictions, If Any:	MWe): NA					
		This Month	Yrto-Date	Cumulative			
11.	Hours In Reporting Period	720	6,551	66,534			
	Number Of Hours Reactor Was Critical	0	4,846.51	43,293.47			
	Reactor Reserve Shutdown Hours	0	203.06	13,684.82			
	urs Generator On-Line	0	4,778.36	41,975.45			
	Unit Reserve Shutdown Hours	0	0				
	Gross Thermal Energy Generated (MWH)	0	13,827,550	120,480,340			
	Gross Electrical Energy Generated (MWH)	0	4,592,260	40,024,908			
	Net Electrical Energy Generated (MWH)	0	4,450.929	38,873,075			
	Unit Service Factor	0	72.9	63.1			
20.	Unit Availability Factor	0	72.9	63.1			
	Unit Capacity Factor (Using MDC Net)	0	63.8	54.9			
	Unit Capacity Factor (Using DER Net)	0	63.8	54.9			
	Unit Forced Outage Rate	0	5.5	27.1			
	Shutdowns Scheduled Over Next 6 Months (Ty	pe. Date, and Duration	of Each):				
25.	If Shut Down At End Of Report Period, Estim:	ated Date of Startup:	January 1983				
	Units In Test Status (Prior to Commercial Oper		Forecast	Achieved .			
	INITIAL CRITICALITY						
	INITIAL ELECTRICITY		1 7 1 2 2 1 2 2				
	COMMERCIAL OPERATION						

OPERATING DATA REPORT

DOCKET NO. 50-296

DATE 10-1-82

COMPLETED BY Ted Thom 205 729 0834

	Notes					
3. Licensed Thermal Power (MWt): 3293 4. Nameplate Rating (Gross MWe): 1152 5. Design Electrical Rating (Net MWe): 1065						
	ngo Last Passart Circ P					
rumber 3 Through 7731	mee Last Report, Greek	ceasons:				
NΑ						
et MWe):						
This Month	Yrto-Date	Cumulative				
720	6,551	48,959				
720		35,403.28				
0	The state of the s	3,372.15				
720	2,814.28	34,565.06				
0	0	0				
2,300,357	8,517,238	102,375,858				
759,670	THE RESERVE TO SHARE THE PARTY OF THE PARTY	33,740,980				
740,891	The second secon	32,738,051				
100	43.0	70.6				
100 -	43.0	70.6				
96.6	38.0	62.8				
96.6	38.0	62.8				
0	31.6	18.3				
Type Date and Duration	of Fachy					
. p						
nated Data of Startum						
	C	1.1.				
eration).	Forecast	Achieved				
		-				
N.		-				
	This Month 720 720 0 2,300,357 759,670 740,891 100 100 96.6 96.6 0 Type, Date, and Duration mated Date of Startup: eration):	This Month Yrto-Date 720 6,551 720 2,936.30 0 1,230.62 720 2,814.28 0 0 2,300,357 8,517,238 759,670 2,742,790 740,891 2,650,005 100 43.0 100 43.0 100 43.0 96.6 38.0				

50-259 DOCKET NO. Browns Ferry -UNIT NAME DATE 10-1-82 Ted Thom 205 729 0834 COMPLETED BY TELEPHONE

REPORT MONTH September

No.	Date	Type1	Duration (Hours)	Reason.	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
236	9/03/82	S		В					Derated for turbine control valve tests and SIs.
237	9/07/82	F	20.88	Н	3				Reactor scram due to low scram pilot air header pressure.
238	9/10/82	S		Н					Derated for control rod pattern adjustment.
239	9/24/82	S		Н					Derated for control rod pattern adjustment.
240	9/28/82	F		Н					Derated due to leak in C1 and C2 high pressure heater.

F: Forced

S: Scheduled

Reason

A-Equipment Failure (Explain) B-Maintenance of Test

C-Refueling

D-Regulatory Restriction E-Operator Training & License Examination

F-Administrative

G-Operational Error (Explain)

H-Other (Explain)

Method:

1-Manual

3-Automatic Scram. 4-Other (Explain)

Exhibit G - Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NURFG-

0161)

Exhibit I - Same Source

(9/77)

2-Manual Scram.

