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TENNESSEE VALLEY AUTHORITY

DIVISION OF NUCLEAR POWER

BROWNS FERRY NUCLEAR PLANT

MONTHLY OPERATING REPORT TO NRC

August 1, 1983 - August 31, 1983

DOCKET NUMBERS 50-259, 50-260, AND 50-296

LICENSE NUMBERS DPR-33, DPR-52, AND DPR-68

Submitted by: D. T. Lowe

Plant Superintendent

IE24
1/1

TABLE OF CONTENTS

Operations Summary

August 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 24 reportable occurrences and three revisions to previous reportable occurrences reported to the NRC during the month of August.

Unit 1

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

Unit 2

There were no scrams on the unit during the month.

Unit 3

There were no scrams on the unit during the month.

Principally prepared by B. L. Porter.

Operations Summary (Continued)

August 1983

Fatigue Usage Evaluation

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

Location	Usage Factor		
	Unit 1	Unit 2	Unit 3
Shell at water line	0.00583	0.00465	0.00401
Feedwater nozzle	0.28294	0.19836	0.15240
Closure studs	0.22349	0.16837	0.12905

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

Common System

Approximately 4.67E+05 gallons of waste liquids were discharged containing approximately 1.63E-01 curies of activities.

Operations Summary (Continued)

August 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)

August 1983

Unit 3

Unit 3 is scheduled for its fifth refueling on or about September 7, 1983, with a scheduled restart date of May 4, 1984. This refueling will involve 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 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.

Significant Operational Events

Date	Time	Event
		Unit 1
8/01	0001	End-of-cycle 5 refuel outage continues.
8/31	2400	End-of-cycle 5 refuel outage continues.

Significant Operational Events

Date	Time	Event
		Unit 2
8/01	0001	Reactor thermal power at 94-percent CMFLPD limited.
	0200	Commenced PCIOMR from 94-percent thermal power.
	0300	Reactor thermal power at 95-percent, PCIOMR stopped, limited by CMFLPD.
	0400	Reactor thermal power at 95-percent, limited by CMFLPD.
	0700	Commenced PCIOMR from 96-percent thermal power.
	0955	Commenced reducing thermal power from 98-percent CMFLPD limited.
	1900	Reactor thermal power at 95-percent, CMFLPD limited.
	2400	Reactor thermal power at 96-percent, CMFLPD limited.
8/02	1900	Reactor thermal power at 95-percent, CMFLPD limited.
	2200	Reactor thermal power at 96-percent, CMFLPD limited.
8/04	1830	Reduced thermal power to 95-percent, CMFLPD limited.
8/06	0200	Reactor thermal power at 94-percent, CMFLPD limited.
	2100	Commenced reducing thermal power for control rod pattern adjustment.
	2130	Reactor thermal power at 70-percent for control rod pattern adjustment, decreasing thermal power.
8/07	0100	Reactor thermal power at 66-percent, rod pattern adjustment in progress, increasing thermal power.
	0155	Control rod pattern adjustment complete, reactor power at 76-percent, holding for turbine control valve test and SI's.
	0400	Turbine control valve test and SI's complete, commenced power ascension.
	0700	Commenced PCIOMR from 91-percent thermal power.
	1010	Stopped PCIOMR at 96-percent due to CMFLPD limits, reducing thermal power.
	1630	Commenced PCIOMR from 94-percent thermal power.
	1700	Reactor thermal power at 96-percent, CMFLPD limited.
	2100	Reactor thermal power at 95-percent, CMFLPD limited.
8/08	0300	Commenced PCIOMR from 95-percent power.
	0500	Reactor power at 96-percent, CMFLPD limited.
8/09	1343	Withdrawing four control rods for SI 4.3.B.1.a (Control Rod Coupling Integrity.)
	1400	Reactor power at 97-percent, increasing thermal power.
	1700	Reactor thermal power at 98-percent, CMFLPD limited.
	2000	Reactor thermal power at 97-percent, CMFLPD limited.

