

TENNESSEE VALLEY AUTHORITY  
DIVISION OF NUCLEAR POWER  
BROWNS FERRY NUCLEAR PLANT

MONTHLY OPERATING REPORT TO NRC  
August 1, 1984 - August 31, 1984

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

Submitted by:

  
Plant Manager

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Operations Summary

August 1984

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 four reportable occurrences and three revisions to previous reportable occurrences reported to the NRC during the month of August.

Unit 1

There was one scram on the unit during the month. On August 21, a manual scram was made due to an expiring seven-day Technical Specification Limiting Condition of Operation on the Core Spray System.

Unit 2

There were no scrams on the unit during the month.

Unit 3

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

Prepared principally by B. L. Porter.

Operations Summary (Continued)

August 1984

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	0.00611	0.00490	0.00403
Feedwater nozzle	0.29401	0.21223	0.15429
Closure studs	0.23744	0.17302	0.13233

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

Common System

Approximately  $6.17\text{E}+05$  gallons of waste liquids were discharged containing approximately  $9.69\text{E}-02$  curies of activities.

Operations Summary (Continued)

August 1984

Refueling InformationUnit 1

Unit 1 is scheduled for its sixth refueling beginning on or about March 22, 1985 with a scheduled restart date of October 8, 1985. This refueling will involve loading 8x8R (retrofit) fuel assemblies into the core, replacing recirculation piping, work on "A" and "B" low-pressure turbine, upgrade hangers and anchors, and environmentally qualify instrumentations.

There are 764 fuel assemblies in the reactor vessel. The spent fuel storage pool presently contains 252 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 fuel pool capacity is 3,471 locations.

Unit 2

Unit 2 is scheduled for its fifth refueling beginning on or about September 14, 1984 with a scheduled restart date of January 31, 1985. This refueling outage will involve loading additional 8X8R (retrofit) fuel assemblies into the core, finishing the torus modification, turbine inspection, finishing piping 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, 352 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 61 locations. All old racks have been removed from the pool and new HDR's are being installed.

Operations Summary (Continued)

August 1984

Unit 3

Unit 3 shutdown for its fifth refueling outage on September 7, 1983, with a scheduled restart date of September 30, 1984. This refueling involves loading 8X8R (retrofit) assemblies into the core, finishing the torus modifications, postaccident sampling facility tie-in, core spray change-out, finishing TMI-2 modifications, turbine inspection, piping inspections for cracks, and changeout of jet pump hold-down beams.

There are 559 fuel assemblies presently in the reactor vessel. There are 42 new fuel assemblies, 411 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 709 locations.



Significant Operational Events

<u>Date</u>	<u>Time</u>	<u>Event</u>
		Unit 1
8/01	0001	Reactor thermal power at 100-percent (%), maximum flow, rod limited.
8/04	0310	Commenced reducing thermal power for turbine control valve test and SIs.
	0400	Reactor thermal power at 95% for turbine control valve test and SIs.
	0425	Turbine control valve test and SIs complete, commenced power ascension.
	0530	Commenced PCIOMR from 97% thermal power.
	0800	Reactor thermal power at 100%, maximum flow, rod limited.
8/08	0940	Commenced reducing thermal power due to 24-hr. Limiting Condition of Operation (LCO).
	1040	Commenced power ascension from 98% thermal power.
	1100	Reactor thermal power at 100%, maximum flow, rod limited.
8/09	1440	Commenced reducing thermal power when "A" valve came open on "E" condensate demineralizer while charging vessel. This caused the condensate booster pump A, B, and C "low" suction pressure alarm to come in.
	1500	Reactor power at 86% due to problems with "E" condensate demineralizer, increasing thermal power.
	1525	Reactor thermal power at 99%, "E" condensate demineralizer limited.
8/10	0630	Demineralizer "E" problems resolved, increasing thermal power.
	0700	Reactor thermal power at 100%, maximum flow, rod limited.
8/12	0245	Commenced reducing thermal power for turbine control valve test and SIs.
	0300	Reactor thermal power at 88% for turbine control valve test and SIs.
	0545	Turbine control valve test and SIs complete, commenced power ascension.
	0815	Commenced PCIOMR from 97% thermal power.
	1200	Reactor thermal power at 100%, maximum flow, rod limited.