50-260 DOCKET NO. UNIT NAME Browns Ferry - 2 DATE 10-1-82

COMPLETED BY Ted Thom

TELEPHONE 205 729 0834

REPORT MONTH September

No.	Date	Type1	Duration (Hours)	Reason-	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code5	Cause & Corrective Action to Prevent Recurrence
243	9/01/82	S	720	Н	2				EOC-4 Refuel Outage continues.

F: Forced S: Scheduled

Reason:

A-Equipment Failure (Explain) B-Maintenance of Test

C-Refueling

D-Regulatory Restriction

E-Operator Training & License Examination

F-Administrative

G-Operational Error (Explain)

H-Other (Explain)

Method:

!-Manual

2-Manual Scram.

3-Automatic Scram.

4-Other (Explain)

Exhibit G - Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NURLG-

0161)

Exhibit 1 - Same Source

(9/77)

50-296 DOCKET NO. Browns Ferry -UNIT NAME 10-1-82 DATE Ted Thom

COMPLETED BY TELEPHONE

205 729 0834

REPORT MONTH September

No.	Date	Type1	Duration (Hours)	Reason	Method of Shutting Down Reactor3	Licensee Event Report #	System Code ⁴	Component Code 5	Cause & Corrective Action to Prevent Recurrence	
109	9/04/82	S		Н					Derated for control rod pattern adjustment.	
110	9/11/82	S		В					Derated for turbine control valve tests and Si on MSIV closure.	
111	9/17/82	F	4.5	В					Derated for maintenance on "A" reactor feedpump.	
112	9/21/82	F		В						

F: Forced

S: Scheduled

Reason:

A-Equipment Failure (Explain)

B-Maintenance of Test

C-Refueling

D-Regulatory Restriction

E-Operator Training & License Examination

F-Administrative

G-Operational Error (Explain)

Method:

1-Manual

2-Manual Scram.

3-Automatic Scram.

4-Other (Explain)

Exhibit G - Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NUREG-0161)

Exhibit 1 - Same Source

(9/77)

11-Other (Explain)

FOR THE MONTH OF September 4982

TE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKES TO PRECLUDE
-1					1 :	14020,00103	RECURRENCE
1	85	Rod Select	Repair	None	Faulty Relay	Rod would not select	None ·
3	64	PDIS-64-7	Repair	None	Dirty Switch Contacts	Improper switch action	None
2							
16	3	LIS-3-56A	Repair	None	Obsolete switches	Improper switch action	Installed new type switch
14	3	LIS-3-56B					type switch
17	3	LIS-3-58A					
.8	3	LIS-3-58B					
0	3	LIS-3-58C					1
9	3	LIS-3-58D					
3	3 .	LIS-3-52 LIS-3-62	Repair.	None	Obsolete switches	Improper switch action	\downarrow
						· switch action	type switch
	68	FT-68-7	Replace	None	Failed Transmitter	Instrument Drift ,	None
	:						
		•					

MECHANICAL MAINTENANCE SUMMARY

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
j-1	Fuel Pool Cooling	two spare pumps	PRODUCTION OF THE OWNER OWNER OF THE OWNER		pumps need rebuilding	pumps not functioning properly	rebuilt both spare pumps TR# 233106
3-26	Diesel Generator	D/G D B air compressor	blown head gasket	none	abnormal pressure	high pressure side head gasket blown out	replaced high pressure head gasket TR# 274628
							23

BROWNS FERRY NUCLEAR PLANT UNIT 1 MECHANICAL MAINTENANCE SUMMARY For the Month of September 19 82