Significant Operational Events

Date	Time	Event
		Unit 2 (Continued)
8/13	0135	Commenced reducing thermal power for turbine control valve test and SI's.
	0155	Reactor thermal power at 83-percent for turbine control valve test and SI's.
	0355	Turbine control valve test and SI's complete, commenced power ascension.
	1700	Reactor thermal power at 97-percent, CMFLPD limited.
8/20	0030	Commenced reducing thermal power for turbine control valve test and SI's.
	0200	Reactor thermal power at 88-percent for turbine control valve test and SI's.
	0250	Turbine control valve test and SI's complete, commenced power ascension.
	0318	Reactor thermal power at 97-percent, CMFLPD limited.
	0648	Reduced thermal power to 96-percent, CMFLPD limited.
8/22	1500	Reactor thermal power at 97-percent, CMFLPD limited.
8/24	0950	Commenced reducing thermal power due to high Delta P across condensate demineralizer.
	1100	Reactor thermal power at 95-percent due to high Delta P across condensate demineralizer.
	1210	Commenced reducing thermal power for repair of EHC leak on #1 control valve.
	1300	Reactor power at 94-percent for repair of #1 control valve.
	1330	Control valve #1 repaired, commenced power ascension.
	1400	Reactor thermal power at 97-percent, CMFLPD limited.
8/28	0100	Commenced reducing thermal power for turbine control valve test and SI's.
	0200	Reactor power at 92-percent for turbine control valve test and SI's.
	0230	Turbine control valve test and SI's complete, commenced power ascension.
	0300	Reactor thermal power at 97-percent, CMFLPD limited.
8/30	1151	Commenced reducing thermal power due to low-vacuum half scram.
	1200	Reactor thermal power at 75-percent due to low-vacuum scram.
	1212	Commenced power ascension from 75-percent power.
	1330	Reactor thermal power at 97-percent, CMFLPD limited.
8/31	2400	Reactor thermal power at 97-percent, CMFLPD limited.

Significant Operational Events

Date	Time	Event
		Unit 3
8/01	0001	Reactor thermal power at 97%, maximum flow, end-of-cycle 5 coastdown.
	0058	Reduced thermal power to 96-percent to insert control rod 54-47 to "00" for accumulator inspection.
	0210	Reduced thermal power to 95-percent to withdraw control rod 54-47.
	0220	Control rod 54-47 withdrawn, commenced power ascension.
	0300	Reactor thermal power at 97-percent, maximum flow, end-of-cycle 5 coastdown.
8/03	2000	Reactor thermal power at 96-percent, maximum flow, end-of-cycle 5 coastdown.
8/06	0120	Reduced thermal power to 90-percent for turbine control valve test and SI's.
	0220	Turbine control valve test and SI's completed, commenced power ascension.
	0230	Reactor thermal power at 96-percent, maximum flow, end-of-cycle 5 coastdown.
	1500	Reactor thermal power at 95-percent, maximum flow, end-of-cycle 5 coastdown.
8/09	1800	Reactor thermal power at 94-percent, maximum flow, end-of-cycle 5 coastdown.
8/12	2300	Reactor thermal power at 93-percent, maximum flow, end-of-cycle 5 coastdown.
8/16	1200	Reactor thermal power at 92-percent, maximum flow, end-of-cycle 5 coastdown.
8/19	2000	Reactor thermal power at 91-percent, maximum flow, end-of-cycle 5 coastdown.
8/23	0700	Reactor thermal power at 90-percent, maximum flow, end-of-cycle 5 coastdown.
8/27	0700	Reactor thermal power at 89-percent, maximum flow, end-of-cycle 5 coastdown.

Significant Operational Events

Date	Time	Event
		Unit 3 (Continued)
8/28	0140	Commenced reducing thermal power for SI 4.3.A.2 (Control Rod Exercise,) SI 4.3.B.1.a (Control Rod Coupling Integrity Check,) and TI-20 (CRD System Testing.)
	0600	Reactor thermal power at 75-percent for CRD SI's 4.3.A.2 and 4.3.B.1.a and TI-20.
	0700	Reactor thermal power at 76-percent for CRD tests.
	1345	CRD testing complete, commenced power ascension.
	1700	Reactor thermal power at 91-percent, maximum flow, end-of-cycle 5 coastdown.
8/29	0700	Reactor thermal power at 90-percent, maximum flow, end-of cycle 5 coastdown.
	1500	Reactor thermal power at 89-percent, msaximum flow, end-of-cycle 5 coastdown.
8/30	0700	Reactor thermal power at 88-percent, maximum flow, end-of-cycle 5 coastdown.
8/31	2400	Reactor thermal power at 88-percent, maximum flow, end-of-cycle 5 coastdown.

