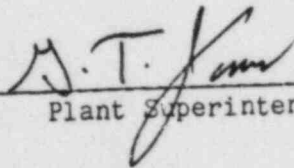


TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
BROWNS FERRY NUCLEAR PLANT

MONTHLY OPERATING REPORT TO NRC
October 1, 1983 - October 31, 1983

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

Submitted by:


Plant Superintendent

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PDR ADOCK 05000259
R PDR

IE24

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Operations Summary

October 1983

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 15 reportable occurrences and three revisions to previous reportable occurrences reported to the NRC during the month of October.

Unit 1

The unit was in cold shutdown the entire month for the units' end-of-cycle 5 refueling outage.

Unit 2

There was one scram on the unit during the month. On October 7, the reactor scrammed on generator load rejection during repair of the No. 3 turbine control valve.

Unit 3

The unit was in cold shutdown the entire month for the unit's end-of-cycle 5 refueling outage.

Principally prepared by B. L. Porter.

Operations Summary (Continued)

October 1983

Fatigue Usage Evaluation

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

<u>Location</u>	<u>Usage Factor</u>		
	<u>Unit 1</u>	<u>Unit 2</u>	<u>Unit 3</u>
Shell at water line	0.00583	0.00473	0.00403
Feedwater nozzle	0.28294	0.20239	0.15429
Closure studs	0.22349	0.16969	0.13233

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

Common System

Approximately $7.00\text{E}+05$ gallons of waste liquids were discharged containing approximately $1.54\text{E}-01$ curies of activities.

Operations Summary (Continued)

October 1983

Refueling Information

Unit 1

Unit 1 began its fifth refueling outage on April 16, 1983. The scheduled restart date is October 7, 1983. This refueling will involve loading 8X8R (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 0 fuel assemblies in the reactor vessel. The spent fuel storage pool presently contains 252 new fuel assemblies, 764 EOC-5 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 3,471 locations.

Unit 2

Unit 2 is scheduled for its fifth refueling beginning on or about June 8, 1984 with a scheduled restart date of November 8, 1984. This refueling outage will involve loading additional 8X8R (retrofit) fuel assemblies into the core, finishing the torus modification, turbine inspection, finishing inspection, finishing TMI-2 modifications; post-accident sampling facility tie-ins, core spray change-out, and feedwater sparger inspection.

There are 764 fuel assemblies in the reactor vessel. At the end of the month there were 248 EOC-4 fuel assemblies, 353 EOC-3 fuel assemblies, 156 EOC-2 fuel assemblies, and 132 EOC-1 fuel assemblies in the spent fuel storage pool. The present available capacity of the spent fuel pool is 861 locations.

Operations Summary (Continued)

October 1983

Unit 3

Unit 3 shutdown for its fifth refueling outage on September 7, 1983, with a scheduled restart date of May 4, 1984. This refueling involves loading 8X8R (retrofit) assemblies into the core, finishing the torus modifications, post-accident sampling facility tie-in, core spray change-out, finishing TMI-2 modifications, turbine inspection, and change-out of jet pump hold-down beams.

There are 0 fuel assemblies presently in the reactor vessel. There are 764 EOC-5 fuel assemblies, 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 398 locations.

Significant Operational Events

<u>Date</u>	<u>Time</u>	<u>Event</u>
		Unit 1
10/01	0001	End-of-cycle 5 refuel outage continues.
10/31	2400	End-of-cycle 5 refuel outage continues.

Significant Operational Events

Date	Time	Event
Unit 2		
10/01	0001	Reactor thermal power at 64-percent for control rod pattern adjustment and "C" reactor feedwater pump maintenance, increasing thermal power.
	0205	"C" reactor feedwater pump in service, control rod pattern adjustment in progress, reactor power at 67-percent.
	0250	Control rod pattern adjustment complete, commenced power ascension from 67-percent thermal power.
	0330	Commenced PCIOMR from 74-percent thermal power.
10/02	1600	Reactor thermal power at 100-percent, maximum flow, rod limited.
10/07	1623	Commenced reducing thermal power for maintenance on "C" control valve.
	1653	Reactor thermal power at 74-percent for maintenance on "C" control valve.
	1720	Reactor Scram No. 144 from 74-percent thermal power on "B" control valve closure (turbine generator load reject.)
10/08	0231	Commenced rod withdrawal for startup.
	0425	Reactor critical No. 155.
	1012	Rolled turbine/generator.
	1033	Synchronized generator, commenced power ascension.
	1925	Commenced PCIOMR from 82-percent thermal power.
10/09	0045	Stopped PCIOMR at 86-percent thermal power for turbine control valve test and SI's.
	0300	Reactor power at 85-percent for turbine control valve tests and SI's.
	0330	Turbine control valve test and SI's complete, commenced PCIOMR.
	1745	Stopped PCIOMR at 95-percent due to isolation of "A" string high-pressure heater.
	2100	Reactor power at 94-percent, "A" string feedwater heater limited.
	2245	"A" string high-pressure heaters back in service, reactor power at 93-percent, commenced PCIOMR.
10/10	0555	Stopped PCIOMR at 95-percent maximum flow, rod limited.
	1400	Reactor thermal power at 94-percent, maximum flow, rod limited.
	2205	Commenced reducing thermal power for control rod pattern adjustment.