Significant Operational Events

<u>Date</u>	<u>Time</u>	<u>Event</u>
Unit 1 (Continued)		
8/16	1500 2300	Reactor thermal power at 99%, maximum flow, rod limited. Reactor thermal power at 100%, maximum flow, rod limited.
8/18	0015 0300 0520 1200	Commenced reducing thermal power for turbine control valve test and SIs. Reactor thermal power at 93% for turbine control valve test and SIs. Turbine control valve test and SIs complete, commenced PCIOMR from 93% thermal power. Reactor thermal power at 100%, maximum flow, rod limited.
8/21	0930        1440	Commenced a controlled shutdown due to a 7-day LCO. During a routine performance of SI 4.2.3.39A on Aug. 14, 1984 at 0951 hours, Loop I of the core spray system was subject to an apparent over-pressurization due to an inadvertent opening of FCV-75-25. The unit was placed in a 7-day LCO (per T.S. 3.5.A.2) when Loop I core spray was isolated. The pressure relief valve (1-75-543A) opened, indicating FCV-75-26, a testable check valve, could be leaking. Proper seating of the check valve could not be verified within the 7-day LCO at which time T.S. 3.5.A.3 required the reactor to be in cold shutdown within 24-hours. Problems developed at 31% power due to split RSCS groups, causing the RWM SI 4.3.B.3.b to fail. This problem could not be corrected in the time frame allowed. The reactor was manually scrammed, Scram No. 176, from 31% thermal power to test check valve FCV-75-26 for proper seating. Tests will also be performed on FCV-75-25 of core spray Loop I and FCV-75-53 and FCV-75-54 of core spray Loop II. The unit will remain down for maintenance on 1B recirculation pump motor-generator (M/G) set and FSV-84-8B.
8/21	1700	Started maintenance on FSV-84-8B.
8/22	0120	Reactor in cold shutdown.
8/24	1900	Started maintenance on 1B recirculation pump M/G set.
8/25	1800	All leak testing complete on core spray valves.



Significant Operational Events

<u>Date</u>	<u>Time</u>	<u>Event</u>
Unit 1 (Continued)		
8/30	1025	Leak test complete on FSV-84-8B.
	1720	Maintenance complete on 1B recirculation pump M/G set.
8/31	0540	Commenced rod withdrawal for startup.
	0917	Reactor Critical No. 199.
	1518	Holding on startup due to EHC problems.
	2215	Commenced rod withdrawal for startup.
	2400	Start up in progress.

Significant Operational Events

<u>Date</u>	<u>Time</u>	<u>Event</u>
		Unit 2
8/01	0001	Reactor thermal power at 68%, maximum flow, rod limited.
8/04	2300	Reactor thermal power at 67%, maximum flow, rod limited.
8/06	1130	Commenced increasing reactor thermal power by increasing reactor pressure to 1000 psig.
	1210	Reactor pressure at 1000 psig, reactor power at 68%, maximum flow, rod limited.
	2400	Reactor thermal power at 68%, maximum flow, rod limited.
8/07	2300	Reactor thermal power at 67%, maximum flow, rod limited.
8/12	0700	Reactor thermal power at 66%, maximum flow, rod limited.
8/15	2300	Reactor thermal power at 65%, maximum flow, rod limited.
8/21	0700	Reactor thermal power at 64%, maximum flow, rod limited.
8/24	1500	Reactor thermal power at 63%, maximum flow, rod limited.
8/29	2300	Reactor thermal power at 62%, maximum flow, rod limited.
8/31	2400	Reactor thermal power at 62%, maximum flow, rod limited.

Significant Operational Events

<u>Date</u>	<u>Time</u>	<u>Event</u>
		Unit 3
8/01	0001	End-of-cycle 5 refuel outage continues.
8/24	2400	End-of-cycle 5 refuel outage continues.