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-259
UNIT Browns Ferry-1
DATE 9-1-83
COMPLETED BY T. Thom
TELEPHONE 205/729-0834

MONTH August

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

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. 50-260
UNIT Browns Ferry-2
DATE 9-1-83
COMPLETED BY T. Thom
TELEPHONE 205/729-0834

MONTH August

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	1000	17	1014
2	997	18	1012
3	1014	19	1005
4	1002	20	1000
5	999	21	1008
6	955	22	1008
7	944	23	1011
8	1009	24	1011
9	1018	25	1018
10	1016	26	1019
11	1014	27	1019
12	1040	28	992
13	999	29	1023
14	1018	30	1020
15	1012	31	1016
16	1020		

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 Browns Ferry-3
DATE 9-1-83
COMPLETED BY T. Thom
TELEPHONE 205/729-0834

MONTH August

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	990	17	941
2	1054	18	931
3	960	19	912
4	979	20	877
5	974	21	921
6	963	22	918
7	970	23	913
8	963	24	912
9	957	25	907
10	948	26	907
11	951	27	901
12	950	28	851
13	948	29	913
14	943	30	905
15	938	31	884
16	927		

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 9-1-83
COMPLETED BY T. Thom
TELEPHONE 2057729-0834

OPERATING STATUS

1. Unit Name: Browns Ferry - 1
2. Reporting Period: August 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

Notes

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

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	744	5,831	79,633
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	39.7	61.3
20. Unit Availability Factor	0	39.7	61.3
21. Unit Capacity Factor (Using MDC Net)	0	35.0	52.3
22. Unit Capacity Factor (Using DER Net)	0	35.0	52.3
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: November 1, 1983
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 9-1-83
COMPLETED BY T. Thom
TELEPHONE 205/729-0834

OPERATING STATUS

1. Unit Name: Browns Ferry - 2
2. Reporting Period: August 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: 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	744	5,831	74,574
12. Number Of Hours Reactor Was Critical	744	3,854.57	47,148.04
13. Reactor Reserve Shutdown Hours	0	102.68	13,787.50
14. Hours Generator On-Line	744	3,736.78	45,712.23
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	2,347,229	11,067,089	131,476,936
17. Gross Electrical Energy Generated (MWH)	773,510	3,683,640	43,708,548
18. Net Electrical Energy Generated (MWH)	748,518	3,574,712	42,447,787
19. Unit Service Factor	100.0	64.1	61.3
20. Unit Availability Factor	100.0	64.1	61.3
21. Unit Capacity Factor (Using MDC Net)	94.5	57.6	53.4
22. Unit Capacity Factor (Using DER Net)	94.5	57.6	53.4
23. Unit Forced Outage Rate	0	5.6	25.7

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		

OPERATING DATA REPORT

DOCKET NO. 50-296
DATE 9-1-83
COMPLETED BY T. Thom
TELEPHONE 205/729-0834

OPERATING STATUS

1. Unit Name: Browns Ferry - 3
2. Reporting Period: August 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:
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	744	5,831	56,999
12. Number Of Hours Reactor Was Critical	744	5,325.02	42,937.3
13. Reactor Reserve Shutdown Hours	0	505.98	3,878.13
14. Hours Generator On-Line	744	5,273.03	42,047.09
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	2,255,978	16,564,790	125,900,894
17. Gross Electrical Energy Generated (MWH)	721,850	5,426,510	41,466,300
18. Net Electrical Energy Generated (MWH)	696,413	5,272,338	40,253,242
19. Unit Service Factor	100.0	90.4	73.8
20. Unit Availability Factor	100.0	90.4	73.8
21. Unit Capacity Factor (Using MDC Net)	87.9	84.9	66.3
22. Unit Capacity Factor (Using DER Net)	87.9	84.9	66.3
23. Unit Forced Outage Rate	0	9.6	16.5