Significant Operational Events

<u>Date</u>	<u>Time</u>	<u>Event</u>
Unit 2 (Continued)		
10/11	0300	Reactor thermal power at 79-percent control rod pattern adjustment in progress.
	0400	Control rod pattern adjustment complete, commenced PCIOMR from 79-percent thermal power.
	2035	Reducing thermal power from 96-percent for SI 4.5.A.1.b (Core Spray Pump Operability,) and SI 4.5.B.1.b (RHR Pump Operability.)
	2100	Reactor thermal power at 94-percent for SI 4.5.A.1.b and SI 4.5.B.1.b.
	2130	SI's complete, commenced PCIOMR.
10/12	0500	Reactor thermal power at 100-percent, maximum flow, rod limited.
	1100	Reactor thermal power at 99-percent, limited by condensate demineralizer high delta P.
	1800	Reactor thermal power at 98-percent, limited by condensate demineralizer high delta P.
	1910	Commenced power ascension from 98-percent thermal power.
	2000	Reactor thermal power at 100-percent, maximum flow, rod limited.
10/14	0700	Reactor thermal power at 99-percent, maximum flow, rod limited (100-percent electrical.)
10/16	0015	Commenced reducing thermal power for control valve test and SI's.
	0030	Reactor thermal power at 90-percent for turbine control valve test and SI's.
	0115	Turbine control valve test and SI's complete, commenced power ascension.
	0130	Reactor thermal power at 100-percent, maximum flow, rod limited.
10/18	0100	Commenced reducing thermal power for removal of "C" high-pressure heaters from service for maintenance.
	0110	Reactor thermal power at 90-percent "C" high-pressure heater limited.
	0120	Commenced power ascension due to lack of maintenance support on high-pressure heater leaks.
	0200	Reactor thermal power at 100-percent, maximum flow, rod limited.
	2245	Commenced reducing thermal power for "C" high-pressure heater maintenance.
	2400	Reactor thermal power at 90-percent for maintenance on "C" high-pressure heaters.

Significant Operational Events

<u>Date</u>	<u>Time</u>	<u>Event</u>
Unit 2 (Continued)		
10/19	0335	Increased thermal power to 91-percent, "C" high-pressure heater limited.
	0520	Increased thermal power to 94-percent, "C" high-pressure heater limited.
	1500	Increased thermal power to 95-percent, "C" high-pressure heater limited.
	2200	"C" high-pressure heaters back in service, commenced PCIOMR from 95-percent.
10/20	0300	Reactor thermal power at 100-percent, maximum flow, rod limited.
10/22	2325	Commenced reducing thermal power for turbine control valve test and SI's.
10/23	0030	Reactor thermal power at 93-percent for turbine control valve test and SI's.
	0105	Turbine control valve tests and SI's complete, commenced power ascension.
	0230	Reactor thermal power at 100-percent, maximum flow, rod limited.
10/25	2145	Commenced reducing thermal power to repair leaks on moisture separator drain pump.
10/26	0300	Reactor thermal power at 50-percent for repair of leak on moisture separator drain pump.
	0900	Reactor thermal power at 52-percent, moisture separator drain pump limited.
	1141	Moisture separator drain pump in service, commenced power ascension.
	1745	Commenced reducing thermal power from 96-percent due to problems with demineralizers.
10/27	0300	Reactor thermal power at 83-percent, due to problems with condensate demineralizers.
	0345	Commenced power ascension from 83-percent thermal power.
	0500	Commenced PCIOMR from 91-percent thermal power.
	2000	Reactor thermal power at 100-percent, maximum flow, rod limited.
	2345	Commenced reducing thermal power due to condensate demineralizer problems.