SYSTEM	COMPONENT	NATURE OF MAINTENANCE	OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
CRD	module 46-35	noisy valves	none	both scram pilot vales worn	valve making excessive noise	installed rebuilt kits in both solenoid { valves TR# 314767
CRD	accumulator HCV-34-27	water leak	none	worn o'rings	accumulator leaking through	replaced accumulator, upper & lower o'rings TR# 314766
CRD	module 34-27 accumulator	later leak	none	bad seal&o'rings	water leak	rebuilt H ₂ O accumulate TR# 314772
CRD	module 46-35 scram solenoid valve FSV-85-39A	valve chatterin	g none	worn diaphragm & sub-assembly	excessive noise - valve chattering	installed new pressure & exhaust diaphragm & pilot sub-assembly repair kit 4 TR# 249688
Radiation Monitoring	RM-90-53	broken pump belt	none	unknown	CAM inoperable	replaced belt TR# 309599
Radiation Monitoring	RM-90-250	tubing drain loose	none	rubber hose needs replacing	CAM inoperable	replaced rubber hose with clear tygon tubing TR# 216586
		water leakage	none	broken nipple	water leakage inside casing	resoldered nipple TR# 266823
	CRD CRD CRD CRD Radiation Monitoring Radiation Monitoring	CRD module 46-35 CRD accumulator HCV-34-27 CRD module 34-27 accumulator CRD module 46-35 scram solenoid valve FSV-85-39A Radiation Monitoring RM-90-53 RM-90-250	CRD module 46-35 noisy valves CRD accumulator HCV-34-27 CRD module 34-27 accumulator CRD module 46-35 valve chattering scram solenoid valve FSV-85-39A Radiation Monitoring RM-90-53 broken pump belt Radiation Monitoring RM-90-250 tubing drain loose RHR RHR room cooler water leakage	SYSTEM COMPONENT NATURE OF OPERATION OF THE REACTOR CRD module 46-35 noisy valves none CRD accumulator HCV-34-27 later leak none CRD module 34-27 accumulator CRD module 46-35 valve chattering none CRD module 46-35 valve chattering none Radiation RM-90-53 broken pump belt Radiation Monitoring RM-90-250 tubing drain none RHR RHR room cooler water leakage none	SYSTEM COMPONENT NATURE OF MAINTENANCE THE REACTOR CAUSE OF MAINTENANCE THE REACTOR MAIFUNCTION CRD module 46-35 noisy valves none both scram pilot vales worn CRD accumulator HCV-34-27 water leak none worn o'rings CRD module 34-27 accumulator CRD module 46-35 scram solenoid valve FSV-85-39A Radiation Monitoring RM-90-53 broken pump belt none unknown belt RM-90-250 tubing drain none rubber hose needs replacing RM-90-250 water leakage none broken nipple	SYSTEM COMPONENT NATURE OF MAINTENANCE THE REACTOR CAUSE OF MALFUNCTION MALFUNCTION CRD module 46-35 noisy valves none both scram pilot valve making excessive noise CRD accumulator HCV-34-27 water leak none worn o'rings accumulator leaking through CRD module 34-27 accumulator CRD module 46-35 scram solenoid valve FSV-85-39A Radiation Monitoring RM-90-53 broken pump belt none when worn o'rings water leak excessive noise worn diaphragm & excessive noise water leak sub-assembly walve chattering none worn diaphragm & excessive noise walve chattering valve chattering results of the pump belt walve walve chattering none worn diaphragm of the pump walve chattering walve chattering walve chattering replacing rubber hose needs can inoperable water leakage none broken nipple water leakage inside

BROWNS FERRY NUCLEAR PLANT UNIT 2 MECHANICAL MAINTENANCE SUMMARY

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
-03	CRD	module 10-31 scram inlet valve	water leak	none	valve seat damaged	valve leaking through	replaced valve seat, body gasket & o'rigg TR# 274650 .
-14	Core Spray	valves 75-507A 75-507C	fittings needed to be re-welded	none	no trouble found	valves were removed to perform SI 3.2.9	rewelded existing fittings to pipe TR# 305017
-04	RHR	RHR pump B&D	line is leaking	none	hole in 3/4" line	water leaking from suction line	rewelded 3/4" line on B & D suction line TR# 314787
-06	Fire Protection	Fire header rx. water cleanup transfer pump room	water leak	none	fire protection header cracked	water leaking	welded pin hole TR# 274568
-15	HPCI	73-6A, 73-6B 73-5	packing needs replacing	none	worn packing	valves nonfunctional	repacked all three valves TR# 317459
-16	Core Spray	FCV-75-23	water leak	none '	worn packing	valves nonfunctional	repacked all three valves TR# 317460
-23	D/G	D/G D air com- pressor B	air leak	none	worn gasket	leaking head gasket	replaced with new gasket TR# 274624
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BROWNS FERRY NUCLEAR PLANT UNIT 3