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
Refuel Outage, September 6, 1983

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		

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH August

DOCKET NO. 50-259
UNIT NAME Browns Ferry-1
DATE 9-1-83
COMPLETED BY T. Thom
TELEPHONE 205/729-0834

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	8/1/83	S	744	C	4				EOC-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 rator 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

REPORT MONTH August

DOCKET NO. 50-260
UNIT NAME Browns Ferry - 2
DATE 9-1-83
COMPLETED BY T. Thom
TELEPHONE 205/729-0834

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
267	8/6/83	S		H					Derated for control rod pattern adjustment.
268	8/30/83	F		H					One-half scram due to low vacuum

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

REPORT MONTH August

DOCKET NO. 50-296
UNIT NAME Browns Ferry - 3
DATE 9-1-83
COMPLETED BY T. Thom
TELEPHONE 205/729-0834

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

[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

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BROWNS FERRY NUCLEAR PLANT UNIT 1 and common

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of August, 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
/11/83	RHR	LPCI time delay relay 10A-K34A and 10A-K75B	During the performance of SI 4.2.B-45 relay 10A-K34A was found set at 8.2 seconds and relay 10A-K75B was found set at 25.87 seconds as opposed to the allowable set-point range 6 to 8 seconds and 18 to 24 seconds.	None, redundant systems were available and operable.	The relays were found out of calibration due to setpoint drift.	The relays were found to operate outside of their allowable setpoints.	The relays were immediately recalibrated and the SI successfully completed. The recurrence control will consist of revising the SI to specify notifying shift engineer when relays are found out of tolerance and replacing the relays with Agastat timers by the end of the current refueling outage. LER# BFRO-50-259/83050

BROWNS FERRY NUCLEAR PLANT UNIT 1 and common

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of August, 1983

ate	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
/26/83	Reactor Building Closed Cooling Water	RBCCW Pump 1B	Excessive vibration - check lugs and grease	None	Motor bearings	Excessive vibration	Replaced motor bearings - lubricate motor per EMI-83 MR# A-147958
26/83	Standby Gas-Treatment	Standby Gas-Treatment Train "B".	During a routine inspection, NRC inspectors noted standby gas treatment train "B" was inoperable.	None, redundant systems were available and operable.	A type THED 136090 GE molded case breaker tripped.	Standby Gas-Treatment train "B" was inoperable	The breaker was inspected, reset, relative humidity heaters tested, and proper current verified. LER# BFRO-50-259/83046 MR# A-142103
28/83	Reactor Protection System (RPS)	1B RPS MG set voltage regulator	Motor generator output voltage low.	None, unit in refueling outage	Bad voltage regulator	RPS MG set 1B inoperable	The voltage regulator was replaced and adjusted per EMI-13. MR# A-154148

20

BROWNS FERRY NUCLEAR PLANT UNIT 1 and common

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of August, 1983

ate	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
/29/83	4 KV Shutdown Boards and Busses. (C)	Undervoltage relays 27-211-1B, 27-211-1C on shutdown bd. A. and 27-211-3A on shutdown bd. C.	During the performance of SI 4.9.A.4.C the component relays were found to operate above their maximum allowable setpoint.	None, the loss-of-voltage relay channel was available and operable. This drift was in a conservative direction regarding nuclear safety.	The relay's set-points had apparently drifted up due to increases in ambient temperature since their last calibration.	The relays operated between 3942 and 3950 volts as opposed to the allowable setpoint range of 3900-3940 volts.	The degraded voltage relays were immediately recalibrated and returned to service. The set-point drift problem is now under evaluation and will be addressed in a follow-up report to BFRD-50-259/8213 by 12-1-83. MR# A-062721 LER# BFRO-50-259/83048
/1/83	High-Pressure Fire Protection	Diesel Fire Pump strainer Blowdown valve 0-26-1420	Electrically operated valve would not operate	None	Valve vibrates when open causing capacitor leads to break loose.	Electrical valve will not operate.	Installed starting capacitor on valve motor and tied leads down. MR# 142200
/1/83	Diesel Generators	"D" diesel Generator annunciator panel located in the main control room.	Annunciator panel inoperable	None, redundant annunciation was available and operable. This panel had no effect on diesel generator operability.	Bad annunciator circuitry cards.	Annunciator panel inoperable.	Replaced the annunciator cards and returned the panel to service. MR# A-142199