10  
AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-259  
UNIT One  
DATE 8/1/84  
COMPLETED BY Ted Thom  
TELEPHONE 205/729-0834

MONTH August 1984

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>1058</u>	17	<u>1042</u>
2	<u>1043</u>	18	<u>1024</u>
3	<u>1069</u>	19	<u>1039</u>
4	<u>1045</u>	20	<u>1038</u>
5	<u>1045</u>	21	<u>510</u>
6	<u>1051</u>	22	<u>-13</u>
7	<u>1050</u>	23	<u>-13</u>
8	<u>1045</u>	24	<u>-9</u>
9	<u>1035</u>	25	<u>-10</u>
10	<u>1046</u>	26	<u>-10</u>
11	<u>1051</u>	27	<u>-10</u>
12	<u>1025</u>	28	<u>-12</u>
13	<u>1046</u>	29	<u>-11</u>
14	<u>1044</u>	30	<u>-14</u>
15	<u>1044</u>	31	<u>-10</u>
16	<u>1042</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.

11  
AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-260

UNIT Two

DATE 8/1/84

COMPLETED BY Ted Thom

TELEPHONE 205/729-0834

MONTH August 1984

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>650</u>	17	<u>648</u>
2	<u>682</u>	18	<u>641</u>
3	<u>689</u>	19	<u>639</u>
4	<u>676</u>	20	<u>638</u>
5	<u>670</u>	21	<u>637</u>
6	<u>677</u>	22	<u>632</u>
7	<u>663</u>	23	<u>633</u>
8	<u>685</u>	24	<u>638</u>
9	<u>669</u>	25	<u>627</u>
10	<u>667</u>	26	<u>619</u>
11	<u>666</u>	27	<u>619</u>
12	<u>664</u>	28	<u>620</u>
13	<u>659</u>	29	<u>615</u>
14	<u>655</u>	30	<u>614</u>
15	<u>652</u>	31	<u>620</u>
16	<u>648</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.

## AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-296  
 UNIT Three  
 DATE 8/1/84  
 COMPLETED BY Ted Thom  
 TELEPHONE 205/729-0934

MONTH August 1984

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>-7</u>	17	<u>-6</u>
2	<u>-8</u>	18	<u>-6</u>
3	<u>-8</u>	19	<u>-7</u>
4	<u>-8</u>	20	<u>-8</u>
5	<u>-8</u>	21	<u>-7</u>
6	<u>-8</u>	22	<u>-8</u>
7	<u>-7</u>	23	<u>-8</u>
8	<u>-7</u>	24	<u>-6</u>
9	<u>-5</u>	25	<u>-6</u>
10	<u>-5</u>	26	<u>-7</u>
11	<u>-5</u>	27	<u>-8</u>
12	<u>-5</u>	28	<u>-8</u>
13	<u>-4</u>	29	<u>-8</u>
14	<u>-3</u>	30	<u>-4</u>
15	<u>-3</u>	31	<u>-4</u>
16	<u>-5</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 8/1/84  
 COMPLETED BY Ted Thom  
 TELEPHONE 205/729-0834

OPERATING STATUS

1. Unit Name: Browns Ferry - One
2. Reporting Period: August 1984
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:  
N/A
9. Power Level To Which Restricted, If Any (Net MWe): N/A
10. Reasons For Restrictions, If Any: N/A