Significant Operational Events

<u>Date</u>	<u>Time</u>	<u>Event</u>
Unit 2 (Continued)		
10/28	0200	Reactor thermal power at 89-percent, condensate demineralizer limited.
	0300	Reactor thermal power at 90-percent, condensate demineralizer limited.
	0700	Reactor thermal power at 91-percent, condensate demineralizer limited.
	0716	Commenced power ascension from 91-percent thermal power.
	0830	Commenced PCIOMR from 96-percent thermal power.
	1330	Reactor thermal power at 100-percent, maximum flow, rod limited.
	2030	Reactor thermal power at 99-percent, maximum flow, rod limited.
	2100	Increased thermal power to 100-percent, maximum flow, rod limited.
10/29	0700	Reactor thermal power at 99-percent, maximum flow, rod limited.
	1430	Increased thermal power to 100-percent, maximum flow, rod limited.
	1815	Reduced thermal power to 95-percent due to isolation of "C" string high-pressure heaters.
	1835	"C" string high-pressure heaters back in service, commenced power ascension.
	2000	Commenced reducing thermal power from 100-percent due to problems with condensate demineralizers .
	2100	Reactor thermal power at 95-percent, condensate demineralizers limited.
	2130	Commenced power ascension from 95-percent power.
10/30	2200	Reactor thermal power at 100-percent, maximum flow, rod limited.
	0130	Commenced reducing thermal power for turbine control valve test and SI's.
	0200	Reactor power at 87-percent for turbine control valve test and SI's.
	0220	Turbine control valve test and SI's complete, holding for control rod pattern adjustment.
	0300	Control rod pattern adjustment complete, commenced power ascension.
	0400	Commenced PCIOMR from 97-percent thermal power.
	0600	Reactor thermal power at 100-percent, maximum flow, rod limited.
10/31	2400	Reactor thermal power at 100-percent, maximum flow, rod limited.

Significant Operational Events

<u>Date</u>	<u>Time</u>	<u>Event</u>
		Unit 3
10/01	0001	End-of-cycle 5 refuel outage continues.
10/31	2400	End-of-cycle 5 refuel outage continues.

-11-
AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-259
UNIT Browns Ferry-1
DATE 11/1/83
COMPLETED BY Ted Thom
TELEPHONE 205/729-0834

MONTH October

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>-2</u>	17	<u>-2</u>
2	<u>-2</u>	18	<u>-2</u>
3	<u>-3</u>	19	<u>-5</u>
4	<u>-2</u>	20	<u>-6</u>
5	<u>-3</u>	21	<u>-6</u>
6	<u>-2</u>	22	<u>-6</u>
7	<u>-4</u>	23	<u>-5</u>
8	<u>-3</u>	24	<u>-5</u>
9	<u>-3</u>	25	<u>-5</u>
10	<u>-2</u>	26	<u>-6</u>
11	<u>-4</u>	27	<u>-5</u>
12	<u>-2</u>	28	<u>-7</u>
13	<u>-3</u>	29	<u>-6</u>
14	<u>-3</u>	30	<u>-7</u>
15	<u>-3</u>	31	<u>-6</u>
16	<u>-2</u>		

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.

-12-
AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-260
UNIT Browns Ferry-2
DATE 11/1/83
COMPLETED BY Ted Thom
TELEPHONE 205/729-0834

MONTH October

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	879
2	1076
3	1078
4	1063
5	1076
6	1083
7	763
8	348
9	956
10	1005
11	932
12	1067
13	1078
14	1100
15	1050
16	1066

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	1075
18	1065
19	1001
20	1081
21	1071
22	1076
23	1081
24	1077
25	1044
26	728
27	1016
28	1060
29	1062
30	1058
31	1086

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.

-13-
AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-296

UNIT 3

DATE 11/1/83

COMPLETED BY Ted Thom

TELEPHONE 205/729-0834

MONTH October

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>-8</u>
2	<u>-8</u>
3	<u>-8</u>
4	<u>-9</u>
5	<u>-8</u>
6	<u>-8</u>
7	<u>-9</u>
8	<u>-8</u>
9	<u>-8</u>
10	<u>-9</u>
11	<u>-8</u>
12	<u>-9</u>
13	<u>-8</u>
14	<u>-8</u>
15	<u>-8</u>
16	<u>-9</u>

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	<u>-8</u>
18	<u>-9</u>
19	<u>-8</u>
20	<u>-8</u>
21	<u>-8</u>
22	<u>-8</u>
23	<u>-8</u>
24	<u>-9</u>
25	<u>-8</u>
26	<u>-8</u>
27	<u>-9</u>
28	<u>-7</u>
29	<u>-7</u>
30	<u>-7</u>
31	<u>-6</u>

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 11/1/83
 COMPLETED BY Ted Thom
 TELEPHONE 205.729-0834

OPERATING STATUS

1. Unit Name: Browns Ferry - 1
2. Reporting Period: October 1983
3. Licensed Thermal Power (MWt): 3293
4. Nameplate Rating (Gross MWe): 1152
5. Design Electrical Rating (Net MWe): 1065
6. Maximum Dependable Capacity (Gross MWe): 1098.4
7. Maximum Dependable Capacity (Net MWe): 1065
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:

Notes

N/A

9. Power Level To Which Restricted, If Any (Net MWe): N/A
10. Reasons For Restrictions, If Any: N/A

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	745	7296	81,098
12. Number Of Hours Reactor Was Critical	0	2,363.25	49,752.79
13. Reactor Reserve Shutdown Hours	0	47.71	5,785.02
14. Hours Generator On-Line	0	2,317.52	48,717.64
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	0	6,784,675	138,557,679
17. Gross Electrical Energy Generated (MWH)	0	2,244,900	45,645,620
18. Net Electrical Energy Generated (MWH)	0	2,175,548	44,325,327
19. Unit Service Factor	0	31.8	60.2
20. Unit Availability Factor	0	31.8	60.2
21. Unit Capacity Factor (Using MDC Net)	0	28.0	51.3
22. Unit Capacity Factor (Using DER Net)	0	28.0	51.3
23. Unit Forced Outage Rate	0	8.1	23.8