BROWNS FERRY NUCLEAR PLANT UNIT 1 and common

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of August 1983

ıte	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
'2/83	Control Rod Drive	Panel 9-28	Blown fuse in Panel 9-28 could not be verified and caused rods to be deselected	None	Blown fuse. The fuse tab failed to punch out thus not giving a blown fuse annunciation.	Caused rods to be deselected.	Replaced fuse, verified annunciator circuit was working. MR# A-142430
'5/83	24 volt DC Power System	A2-1 ± 24 volt neutron monitoring battery charger.	The DC output breaker tripped and would not reset	None	The DC output breaker tripped.	The A channel of stack radiation monitor 90-A7 was inoperable	The batteries were charged and the breaker reset. The breaker tripped again on 8-25-83 due to a broken wire on the equalize switch. The broken wire was repaired, lowered charger current and returned the batte. charger to service. MR# 147581 MR# 138211

22

BROWNS FERRY NUCLEAR PLANT UNIT 1 and common

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of August, 1983

ıte	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
'11/83	Neutron Monitoring System	SRM channel D drywell penetration connection	Penetration showed high resistance	None	Part missing from penetration connector which allowed the connector to be loose. The conductor pin was not making contact.	SRM channel D inoperable	Replaced the penetration conne MR# A-202735
'20/83	Unit Preferred 120 volt AC system	Control switch for 120 volt AC preferred synchroscope for breaker 1002.	Control switch had to be wiggled to operate the synchroscope and incoming voltmeter for breaker 1002.	None	Bad keeper on outboard end of switch.	Switch operation was erratic.	Replaced the keeper on the outboard end of switch. 23 MR# A-147127
'20/83	High-Pressure Fire Protection	Fire pumps strainer "B"	Strainer was not alternating directions.	None	Bad limit switch.	Strainer was not alternating directions	Replaced the bad limit switch. MR# A-138352
'22/83	Reactor Protection System (RPS)	High drywell pressure scram trip relay 5A-K4C	Relay inoperable	None, unit in refueling outage	Bad relay coil.	Failure of this relay would result in half scram (channel A2).	The relay coil was replaced and returned to service. MR# A-138203

BROWNS FERRY NUCLEAR PLANT UNIT 2

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of August, 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
'25/83	HPCI	E G M box	Correct difference between actual HPCI speed at 2400 RPM in Control Room and 2570 RPM actual by Results speed detection equipment.	Required HPCI to be taken out of service.	HPCI tachometer was out of calibration.	Following the calibration of the tachometer (EMI-36) the HPCI was made inoperable due to an apparent wiring error by maintenance personnel during calibration of the tachometer.	The wires were reterminated properly and HPCI was tested satisfactorily. The procedure will be revised by 9-15-83 to include wire labeling. LER# BFRO-50-260/83047 MR# A-142099
'25/83	Core Spray Cooling	Core Spray NE Room Cooler Fan.	While performing SI-4.2. B-60 it was found that the Core Spray NE Room Cooler fan would not operate.	None, the redundant core spray system loop and room cooler were operable.	The overload relays on the full-voltage non-reversing magnetic starter tripped.	Core Spray NE Room Cooler fan would not operate.	The overload relay, GE model number CR124C028, was replaced and motor current verified to be acceptable. This is considered a random failure and no further recurrence control is required. LER# BFRO-50-260/83049 MR# A-060421
'29/83	RCIC	MX relay for the RCIC gland seal vaccum pump	RCIC gland seal vaccum pump inoperable.	None	Open coil on the MX relay.	The gland seal vaccum pump was inoperable.	The open coil was replaced on the MX relay and the vaccum pump returned to service. MR# A-141016