MECHANICAL MAINTENANCE SUMMARY

DATE	EYSTEM	COMPONENT	NATURE OF MAINTENANCE	OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
-16	Primary Containment	Rx. drywell airlock doors	door not func- tioning proper		door lever rod & cam was bent	door inoperable	straightened door level rod and cam TR# 314708
-26	Primary Containment	drywell air lock doors	reassemble doors	none	work performed on doors	interlock disassem- bled	assembled interlock door TR# 269209
0-08 081)	D/G	3D D/G #1 compressor	blown head gasket	none	abnormal pres- sure	head gasket blown causing air leak	replaced head gasket and valve plate TR# 227774
)-6	CRD	3-85-590	faulty hand- wheels	none	unknown	handwheels missing	replaced handwheels with T-handles TR# 269236
9-9	LPCI	3DN LPCI MG Set generator	flywheel bearing running hot	none	bad bearings	MG set running hot and noisy	changed bearing, cleaned and lubricated TR# 269459
9-15	Rx. Bldg. ventilation	FSV-64-140	water leak	none .	valve out of position	valve leaking thru	placed valve in upright position TR# 305060

ELECTRICAL MAINTENANCE SUMMARY

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CSSC EQUIPMENT

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
/1/82	Fire Protection	Plug-in relay on panel 25-323 (KI-zone 6)	During the performance of SI4.11.C.3&4, heat detector zone test switch HS 39-102BB would not alarm test for panel 25-323 (Alarmheat detection for "A" spreader room)	None	A plug-in relay (KI-zone 6) was found to be loose in its socket. The relay retaining clip was not in position.	Preaction sprinkler automatic initiation circuit for spreader room "A" zone 6 was inoperable.	The relay was repositioned and clipped in place. A survey of 49 firealarm panels with similar mounting arrangement is underway. Several missing or loose clips have been found and will be replaced or repaired. Completion of this survey is expected by 10/15/82. TR #300552 TR #282795 LER#BFRO-50-259/8267

BROWNS FERRY NUCLEAR PLANT UNIT 1 & Common

ELECTRICAL MAINTENANCE SUMMARY

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For the Month of September 19 82

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
/2/82	Contain- ment Inerting	Power supply circuitry for 1-FSV-76-57	During the performance of SI4.7.A.2.g-3 on unit 2, the unit 1 "A" hydrogen analyzer became inoperable.	None, "B" hydrogen analyzer was available and operable.	Test personnel inadvertently lifted the power supply lead wires for 1-FSV-76-57 instead of 2-FSV-76-57. The wires involved are located in adjacent panels 1-9-54 and 2-9-54 in the unit 1 and 2 control room. FSV-76-57 is a H ₂ O ₂ analyzer "A" sample return valve which closed when the wires were lifted.	"A" hydrogen analyzer was inop- erable. Upon re- turn to service, during the perform- ance of SI4.7.H, the unit 1 "A" hydrogen sample inlet pump was discovered to have failed after FSV-76-57 closed. Investigation re- vealed that the relay R2 contacts had failed.	Relay R2 contacts were replaced and SMI 176 and SI4.7.H were completed. The test engineer involved was reinstructed. The panels involved (1-9-54 and 2-9-54) are being relabelled to clearly identify each unit. The procedure is being revised for clarity. The failure of relay R2 contacts is being investigated in conjuction with LER 259/82031 with results expected by March 1, 1983. TR #267138 LER#BFRO-50-259/8268

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BROWNS FERRY NUCLEAR PLANT UNIT 1 & Common