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):

25. If Shut Down At End Of Report Period, Estimated Date of Startup: 11/1/83

26. Units In Test Status (Prior to Commercial Operation):	Forecast	Achieved
INITIAL CRITICALITY	---	---
INITIAL ELECTRICITY	---	---
COMMERCIAL OPERATION	---	---

OPERATING DATA REPORT

DOCKET NO. 50-260
 DATE 11/1/83
 COMPLETED BY Ted Thom
 TELEPHONE 205/729-0834

OPERATING STATUS

1. Unit Name: Browns Ferry - 2
2. Reporting Period: October 1983
3. Licensed Thermal Power (MWt): 3293
4. Nameplate Rating (Gross MWe): 1152
5. Design Electrical Rating (Net MWe): 1065
6. Maximum Dependable Capacity (Gross MWe): 1098.4
7. Maximum Dependable Capacity (Net MWe): 1065
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:

Notes

N/A

9. Power Level To Which Restricted, If Any (Net MWe): N/A
10. Reasons For Restrictions, If Any: N/A

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	<u>745</u>	<u>7296</u>	<u>76,039</u>
12. Number Of Hours Reactor Was Critical	<u>733.92</u>	<u>5,262.21</u>	<u>48,555.68</u>
13. Reactor Reserve Shutdown Hours	<u>11.08</u>	<u>160.04</u>	<u>13,844.86</u>
14. Hours Generator On-Line	<u>727.78</u>	<u>5,131.01</u>	<u>47,106.46</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>2,291,782</u>	<u>15,402,992</u>	<u>135,812,839</u>
17. Gross Electrical Energy Generated (MWH)	<u>768,450</u>	<u>5,123,220</u>	<u>45,148,128</u>
18. Net Electrical Energy Generated (MWH)	<u>748,846</u>	<u>4,975,864</u>	<u>43,848,939</u>
19. Unit Service Factor	<u>97.7</u>	<u>70.4</u>	<u>62.0</u>
20. Unit Availability Factor	<u>97.7</u>	<u>70.4</u>	<u>62.0</u>
21. Unit Capacity Factor (Using MDC Net)	<u>94.4</u>	<u>64.0</u>	<u>54.1</u>
22. Unit Capacity Factor (Using DER Net)	<u>94.4</u>	<u>64.0</u>	<u>54.1</u>
23. Unit Forced Outage Rate	<u>2.3</u>	<u>5.4</u>	<u>25.2</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):			

25. If Shut Down At End Of Report Period, Estimated Date of Startup: _____

26. Units In Test Status (Prior to Commercial Operation):

INITIAL CRITICALITY
 INITIAL ELECTRICITY
 COMMERCIAL OPERATION

Forecast

Achieved

OPERATING DATA REPORT

DOCKET NO. 50-296
 DATE 11/1/83
 COMPLETED BY Ted Thom
 TELEPHONE 205/729-0834

OPERATING STATUS

1. Unit Name: Browns Ferry - 3
2. Reporting Period: October 1983
3. Licensed Thermal Power (MWt): 3293
4. Nameplate Rating (Gross MWe): 1152
5. Design Electrical Rating (Net MWe): 1065
6. Maximum Dependable Capacity (Gross MWe): 1098.4
7. Maximum Dependable Capacity (Net MWe): 1065
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:

Notes

N/A

9. Power Level To Which Restricted, If Any (Net MWe): N/A
10. Reasons For Restrictions, If Any: N/A

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	<u>745</u>	<u>7296</u>	<u>58,464</u>
12. Number Of Hours Reactor Was Critical	<u>0</u>	<u>5,475.52</u>	<u>43,087.80</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>505.98</u>	<u>3,878.13</u>
14. Hours Generator On-Line	<u>0</u>	<u>5,419.65</u>	<u>42,193.71</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>0</u>	<u>16,971,607</u>	<u>126,307,711</u>
17. Gross Electrical Energy Generated (MWH)	<u>0</u>	<u>5,557,830</u>	<u>41,597,620</u>
18. Net Electrical Energy Generated (MWH)	<u>0</u>	<u>5,394,352</u>	<u>40,375,256</u>
19. Unit Service Factor	<u>0</u>	<u>74.3</u>	<u>72.2</u>
20. Unit Availability Factor	<u>0</u>	<u>74.3</u>	<u>72.2</u>
21. Unit Capacity Factor (Using MDC Net)	<u>0</u>	<u>69.4</u>	<u>64.8</u>
22. Unit Capacity Factor (Using DER Net)	<u>0</u>	<u>69.4</u>	<u>64.8</u>
23. Unit Forced Outage Rate	<u>0</u>	<u>9.3</u>	<u>16.4</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):			