BROWNS FERRY NUCLEAR PLANT UNIT 2

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of August, 1983

ate	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
'1/83	HPCI	Inverter transformer T2.	During normal operation, High Pressure Coolant Injection System (HPCI) was declared i oerable due to inverter transformer T2 failure.	HPCI inoperable	Bad HPCI output inverter transformer	HPCI was inoperable for about 15 minutes.	The transformer was replaced and HPCI was tested satisfactorily. This failure is considere a random failure. No recurrence cont is planned. LER# BFRO-50-260/ 83046 MR# A-142191
'11/83	Reactor Feedwater System	Reactor Feedwater Pump "C" signal converter	RFP signal converter was operating erratically.	None	Bad signal converter amplifiers.	Erratic signal converter operation.	The bad amplifiers were replaced, EMI-84 performed, and the converter returne to service. MR# A-142686
'12/83	RHR	2EA LPCI M G set drive motor fan	M G set drive motor fan was making excessive noise.	None	Motor fan was loose on shaft.	Excessive motor noise and vibration.	The fan was adjusted. MR# A-142807
23/83	RHR	RHR Pump 2C Cooler fan.	While performing SI-4.2.B-57, it was found that the RHR Pump 2C Cooler fan would not operate.	None, the redundant residual heat removal system loop and room cooler were operable.	The overload relay tripped.	RHR Pump 2C Cooler fan would not operate	The overload relay was reset. This was considered a random failure and no further recurrence control is required. LER# BFRO-50-260/ 83050

BROWNS FERRY NUCLEAR PLANT UNIT 3

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of August, 1983

ate	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
'4/83	Off-Gas	Off-Gas post-treatment radiation monitors.	During normal reactor operation, both off-gas post-treatment radiation monitors (3-RM-90-265/266) became inoperable due to sample pump power failure.	None, the stack radiation monitor was operable and no release limits were exceeded.	Due to trip of motor control center, a normal feeder breaker which supplies power to the pump.	Monitors were out of service.	Breaker was reset. Currents were verified to be below trip value. This was a random failure and no recurrence control is required LER# BFRO-50-296 83048
8/83	Diesel Generators	3B Diesel Generator Annunciator Panel	Received a 3B Diesel Generator control circuit ground alarm.	None	Bad annunciator circuitry card.	Received a false control circuit ground alarm for D/G 3B.	The circuit card was replaced, alarm cleared. MR# A-153529
11/83	Diesel Generators	Diesel Generator 3D air compressor A.	Compressor motor was vibrating and running noisy.	None	Bad motor bearings.	Excessive motor noise and vibration.	The motor bearings were replaced and the compressor returned to service. MR# A-142533
12/83	4KV Shutdown Boards and Busses	4KV Shutdown Bd 3ED relay SAA (spare)	Corrosion was noticed on relay screws.	None	Undetermined.	This spare relay was removed from service for analysis to determine cause of corrosion.	This problem is now under investigation. Humidity and temperature recorders will be set up in the shutdown board rooms as part of this investigation. MR# A-130650

BROWNS FERRY NUCLEAR PLANT UNIT 3

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of August, 1983

ıte	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
'16/83	Diesel Generator	Diesel Generator 3ED	While performing SI-4.9.A.1.9, Diesel Generator Monthly Test, diesel generator 3ED failed to reach rated speed on an automatic start	None	High speed limit switch in the Woodward governor failed.	Diesel Generator 3ED was declared inoperable.	The switch was replaced and the diesel was returned to service. This is considered a random failure and no recurrence control required. LER# BFRO-50-296/83052 MR# A-153550

27

INSTRUMENT MAINTENANCE SUMMARY
FOR THE MONTH OF AUGUST 1983

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	EFFECT OF SAFE OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
(U-1)							
8-1	77	FR-77-16	Repair	None	Shorted wire	Loss of record	None
8-14	74	FT-74-76	Replace	None	End of life	Loss of indication	None
8-19	85	PI-85-63	Replace	None	Age	Loss of indication	None
(U-2)							
8-2	73	TR-73-54	Repair	None	Age	Loss of record	None
8-15	92	APRM F, Thermal trip card	Replace	None	Age	Alarm	None
8-15	92	SRM A, Log meter	Replace	None	Age	Faulty indication	None
8-24	90	AR-90-256	Repair	None	Age	Loss of record	None
8-28	77	LIS-77-1B	Replace	None	End of life	Loss of indication	None
(U-3)							
7-27	92	IRMN, DC Amp	Repair	None	Age	Faulty indication	None
7-29	90	RM-90-134	Repair	None	End of life	Loss of indication	None
8-5	64	TI-64-55A	Replace	None	End of life	Loss of indication	None
8-12	92	RBM-A	Repair	None	Age	None	None
8-15	92	RBM-B	Repair	None	Age	None	None
8-19	76	PR/FR-76-14	Repair	None	Age	Loss of indication	None