Notes

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	<u>744</u>	<u>5,855</u>	<u>88,471</u>
12. Number Of Hours Reactor Was Critical	<u>509.38</u>	<u>5,138.48</u>	<u>54,974.60</u>
13. Reactor Reserve Shutdown Hours	<u>234.62</u>	<u>700.20</u>	<u>6,485.22</u>
14. Hours Generator On-Line	<u>494.67</u>	<u>5,003.62</u>	<u>53,721.26</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>1,607,170</u>	<u>15,406,658</u>	<u>153,964,337</u>
17. Gross Electrical Energy Generated (MWH)	<u>526,390</u>	<u>5,083,220</u>	<u>50,728,840</u>
18. Net Electrical Energy Generated (MWH)	<u>510,650</u>	<u>4,948,008</u>	<u>49,273,335</u>
19. Unit Service Factor	<u>66.5</u>	<u>85.5</u>	<u>60.8</u>
20. Unit Availability Factor	<u>66.5</u>	<u>85.5</u>	<u>60.8</u>
21. Unit Capacity Factor (Using MDC Net)	<u>64.4</u>	<u>79.4</u>	<u>52.3</u>
22. Unit Capacity Factor (Using DER Net)	<u>64.4</u>	<u>79.4</u>	<u>52.3</u>
23. Unit Forced Outage Rate	<u>33.5</u>	<u>14.1</u>	<u>23.0</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

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_  
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 \_\_\_\_\_

## OPERATING DATA REPORT

DOCKET NO. 50-260  
 DATE 8-1-84  
 COMPLETED BY Ted Thom  
 TELEPHONE 205/729-0834

OPERATING STATUS

1. Unit Name: Browns Ferry - Two
2. Reporting Period: August 1984
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:  
N/A

Notes

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>744</u>	<u>5,855</u>	<u>83,358</u>
12. Number Of Hours Reactor Was Critical	<u>744</u>	<u>5,554.92</u>	<u>55,519.10</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>300.08</u>	<u>14,200.44</u>
14. Hours Generator Out-Of-Line	<u>744</u>	<u>5,504.59</u>	<u>53,997.43</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>1,600,550</u>	<u>12,434,765</u>	<u>152,579,810</u>
17. Gross Electrical Energy Generated (MWH)	<u>501,660</u>	<u>3,967,580</u>	<u>50,564,868</u>
18. Net Electrical Energy Generated (MWH)	<u>482,530</u>	<u>3,849,508</u>	<u>49,108,111</u>
19. Unit Service Factor	<u>100</u>	<u>94.0</u>	<u>64.8</u>
20. Unit Availability Factor	<u>100</u>	<u>94.0</u>	<u>64.8</u>
21. Unit Capacity Factor (Using MDC Net)	<u>60.9</u>	<u>61.7</u>	<u>55.3</u>
22. Unit Capacity Factor (Using DER Net)	<u>60.9</u>	<u>61.7</u>	<u>55.3</u>
23. Unit Forced Outage Rate	<u>0</u>	<u>4.3</u>	<u>23.1</u>

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

September 1984 - Refuel

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 8/1/84  
 COMPLETED BY Ted Thom  
 TELEPHONE 205/729-0834

OPERATING STATUS

1. Unit Name: Browns Ferry - Three
2. Reporting Period: August 1984
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:  
N/A

Notes

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>744</u>	<u>5,855</u>	<u>65,783</u>
12. Number Of Hours Reactor Was Critical	<u>0</u>	<u>0</u>	<u>43,087.80</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>3,878.13</u>
14. Hours Generator On-Line	<u>0</u>	<u>0</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>0</u>	<u>126,307,711</u>
17. Gross Electrical Energy Generated (MWH)	<u>0</u>	<u>0</u>	<u>41,597,620</u>
18. Net Electrical Energy Generated (MWH)	<u>0</u>	<u>0</u>	<u>40,375,256</u>
19. Unit Service Factor	<u>0</u>	<u>0</u>	<u>64.1</u>
20. Unit Availability Factor	<u>0</u>	<u>0</u>	<u>64.1</u>
21. Unit Capacity Factor (Using MDC Net)	<u>0</u>	<u>0</u>	<u>57.6</u>
22. Unit Capacity Factor (Using DER Net)	<u>0</u>	<u>0</u>	<u>57.6</u>
23. Unit Forced Outage Rate	<u>0</u>	<u>0</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	September	1984
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 One  
 DATE 8/1/84  
 COMPLETED BY Ted Thom  
 TELEPHONE 205/729-0834