25. If Shut Down At End Of Report Period, Estimated Date of Startup: _____

26. Units In Test Status (Prior to Commercial Operation):

Forecast

Achieved

INITIAL CRITICALITY
 INITIAL ELECTRICITY
 COMMERCIAL OPERATION

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-259
 UNIT NAME Browns Ferry-1
 DATE 11/1/83
 COMPLETED BY Ted Turner
 TELEPHONE 205/729-0834

REPORT MONTH October

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
264	10/1/83	S	745	C	4				End-of-cycle 5 refuel outage continues

-17-

- 1 F- Forced
 S- Scheduled
- 2 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)
- 3 Method:
 1-Manual
 2-Manual Scram.
 3-Automatic Scram.
 4-Other (Explain)
- 4 Exhibit G - Instructions
 for Preparation of Data
 Entry Sheets for Licensee
 Event Report (LER) File (NUREG-
 0161)
- 5 Exhibit I - Same Source

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-260

UNIT NAME Browns Ferry-2

DATE 11/1/83

COMPLETED BY Ted Thom

TELEPHONE 205/729-0834

REPORT MONTH October

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
273	10/7/83	F	17.22	H	3				Reactor scram on "B" control valve closure (turbine generator load reject.)
274	10/25/83	F		B					Derated for moisture separator drain pump maintenance.

¹
F - Forced
S - Scheduled

²
Reason:
A-Equipment Failure (Explain)
B-Maintenance or Test
C-Refueling
D-Regulatory Restriction
E-Operator Training & License Examination
F-Administrative
G-Operational Error (Explain)
H-Other (Explain)

³
Method:
1-Manual
2-Manual Scram.
3-Automatic Scram.
4-Other (Explain)

⁴
Exhibit G - Instructions
for Preparation of Data
Entry Sheets for Licensee
Event Report (LER) File (NUREG-
0161)

⁵
Exhibit I - Same Source

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-296
 UNIT NAME Browns Ferry-3
 DATE 11/1/83
 COMPLETED BY Ted Thom
 TELEPHONE 205/729-0834

REPORT MONTH October

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
140	10/1/83	S	745	C	4				End-of-cycle 5 refuel outage continues

¹
 F - Forced
 S - Scheduled

²
 Reason:
 A-Equipment Failure (Explain)
 B-Maintenance or Test
 C-Refueling
 D-Regulatory Restriction
 E-Operator Training & License Examination
 F-Administrative
 G-Operational Error (Explain)
 H-Other (Explain)

³
 Method:
 1-Manual
 2-Manual Scram.
 3-Automatic Scram.
 4-Other (Explain)

⁴
 Exhibit G - Instructions
 for Preparation of Data
 Entry Sheets for Licensee
 Event Report (LER) File (NUREG-
 0161)

⁵
 Exhibit I - Same Source

CNSC EQUIPMENT

FOR THE MONTH OF OCTOBER 1983

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	EFFECT ON SAFE OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PREVENT RECURRING
<u>U-1</u>							
10/12	85	CRD Probes	Repair	None	Short	Partial loss of CRD Indication	None
10/1	84	LT-84-14A	Cal.	None	Zero Shift	Erroneous Indication	None
10/8	85	RMCS, 1Rod Permissive	Replace	None	Bad Relay	Rod Block	None
<u>U-2</u>							
10/20	70	1 LIS-70-2B	Repair	None	Age	Annunicator	None
10/28	77	LIS-77-14A	Repair	None	Age	Annunicator	None
10/30	74	FR-74-64	Repair	None	Age	Loss of Record	None
<u>U-3</u>							
10/10	68	FR-68-5	Repair	None	Age	Loss of Record	None
10/23	90	RR-90-272	Repair	None	Age	Loss of Record	None
10/25	63	LI-63-1A	Cal.	None	Age	Erroneous Indication	None

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of October 19 83

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1983 9/14	Unit Preferred 120 Volt AC System	Unit preferred MG set 1C Control Bay	Bottom brushes on MG set need changing.	None	Normal wear	Brushes worn to point where replacement was necessary.	None; due to normal wear no recurrence problem foreseen. MR A205062 (MR A205081)
10/1	Reactor Protection System	Relay 5AK15D	Replace coil in Relay 5AK15D	None	Bad coil in relay	During performance of SIs on SRM, IRM & SPRM, fuse 5A-F15B in panel 9-17 Aux. Instr. Rm. was blown	After replacing coil in relay, relay was checked and was working properly. MR A146888
10/10	Reactor Protection System	Relay 5A-K6C	Replace coil on CR120 relay	None	Coil burned up on CR120 relay	Fuse 5A-FGC blew giving half Scram	Fuse was replaced, also coil in relay, and relay was functionally checked MR A211546