ELECTRICAL MAINTENANCE SUMMARY

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Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
/3/82	Air Con- ditioning (Cooling- Heating)	"B" Shutdown board room air condition- er	Air conditioner inoperable.	None	Bad timer motor.	Air conditioner inoperable.	Replaced the bad timer motor, the air conditioner operated properly. TR #196555
1/4/82	SBGT	(XS-65-3C) annunciator card	Core spray sys. and drywell pressure test mode failed to annunciate on pnl. 9-3.	None	Annunciator circuitry card was loose.	Test mode annuncia- tion failed to operate on pnl. 9-3.	Re-inserted card, the annunciator operated properly. TR #267025
//10/82	CRD	HS 35-48	(RD control switch on panel 9-5 was not operating properly.	None	Switch stop plate was broken.	Required care to be taken not to operate the switch past desired setting.	Replaced the broken stop plate and the switch operated properly. TR #341488
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ELECTRICAL MAINTENANCE SUMMARY

BROWNS FERRY NUCLEAR PLANT UNIT 1 & Common

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CSSC EQUIPMENT

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
/14/82	RHR	1EA LPCI MG set voltage regulator	MG set output voltage was low.	None	Voltage regulator setpoint had drifted down from normal 490V ± 5V to 471.1 volts.	MG set output voltage was low.	Adjusted the regulator set- point to increase the output volt- age to an accep- table level. TR #266857
/18/82	CRD	Scram accumu- lator level switch 38-39	A fuse failure alarm with about 30 to 40 accumulator alarms was received. The fuse was replaced and the alarms cleared. A short time later the accumulator alarm for rod 38-39 came in intermittently, which resulted in another blown fuse. The fuse was replaced and the accumulator alarm for rod 38-39 remained in.	None, water was not present in the scram accumulator.	Scram accumulator level switch failed in the closed (non-alarm) position (contacts welded shut).	This would have prevented the level switch from providing a control room alarm should water have leaked into the scram accumulator.	The level switch was replaced and tested per EMI 50. The switch opera- ted properly. TR #341432 LER#BFRO-50-259/ 8277

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CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
/20/82	RHR	"IDN" LPCI MG set under- voltage annun- ciator cir- cuitry.	Received a undervoltage annunciation on panel 9-23 which would not clear.	None	Bad annunciator circuitry card.	Received a false undervoltage annunciation for "IDN" LPCI MG set.	480V Rx MOV Bd. 1D was manually trans ferred to MG set "1DA". Trouble— shooting revealed a bad annunciator circuitry card. The bad card was replaced, tested, and the 480V Rx MOV Bd. trans— ferred back to MG set "1DN". TR #266865

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CSSC EQUIPMENT

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
/24/82	4KV Shut-down Bds. and Busses	Degraded volt- age relays and relay timers.	During the performance of recurrence control calibration (BFRO-50-296/8213) of degraded voltage relays (SI 4.9.A.4.c) 2 relay timers on 4KV Shtd. Bd. A, 1 loss-of-voltage relay and 1 degraded voltage relay on 4KV Shtd. Bd. B, and 1 degraded voltage relay on 4KV Shtd. Bd. B, and 1 timer relay on 4KV Shtd. Bd. D were found to operate outside of acceptable limits.		Relay sensitive to temperature variation is suspected.	Degraded voltage relays operated from 3883 to 3890 as opposed to the required 3900 to 3940 volt range. The loss-of-voltage relay was found to operate at 2935 volts as opposed to the required 2913 to 2927 volt range. Two timer relays were found to operate from 4.30 to 4.35 seconds as opposed to the required 3.8 to 4.2 seconds range. One relay time was found to operate at 7.95 seconds as opposed to the required 7.06 to 7.80 seconds range.	The relays were recalibrated to the correct set-points. The set-point drift problem is now being evaluated by TVA Engineering Design. LER#BFRO-50-295/82075