For the Month of August 19 83

8-01	CRD	mod 54-47	repair leak	none	unknown	none	replaced valve packi MR# A142447
8-17	Core Spray	3B PSC pump	pump leak	none	gasket blown	none	replaced head gaske MR# A210815
8-20	Core Spray	3B PSC pump	leak at union	none	unknown	none	tighten union MR# A142595
8-09	RHR	LPCI 3DN	noisy bearing	none	normal use	none	replace bearing MR# A062164

BROWNS FERRY NUCLEAR PLANT UNIT 2

STAFF INSTRUMENT

MECHANICAL MAINTENANCE SUMMARY

For the Month of August 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
-02	HPCI	gland seal condenser	repair leak	none	blown gasket	none	replaced head gasket MR# A206650
-08	Recirc	drain valve	replace valve	none	normal use	none	replaced valve MR# A133785
-22	HPCI	gland seal condenser	repair leak	none	blown gasket	none	replaced head gasket MR# A210704

PEACH BOTTOM ATOMIC POWER STATION UNIT NO. 1

MECHANICAL MAINTENANCE SUMMARY

For the Month of August 19 83

NO.	SYSTEM	COMPONENT	MAINTENANCE ACTION	EFFECT ON SAFE OPERATION OF THE REACTOR	DATE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PREVENT OCCURRENCE
8-05	EECW	EECW header	repair weld	none	unknown	none	repaired weld and replaced portion of pipe MR# A133800
8-04	RHRSW	ARV 23-560	repair leaks	none	unknown	none	torqued bolts to stop leak MR# A062365
8-01	SBGT	charcoal filters	change filters	none	unknown	none	replaced filters MR# A132097
8-02	Vent System	1B reactor exhaust fan	damper won't open	none	unknown	none	adjusted damper MR# A154162
8-01	RHRSW	ARV-23-501	repair leak	none	unknown	none	repalced gasket MR# A058966
8-07	RHRSW	ARV-23-0590	valve leak	none	unknown	none	replaced internals MR# A143002

FIELD SERVICES SUMMARY

August 1983

Major Work Areas

A. Refuel Floor - (1036) fuel movement of high density fuel storage (HDFS) rack shimming was completed on August 18 and the last HDFS rack was completed on August 29. Other activities associated with the refuel floor included completion of boral testing of 28 racks, preparations for replacement of crane rail, maintenance work and cleanup.

B. Turbine - During August the blade changeout on the low-pressure "A" turbine rotor was completed the low-pressure "A" was reassembled. This changeout required using unit 3 blades on the unit 1 turbine. The unit 1 blades that were removed have been shipped to General Electric in Schenectady, New York for repair and will be used on unit 3 low-pressure turbine.

The low-pressure "B" turbine blades completed repair this month by General Electric and are currently being installed. The current date for completion is September 9.

The front standard bull gear and oil pump gear were also repaired this month and have been received onsite.

The current projected completion date for low-pressure "B" turbine reassembly is September 27.

FIELD SERVICES SUMMARY

August 1983

Major Work Areas

C. Drywell - During August NUTECH/Gapco completed 16 overlay welds and Welding Services one sweep-let. Progress was slow due to special designed welding head requirements which had to be redesigned and fabricated by vendor.

Main steam isolation valve work continued this month with completion of the inboard valve assembly and successful leak rate testing.

D. Electrical/Instrumentation - During the month of August the prime emphasis continued to be placed on the work required to be completed prior to fuel load.

The status of the modifications and maintenance work is as follows:

1. Modifications

   a. P0533 Torus Temperature Monitoring System: The conduit installation was the prime effort on this modification this month. The progress made on Elevation 519 was not as good as planned due to heat problems encountered with the torus heatcure. The modification currently 85-percent complete.

   b. P0322/P0323 Drywell wide-range pressure monitors and P0323 torus wide-range level transmitters: The conduit installation continued and all conduit is installed except for 60 ft. on El. 519. Junction boxes were mounted on El. 519. Still need resolution as to where pressure transmitters will be mounted on El. 593.