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of October 19 83

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1983 10/12	Containment Inerting System	Hydrogen Analyzer A & B	During normal operation, hydrogen analyzer "A" was removed from service to replace pump assembly. Later hydrogen analyzer "B" was removed to replace pump assembly.	None, redundant systems were available and operable	Manufacturing deficiency	Metal Bellows Corp. pump and motor assembly model MB601 HP, part #40523, serial no. 763 and 765 were determined to be inoperable.	Pump and motor assemblies were replaced with up-graded assemblies. No further recurrence control is planned. Ref. MR A130688 MR A142000 LER BFRO 50-260/83061 ¹ ₂
10/27	Radiation Monitoring	RM-90-256	During startup operation, drywell leak detection radiation monitor RM-90-256 sample pump tripped.	None, Tech.Spec. 3.6.C.2 permits operation for seven days with air sampling system inoperable	An additional load was plugged into an outlet fed from the same source as the monitor, causing the fuse to clear	Drywell air sample system was inoperable for approximately sixteen (16) hours	Fuse was replaced and signs installed to restrict use of the outlet. No further recurrence control is planned. MR A-132703 MR A-132704 MR A-132713 MR A-732702 LER BFRO-50-260/83031

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of October 19 83

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1983 10/11	Diesel Generator	Diesel Generator 1C	During normal operation, operator observed diesel generator 1C trouble alarm	None, redundant systems were available and operable	Transformer TFR10 failed	Diesel generator 1C was declared inoperable for eleven (11) hours	Transformer was replaced and the diesel generator was returned to service. This is considered a random failure and no recurrence control is required. MR A142983 LER BFRO-50-260/ 83058
10/12	Diesel Generator	Diesel Generator 1A	During normal operation, while performing SI 4.9.A.4.b undervoltage start of diesel generator, diesel generator 1A oversped and tripped.	None, Tech.Spec. 3.9.B.3 allows continued operation for seven days with one diesel generator inoperable. All other requirements of T.S. 3.9.B.3 were met.	Two possibilities: (1) overspeed trip latch inadequately reset; (2) fuel injector lever set too high. Cannot determine if overspeed was a result of this	Diesel generator 1A was inoperable for four (4) hours.	Cause cannot be determined; therefore, no recurrence control is required. LER BFRO-50-260/ 83057

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of October 19 83

ate	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1983 9/29	Radwaste	Drywell equipment drain sump pump	During normal operation, the drywell equipment drain sump pump "Excessive Operation" annunciation was discovered to be alarming	None. The equipment drain sump pumps, pump out timer, discharge flow measurement equipment, and drywell air sampling system were still operable.	The Cycl-flex 60 minute timer, type HP56A6, failed and would not reset due to a stuck timer contact	The sump fill timer was inoperable for 50 minutes	The timer was replaced and calibrated. This is considered a random failure; therefore, no recurrence control is required. BFRO-50-260/83059
10/1	Residual Heat Removal	10 AK-108A Panel 9-32	Replace relay. 10AK-108A	None	Burned coil	Relay failed	10AK-108A of Unit 2 was replaced by 10AK-108B of Unit 1. MR A-142996 MR A-142997 MR A-205071
10/6	CO2 Storage, Fire Protection & Purging	Fire Panel 2-25-313	Replace "EE" control circuit board and two zone circuit boards	None	Two defective zone circuit boards	Trouble alarm would not work on Fire Panel 2-25-313	Replaced "EE" control circuit & two zone circuit boards. MR A-141120 MR A-205078 MR A-212118

BROWNS FERRY NUCLEAR PLANT UNIT 1 and Common

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9/29/82

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of October 19 83

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1983 10/17	Residual Heat Removal	Relay 10AK-108A	Clean relay contacts and cover as needed.	None	Tape on inside of cover heated up causing residue on contact and glass	Contacts would not make up	Cleaned relay contacts and cover as needed MR A-210414

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of October 19 83

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1983							
10/4	4 KV Shut-down Board & Buses	480V Shutdown Board "B" normal lockout relay	Replace latch mechanism on lockout relay	None	Defective material	Relay inoperable	Replaced latch mechanism MR A-212187
10/5	Control Rod Drive	HS-85-56	Replace hand switch 85-56	None	Defective material	Hand switch 85-56 inoperable	Replaced hand switch MR A-138317
10/9	Control Rod Drive	HS-85-47	Replace switch stop plate on hand switch	None	Broken stop plate	Hand switch 85-4/ passes stops	Replaced stop plate on hand switch MR A-211024
10/9	Control Rod Drive	HS-85-48	Replace switch stop plate on hand switch - 85-48	None	Broken stop plate	HS-85-48 passes stops	Replaced stop plate on HS-85-48 MR A-211025
10/16	Standby Diesel	9-23-7	Replace meter relay control unit	None	Relay coil burned out	Annunciation would not clear on 1B Diesel Generator	Replaced relay and annunciation cleared. MR A 219199 MR A 214060