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CSSC EQUIPMENT

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1/25/82	Radiation Monitor- ing	RM-90-251	RM-90-251 (turbine bldg.) inoperable	None	Bad pump motor bearings.	Damper "E" would not close automatically.	The damper was manually closed and the chemical laboratory began taking air samples on the turbine floor. The bad pump motor bearings were replaced and the radiation monitor returned to service. TR #245310 LER#BFRO-50-259/8276
/28/82	Annuncia- tor & Sequential Events Recording	Annunciator inverter on pnl. 9-3 for XA-55-3E and XA-55-3F	Two annunciators on pnl. 9-3 failed.	None, at no time was the HPCI, RHR or Core spray system inoperable.	Bad inverter. A possible generic problem with the power rating of a resistor in the inverter control card is suspected.	The annunciators for the HPCI, RHR, and Core spray system on panel 9-3 were inoperable.	The bad inverter was replaced and the annunciator circuitry returned to service. The possible generic problem with the power rating of a resistor in the invertor control card is being evaluated for reportability under 10CFR21. TR #252112

BROWNS FERRY NUCLEAR PLANT UNIT 2

ELECTRICAL MAINTENANCE SUMMARY

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				Effect on Safe			Action Taken
Date	System	Component	Nature of Maintenance	Operation of The Reactor	Cause of Malfunction	Results of Malfunction	To Preclude Recurrence
/18/82	Fire Pro- tection	Annunciator TA 39-113 circuitry card	Annunciator TA 39-113 failed to test.	None, heat de- tector opera- bility was not affected.	Bad annunciator card.	Annuactator TA 39- 113 would not test. Control room annun- ciation for the affected heat detec- tor zones was still available and oper- able via an alter- nate alarm path through central panel 25-313.	The bad card was replaced, tested, and operated properly. The annunciator TA 39-113 failed again on 9/24/82, the card was re-aligned, tested, and returned to service. TR #274667 TR #244839
/23/82	RBCCW	2-FSV-70-20 Sol. valve for RBCCW Dry- well Atm. Cooling Coil "A3"	2-FSV-70-20 ccil appeared to be burned.	None	Bad coil.	FSV inoperable.	Replaced the burned coil and cover, returned the FSV to service. TR #282596

BROWNS FERRY NUCLEAR PLANT UNIT_

ELECTRICAL MAINTENANCE SUPMARY

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Date	System	Component	Nature of Maintenance	Effe t on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
/24/82	Contain- ment Inverting	Relay contacts on relay R2 and R5 located in pnl. 25-340 (Analyzer A)		None, unit in cold shutdown for refueling.	Unknown at this time. The fail- ure of these re- lay contacts is being investi- gated in conjunc- tion with LER #259/82031.	Analyser A inoperable.	Replaced bad 3-7 and 4-8 contacts ca relay R2 and 3-7 and 4-8 con- tacts on relay R5. TR #274674
/27/82	RPS	Time delay relay on 2B RPS MG set.	During outage maintenance the time delay relay was found to operate improperly.	None	Bad relay.	Time delay relay would not operate properly.	Replaced the bad relay per EMI 23, timed relay per EMI 15. The relay operated properly per EMI 13. TR #317516

BROWNS FERRY NUCLEAR PLANT UNIT 3 .

ELECTRICAL MAINTENANCE SUMMARY

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CSSC EQUIPMENT

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
/3/82	HPCI	LA-73-8	HPCI exhaust drain pot "high level" annun- ciation came in and would not clear.		Bad annunciator circuitry card.	Received a false "high level" annun-ciation.	Replaced the bad annunciator card, the annunciator operated properly. TR #269231
/7/82	Reactor Bldg. Heating and Vent- ilation	PdCo-64-16	During the per- formance of SI 4.2.A-21, PdCo- 64-16 failed to operate proper- ly.		Damper limit switc.es were out-of-adjustment	Damper would not operate properly.	Adjusted the limit switches, the damper operated properly. TR #207299
/23/82	Standby Liquid Control	TA 63-3	Received a abnormal temperature alarm on pnl. 9-5.	None	Loose connection in the annunciator circuit.	Received a false annunciation.	Tightened the loose connection, the annunciator operated properly. TR #274480
/24/82	Diesel Generator	D/G 3B annun- ciator circuitry.	Received a D/G running annun- ciation with generator shut- down.		Loose annunciator circuitry card.	Received a false D/G running annun- ciation.	Tightened card, annunciator oper- ated properly. TR #274491

FIELD SERVICES SUMMARY

September 1982

Field Service's summary not received in time for publication.