REPORT MONTH August 1984

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	Licensee Event Report #	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause & Corrective Action to Prevent Recurrence
289	8/21/84	F	249.33	B					Reactor manually scrammed to test check valve FCV-75-26 for proper seating

<sup>1</sup>  
 F: Forced  
 S: Scheduled

<sup>2</sup>  
 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)

<sup>3</sup>  
 Method:  
 1-Manual  
 2-Manual Scram.  
 3-Automatic Scram.  
 4-Other (Explain)

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

<sup>5</sup>  
 Exhibit I - Same Source

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-269  
 UNIT NAME Two  
 DATE 8/1/84  
 COMPLETED BY Ted Thom  
 TELEPHONE 205/729-0834

REPORT MONTH August 1984

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	Licensee Event Report #	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause & Corrective Action to Prevent Recurrence

<sup>1</sup>  
 F- Forced  
 S- Scheduled

<sup>2</sup>  
 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)

<sup>3</sup>  
 Method:  
 1-Manual  
 2-Manual Scram.  
 3-Automatic Scram.  
 4-Other (Explain)

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

<sup>5</sup>  
 Exhibit I - Same Source

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-296  
 UNIT NAME Three  
 DATE 8/1/84  
 COMPLETED BY Ted Thom  
 TELEPHONE 205/729-0834

REPORT MONTH August 1984

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	Licensee Event Report #	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause & Corrective Action to Prevent Recurrence
140	8/1/84	S	744	C	4				FOC-5 Refuel Outage continues (controlled shutdown 9/7/83)

<sup>1</sup>  
 F: Forced  
 S: Scheduled

<sup>2</sup>  
 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)

<sup>3</sup>  
 Method:  
 1-Manual  
 2-Manual Scram  
 3-Automatic Scram  
 4-Other (Explain)

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

<sup>5</sup>  
 Exhibit I - Same Source

(9/77)



BROWNS FERRY NUCLEAR PLANT UNIT 3

CSSC EQUIPMENT

MECHANICAL MAINTENANCE SUMMARY

For the Month of    19   

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	EFFECT ON SAFE OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
8/3/84	85	3-085-46-31	Replace ruptured disc.	None	Normal Use	None	Replaced on MR A-3078Q4

CSSC EQUIPMENT

## ELECTRICAL MAINTENANCE SUMMARY

For the Month of August 1984

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1984 7/26	RHR service water	O-MTR-23-15 heater B-1	Replace coil & heater	None	Bad coil & heater	Heater will not operate	Replace bad coil & heater MR 314327
7/26	RHR service water	O-MTR-23-23 heater D-1	Replace heater	None	Bad heater	Heater will not operate	Replaced bad heater MR 314328
8/10	Air conditioning	O-AHU-31-81-1A	Repair auxiliary contacts	None	Dirty contacts	Main control room AHU will not operate	Repaired auxiliary contacts MR 312745
8/17	RHR service water	O-MTR-23-A3	Replace bearing	None	Bad bearings	Motor noisy & hot	Replaced upper motor bearings MR 314958

CSSC EQUIPMENT

## ELECTRICAL MAINTENANCE SUMMARY

For the Month of August 19 84

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1984 7/5	Standby diesel generator	1/2-OSL-82-B	Replace bell	None	Burned out striker coil	D/G "B" alarm bell would not clear	Replaced alarm bell MR 267490
8/20	CO <sub>2</sub> storage & fire protection	1-XS-39-66ZB	Replace smoke detector	None	Bad detector	Light would not go out when alarm was reset	Replaced smoke detector MR 322769