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CSSC EQUIPMENT

MECHANICAL MAINTENANCE SUMMARY Common

 For the Month of October 19 83

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	EFFECT ON SAFE OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
10-03	Fire Protection	Diesel Fire Pump	pressure cap on coolant reservoir won't fit snugly	none	normal wear	leaking	cleaned cap and cap surface
10-07	Check Valve System 67	check valve	valve is leaking	none	unknown	leak	no work performed per R. Hunkapiller (Ops.)
10-9	26	diesel-driven fire pump	inspection	none	no malfunction	none	inspection per MMI-84
10-13	260	doors 485, 298	closer adjustment	none	change in air flow	air leaking thru	adjusted
10-13	260	door 463	latch is sticking	none	normal operation	causing constant door open defects	fixed latch
10-14	23	"B" RHRSW pump	coupling leak	none	normal operation	leaking thru	installed new gasket
10-22	23	"C1" RHRSW pump	packing leak	none	normal operation	leaking	adjusted packing
10-22	23	"C2" RHRSW pump	packing leak	none	normal operation	leaking	adjusted packing
10-22	23	"B1" RHRSW pump	packing leak	none	normal operation	leaking	adjusted packing
10-22	23	"C3" RHRSW pump	packing leak	none	normal operation	leaking	replaced packing
10-22	23	"C" RHRSW strained	packing leak	none	normal operation	leaking	replaced packing

CSSC EQUIPMENT

MECHANICAL MAINTENANCE SUMMARY

Unit 1

For the Month of October 1983

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	EFFECT ON SAFE OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
10-01	74	RHR HTX 1B	machine 12 plugs	none	normal operation	unknown	built plug
10-04	82	D/G air compressor	change head gasket	none	normal operation	head was leaking	changed gasket
10-5	82	"C" D/G	trouble-shoot	none	unknown	air starter engaged while engine was running	replaced solenoid valve
10-06	82	"1B" D/G	check air starters	none	normal operation	starters would not spin motor	replaced starter motor
10-06	85	"1A" pump suction strainer	replace strainer	none	normal operation	high ΔP	changed filters
10-07	85	CRD scram discharge system	remove blind flanges	none	normal operation	unknown	removed blind flanges and replaced them
10-12	82	"1A" D/G	exchange thermostatic valves	none	normal operation	unknown	replaced the valves
10-12	74	RHR torus spray	replaced spray nozzles	none	personnel error	abnormal spray pattern	replaced nozzles
10-13	82	"1C" D/G	disassemble, clean & repair air start motor	none	normal operation	unknown	replaced starter and all valves
10-13	82	"1B" D/G	disassemble, clean and replace air start motor	none	normal operation	unknown	cleaned and replaced starter
10-13	82	1"D" D/G	disassemble, clean and replace air start motor	none	normal operation	unknown	cleaned and replaced valves and solenoid

CSSC EQUIPMENT

MECHANICAL MAINTENANCE SUMMARY

Unit 1 (Continued)

For the Month of October 19 83

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	EFFECT ON SAFE OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
10-13		PSC pump	fabricate coupling	none	normal operation	unknown	fabricated coupling
10-13	67	check valve 649,542,648,657 656,584,515,585 507,514,521,631 529,635,627,628 624,625,522,630 528,508,634,541	visually inspect	none	none	none	visually inspected
10-14	85	control rod insert needle valve	check & replace needle valve if defective	none	normal operation	unknown	changed valve
10-14	85	control rod insert needle valve	check & replace needle valve if defective	none	normal operation	unknown	changed valve
10-18	63	SLC pump 1B	repair oil leak	none	worn gasket	oil leak	replaced gasket
10-22	85	CRD Hydraulic control unit	replace missing lock nut	none	left off by operator	none	replaced nut
10-22	74	1A&C RHR room cooler	unplug flow orifice	none	normal operation	none	inspected and removed blockage

CSSC EQUIPMENT

MECHANICAL MAINTENANCE SUMMARY 2

For the Month of October 19 83

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	EFFECT ON SAFE OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
10-02	74	LPCI MG set 2EN	visual inspection	none	none	none	visually inspect
10-02	74	LPCI MG set 2DA	visual inspection	none	none	none	visually inspect
10-02	74	LPCI MG set 2EA	visual inspection	none	none	none	visually inspect
10-02	74	LPCI MG set 2DN	visual inspection	none	none	none	visually inspect
10-06	001	PDIS 1-13C	valve won't operate	none	normal operation	won't work	replaced dragon block valve
10-12	73	HPCI booster pump	remove gage	none	none	none	removed test pressure gage
10-19	30	CRD rebuild room exhaust fan HEPA filter	replace filter	none	bad filters	unknown	replaced filters

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CSSC EQUIPMENT

MECHANICAL MAINTENANCE SUMMARY 3

For the Month of October 19 83

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	EFFECT ON SAFE OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
10-3	82	D/G A,B,C,D	oil samples	none	none	none	obtained 1 qt. oil from each generator
10-4	85	CRD pump 1A	add oil	none	normal operation	low oil	added oil <20%
10-17	64	charcoal filter tray	replace tray	none	normal operation	unknown	replaceu filter tray