FIELD SERVICES SUMMARY

August 1983

Major Work Areas

D. (Continued)

1. Modifications (Continued)

c. P0324 Containment Wide-range Radiation Monitors: Completed all cable pulling and started talking and meggering cables. Started fabrication of the junction boxes that are to be mounted inside the drywell. These junction boxes are designed to withstand the pressure during the integrated leak rate test. This modification is approximately 80-percent complete.

d. P0479 Emergency Lighting: Continued to install lighting battery pack lighting as manpower is available, approximately 95-percent complete.

e. P0590 Standby Control Room Emergency Lighting: Completed conduit and cable installation. Modification is 65-percent complete and will be completed prior to start of fuel load.

f. Electrical Maintenance

Completed all work associated with EMI-7 and EMI-71 testing.

Completed the recirculation motor maintenance and will test run motors upon completion of recirculation motor-generator set brush holder modification.

FIELD SERVICES SUMMARY

August 1983

Major Work Areas

D. (Continued)

i. Modifications (Continued)

f. (Continued)

Expect to complete the brush holder modification on the recirculation motor-generator sets on September 15.

Continued the outside electrical support for the three new buildings and continued electrical support of the torus modification, NUTECH and Welding Services weld overlay repair.

E. Mechanical - ALARA: The primary ALARA concerns during August were as follows: Support of the weld over repair, refuel floor preparation for reload, overall unit 1 housekeeping and the preparation for the upcoming unit 3 refueling outage.

F. Planning and Scheduling: Emphasis was placed on identifying and monitoring the work that is required to support fuel load. The major fuel load items were mentioned in the work synopsis. Additional effort was placed on the upcoming unit 3 cycle 5 refueling outage scheduled to start on September 6.

G. Torus: Williams Paint Contractor completed heatcure of the nine remaining bays on August 30, 1983. External modifications of the torus continued, but were slowed due to the heat buildup of the heatcure process. Fourteen of 16 torus snubber wall brackets were completed, as well as demineralized water reroute, high pressure coolant injection line reroute, and all external gussets. Efforts continued with ECCS support shim replacement,

FIELD SERVICES SUMMARY

August 1983

Major Work Areas

G. (Continued)

torus snubber installation and preparations of MK II weld out. Testing of torus snubbers was completed with 15 of 16 leaking, and vendor delivered unit 3 snubbers for installation on unit 1, of which 50-percent developed leaks and had to be returned to vendor for correction. New targeted torus fill date is September 9, 1983.

Attached piping support efforts continued throughout the month and a total of 73 supports were completed, boosting the total to 363 of 407, which includes spring (22) hanger mods received this month and ECCS supports. By system the following progress was made: HPCI - 100-percent, RCIC - 99-percent, RHR Loop I - 94-percent, RHR Loop 2 - 93-percent, CS Loop 1 - 100-percent, CS Loop 2 - 99-percent, drywell and torus purge - 83-percent, PSC ringheader - 100-percent complete. The total attached piping program is 96-percent complete.

H. Administrative - The overtime percentage for the month of July was 22-percent with 172,507 straight-time hours and 49,117 overtime hours. As of July 31, 1983, year-to-date overtime percentage was 21-percent, 1,428,157 straight-time hours and 384,087 overtime hours. The overall goal of the overtime percentage is 17-percent.

FIELD SERVICES SUMMARY

August 1983

Major Work Areas

H. (Continued)

The O&M budget for July was $2,205,103 and the expenditures were $1,303,375 with year-to-date budget being $27,164,437, and actual year-to-date expenditures being $26,960,735. The capital budget was $2,574,700 and the expenditures were $4,376,755 with year-to-date budget being $35,495,420, and actual year-to-date expenditures being $23,881,513. Overall budget was $4,779,803 and the overall expenditures were $5,680,129 with year-to-date budget being $62,660,857, and actual year-to-date expenditures being $50,842,248.

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

SEP 09 1983

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

Gentlemen:

Enclosed is the August 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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