CSSC EQUIPMENT

## ELECTRICAL MAINTENANCE SUMMARY

For the Month of August 19 84

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1984 8/7	Reactor building closed cooling water	2-MTR-70-2B-3	Replace over-load trip device	None	Bad trip device	Drywell blower motor tripping	Replaced overload trip device MR 266202
/9	Emergency equipment cooling water	2-FA-67-3A	Replace relay	None	Defective relay not allowing proper circuit flow	EECW low flow alarm 67-3A would not clear	Replaced relay 67AL1 MR 303943
8/10	Core spray cooling	2-LS-75-78C	Clean contacts	None	Dirty contacts	No power to LS-75-78C and both PSC pumps start at same time	Cleaned contacts MR 303838
8/14	Radwaste	2-LS-77-55D	Replace level controller	None	Bad relay	"RHR pump room flood level Hi" alarm would not clear	Replaced level controller in RHR room MR 314048
8/18	Emergency equipment cooling water	2-FA-67-3A	Replace relay	None	Broken retaining ring	EECW low flow alarm 67-3A would not clear	Replaced relay 67AL1 MR 322617

CSSC EQUIPMENT

## ELECTRICAL MAINTENANCE SUMMARY

For the Month of August 19 84

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1984 7/13	CO2 storage & fire protection	3-RLY-39-EE	Replace relay	None	Bad relay	Undervoltage annunciation would not clear	Replaced undervoltage relay MR 257696
7/30	Control rod drive	3-HCU-85-34-07	Replace level switch	None	Bad switch	High water level alarm would not clear	Replaced level switch MR 314136
7/31	High pressure coolant injection	3-MVOP-73-35	Replace Motor	None	Bad motor	Valve would not operate	Replaced valve motor MR 304387
8/5	Reactor bldg. ventilation	3-FSV-64-42	Replace relay	None	Defective solenoid connectors, burned up contacts on relay	Solenoid valve inoperable, damper will not open	Replaced relay LRA-2 MR 304432
8/7	Control rod drive	3-HCU-85-42-43	Replace level switch	None	Pinched wires grounded	HCU 42-43 grounded	Changed out level switch MR 322532
8/7	Control rod drive	3-HCU-85-14-15	Replace level switch	None	Bad switch	HCU-14-15 grounded	Changed out level switch MR 322534
8/8	Control bay ventilation	3-PMP-31-947	Replace closing coil	None	Bad coil	3A chiller water pump breaker inoperable	Replaced closing coil in breaker MR 312726
8/9	Standby diesel generator	3-DG-82-C	Repair wiring	None	Motor wires burned off, motor single phase	D/G 3C overloads & trips	Repaired motor wiring. MR 313824

CSSC EQUIPMENT

## ELECTRICAL MAINTENANCE SUMMARY

For the Month of August 19 84

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1984 8/9	Control bay ventilation	3-PMP-031-947	Replace overload trip device	None	Bad overloads	Breaker thermals out when breaker door is closed	Replaced overload trip device MR 313555
8/10	Unit preferred 120VAC	3-MTRC-252-1	Replaced tachometer generator	None	Worn brushes	Unit preferred MG set DC motor will not auto start	Replaced tachometer generator MR 313709
8/12	High pressure coolant injection	3-TRB-073-54	Replace connector	None	Broken connector	Connector found broken upon reconnection - no consequences	Replaced EGR connection MR 257864
8/14	Control rod drive	3-HCU-85-34-03	Replace push-button switch	None	Burned resistor	Switch inoperable	Replaced switch MR 322554
8/17	Reactor protection	3-PNL-99-9-3	Replace unit switch	None	Limit switch grounded	Blowing fuse that feeds panel 9-3 indicating lights	Replaced unit switch on HCV-75-40 MR 305774
8/19	Neutron monitoring	3-RLY-92-7C-K9G	Replace relay coils	None	Bad coils	Annunciation inoperable on panel 9-5	Replaced coils or relays 7CK9G & 7CK9M MR 305441
8/21	Radiation monitoring	3-RM-90-251	Replace motor	None	Bad bearings	Cam blowing fuses	Replaced cam motor MR 318395
8/26	Control rod drive	3-RS-85-48	Replace switch	None	Worn stops	Switch travel causing contacts to open too far	Replaced SBM switch MR 313916
8/25	High pressure cool-	3-PMP-73-10	Replace motor	None	Shunt field open	HPCI hotwell pump motor thermaling out breaker	Replaced motor MR 313918



OUTAGE MAINTENANCE & MAJOR MODIFICATION MANAGEMENT  
AUGUST 1984

I. Work Synopsis

During the August report period the unit 3 outage progressed through day number 360 of what is currently projected to be a 386-day outage. Major schedule milestones accomplished this month include:

Opening of Fuel Pool Gates	8/6/84
Completion of Control Blade Changeout	8/12/84
Start of Core Reload	8/19/84

Twelve control blades were changed out between August 7, 1984 and August 12, 1984. Ten of the control blades were replaced due to depletion and the other two were changed out in an effort to correct latching problems.