FIELD SERVICES SUMMARY

October 1983

Major Work Areas

- A. Refuel Floor - On October 1 the core unload of unit 3 had been only two days in progress and was completed on October 12 with blade guides loaned from Peach Bottom. Following unit 3 core unload, the core reload for unit 1 was scheduled but could not be started because several major work items were incomplete; instead local power range monitor (LPRM) changeout on unit 3 was started and completed on October 17 and preparations for unit 3 control blade changeout was started, while attempts to retrieve a lost "bulb" from reactor pressure vessel (RPV) was in progress. On October 26 the first of 12 control blades was changed out, but equipment problems prevented any further change out. On October 28, all refuel floor activities were shifted from unit 3 to unit 1 to prepare for core reload.
- B. Turbine - All unit 1 turbine work was completed this month. The couplings were completed on October 4, started the oil flush on October 8 and completed the flush on October 18. Upon completion of the oil flush, the generator air test preparations were started and the air test was completed on October 26.

The unit 3 turbine work continued during October. The low-pressure "C" turbine was disassembled and sandblasting started on the upper diaphragms.

FIELD SERVICES SUMMARY

October 1983

B. Turbine (Continued)

All work on the unit 3 main-stop valves and bypass valves was completed in October. This released the main steam isolation valves (MSIV's) for maintenance.

Completed disassembly of the unit 3 reactor feed pump turbine "A". The diaphragms and spindle are ready for sandblasting.

The maintenance work required on the unit 3 reactor feed pump "C" was completed in October and reassembly of the pump is now in progress.

C. Other Mechanical Work -

1. At the beginning of October it was determined that the Emergency Equipment Cooling Water (EECW) piping to Residual Heat Removal (RHR) pump seal heat exchangers and RHR room coolers requires replacing on RHR loop I and II. Preparations started immediately and by the end of the month, loop II was completed and on loop I only the cross-over piping was replaced, since the remaining system had to stay operational.
2. RHR heat exchanger work and tube cleaning was carried over into October, probolog of all tubes and tube plugging from top and bottom was completed on RHR loop II on October 7.
3. Installed all Main Steam Release Valves (MSRV's) and 12 MSRV vacuum breakers, lacking insulation and electrical to complete MSRV's.

FIELD SERVICES SUMMARY

October 1983

C. (Continued)

4. Welding Services cut out a section of piping at core spray weld DCS-1-2 and field services replaced piping, completed welding and x-ray; weld repair is in progress.
5. Welding Services completed the last overlay on recirculation weld KR-1-3 on October 25 and on RWCU-1-1A on October 27 followed by grinding on weld and ultraviolet test. All overlay weld interferences were put back into its original configuration.
6. With the last of torus vacuum breakers repaired on October 19, all torus modifications were completed and divers called in for final inspection.
7. Completed the last attached piping support on October 13.
8. Completed all MSIV's except electrical hook up.
9. Control Rod Drive (CRD) Scram Discharge Instrument Volume (SDIV) modification P0392 - During October the P0392 modification instrument checkout was completed to support the post-modification testing. The post-modification testing was completed on October 11 and CRD rod stroking required five CRD's to be changed out and this was accomplished October 23. After the completion of rod change-out the system was declared operable for fuel loading.

- D. Electrical/Instrumentation - During October all the electrical and instrumentation work that was required to support fuel loading was completed including work plan close-out for the modifications required for fuel load.

FIELD SERVICES SUMMARY

October 1983

D. (Continued)

The major work performed to support unit 1 fuel load was as follows:

1. Completed reinstalling all cable trays and junction boxes that had been removed to support the overlay welding in the drywell.
2. Completed the reroute of conduit 1R1674 and associated cables to panel 25-59 (RHR system PO673.)
3. Completed installation of the drywell wide-range pressure monitors and associated sensing lines (PO322.) Some rework is required on the sensing line hanger portion of the modification and it will be accomplished after fuel loading is completed.
4. Completed installation of the torus wide-range level transmitters (PO323.)
5. Completed installation of the torus temperature monitoring system (PO533) portion required for fuel load. The sequential events recorder portion of the modification is still in work and will complete prior to startup.
6. Supported work on PO126 analog trip. The portion of this modification required for fuel loading was completed.

Other Electrical/Instrumentation:

1. Completed the recirculation motor/generator set holder modification. The schedule for running recirculation pump motors A and B is now November. This schedule delay is due to weld repairs that had to be made to the RWCU systems.

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

11/1/83

Nuclear Regulatory Commission
Office of Management Information
and Program Control
Washington, DC 20555

Gentlemen:

Enclosed is the October 1983 Monthly Operating Report to NRC for Browns Ferry Nuclear Plant Units 1, 2, and 3.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



G. T. Jones
Power Plant Superintendent

Enclosures

cc: Director, Region II
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