Core reload started August 19, 1984 as noted above and was scheduled to be complete August 31, 1984. Excessive refuel platform downtime extended the reload duration three days. At the end of the August report period, approximately 529 of 764 bundles had been loaded.

II. Mechanical Summary - Modifications Section

Listed below are some highlights of major mechanical work performed on unit 3 by the modifications section:

- A. Refuel platform repairs in support of core reload included changeout of the main hoist telescopic boom on August 22, 1984. Other refuel floor activities prior to core reload were lost article searches in-vessel and completion of a modification to the unit 3 refuel platform CAM-follower bracket at one rail-wheel location.

OUTAGE MAINTENANCE & MAJOR MODIFICATION MANAGEMENT  
AUGUST 1984

II. Mechanical Summary - Modifications Section (Continued)

- B. ECN P0392 scram discharge header and instrument volume modification hanger and support work was reported field complete August 2, 1984.
- C. Preliminary control rod stroking and timing tests (prior to core reload) were completed August 2, 1984.
- D. The last Main Steam Relief Valve (MSRV) was installed during this report period and ECN P0612, control air flexible line modification to MSRVs, was reported field complete.
- E. ECN P0361 modification work on torus attached piping supports was reported field complete August 21, 1984.
- F. Protective coating was applied to the lower elevation of the unit 3 drywell.
- G. TIP tubing reinstallation was begun August 30, 1984.
- H. ECN P0691 modifications to System 64 valves were performed offline. Reinstallations have begun.
- I. Work was completed August 23, 1984 on ECN P0653, modification to MSRV tailpipe vacuum breakers.

III. Electrical Summary - Modifications Section

Listed below are some highlights of major electrical work performed by the Modifications section in support of the unit 3 outage:

- A. Main Steam Isolation Valve (MSIV) limit switch bracket modification remains in progress at the end of the August report period.
- B. The unit 3 refueling platform trolley variable speed control malfunctioned during core reload and had to be replaced.

OUTAGE MAINTENANCE & MAJOR MODIFICATION MANAGEMENT  
AUGUST 1984

III. Electrical Summary - Modifications Section (Continued)

- C. Cable pulls were completed on ECN 2284, modification to the MSRV monitoring devices.
- D. Work continues on ECN P0126, installation of ECCS ATU inverters. (Note that this work is being done in conjunction with P0533, torus temperature monitoring devices/installation of sequential events recorder).
- E. Electrical work is still in progress on ECN L2079, relocation of H<sub>2</sub>O<sub>2</sub> drywell solenoid valves.
- F. ECN P0322, replacement of containment pressure monitoring system and ECN P0323, replacement of torus level transmitters, are nearing completion.

IV. Planning and Scheduling

The principle thrust of the Planning and Scheduling section effort has been divided between optimizing the unit 3 reload/reassembly/return-to-service sequence, and preparation of unit 2 cycle 5 outage plans. Unit 2 is scheduled for shutdown September 14, 1984, which will overlap the unit 3 outage by approximately two weeks.

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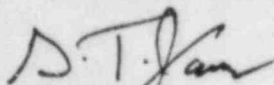
Nuclear Regulatory Commission  
Office of Management Information  
and Program Control  
Washington, DC 20555

Gentlemen:

Enclosed is the August 1984 Monthly Operating Report to NRC for Browns Ferry Nuclear Plant Units 1, 2, and 3.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



G. T. Jones  
Plant Manager

Enclosures

cc: Director, Region II  
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