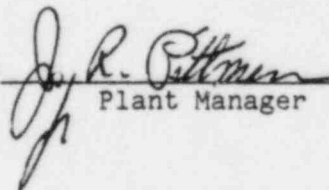


TENNESSEE VALLEY AUTHORITY
DIVISION OF NUCLEAR POWER
BROWNS FERRY NUCLEAR PLANT

MONTHLY OPERATING REPORT TO NRC
March 1, 1985 - March 31, 1985

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

Submitted by:


Plant Manager

8506070210 850419
PDR ADOCK 05000259
R PDR

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TABLE OF CONTENTS

Operations Summary.	1
Refueling Information	3
Significant Operational Instructions.	5
Average Daily Unit Power Level.	10
Operating Data Reports.	13
Unit Shutdowns and Power Reductions	16
Plant Maintenance	19
Outage Maintenance & Major Modification	27
Addenda	31
(Corrections to January and February, 1985 Report)	

Operations Summary

March 1985

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 six reportable occurrences and two revisions to previous occurrences reported to the NRC during the month of March.

Unit 1

There was one scram on the unit during the month. On March 19, 1985, the unit was manually scrammed when excessive leakage on the primary containment boundary was identified.

Unit 2

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

Unit 3

There was one scram on the unit during the month. On March 9, 1985, the unit was being brought to cold shutdown by controlled shutdown to inspect and repair reactor vessel level instrument lines. The reactor was manually scrammed at less than 0.02 percent thermal power when problems occurred with the rod worth minimizer.

Prepared principally by B. L. Porter.

Operations Summary (Continued)

March 1985

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	0.00620	0.00492	0.00430
Feedwater nozzle	0.29782	0.21319	0.16133
Closure studs	0.23910	0.17629	0.14326

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

Common System

Approximately $1.88\text{E}+06$ gallons of waste liquids were discharged containing approximately $1.74\text{E}-01$ curies of activities.

Operations Summary (Continued)

March 1985

Refueling InformationUnit 1

Unit 1 is scheduled for its sixth refueling approximately June 1, 1985 with a scheduled restart date of March 31, 1986. 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. The unit was shut down on March 19, 1985, and will remain in cold shutdown until June 1, 1985, because of unfinished modifications to meet environmental concerns.

There are 764 assemblies in the reactor vessel. The spent fuel storage pool presently contains 252 EOC-5 assemblies, 260 EOC-4 assemblies; 232 EOC-3 assemblies; 156 EOC-2 assemblies; and 168 EOC-1 assemblies. The present fuel pool capacity is 3,471 locations.

Unit 2

Unit 2 was shut down for its fifth refueling outage on September 15, 1984 with a scheduled restart date of August 1, 1985. This refueling outage will involve loading additional 8x8R (retrofit) assemblies into the core, finishing torus modification, turbine inspection, piping inspection, TMI-2 modifications; post-accident sampling facility tie-ins, core spray change-out, and feedwater sparger inspection.

There are no assemblies in the reactor vessel. At month end, there were 273 new assemblies, 764 EOC-5 assemblies, 248 EOC-4 assemblies, 352 EOC-3 assemblies, 156 EOC-2 assemblies, and 132 EOC-1 assemblies in the spent fuel storage pool. The present available capacity of the spent fuel pool is 77 locations. All old racks have been removed from the pool and new HDR's are being installed.

Operations Summary (Continued)

March 1985

Unit 3

Unit 3 is scheduled for its sixth refueling outage approximately November 30, 1985, with a scheduled restart date of November 10, 1986. This refueling involves loading 8X8P (retrofit) assemblies into the core, and complete reinspection of stainless steel piping.

There are 764 assemblies presently in the reactor vessel. There are 248 EOC-5 assemblies, 280 EOC-4 assemblies, 124 EOC-3 assemblies, 144 EOC-2 assemblies, and 208 EOC-1 assemblies in the spent fuel storage pool. The present available capacity of the spent fuel pool is 914 locations.

Significant Operational Events

Date	Time	Event
		Unit 1
3/01	0001	Reactor thermal power at 94-percent (%), end-of-cycle 6 coastdown.
3/02	0205	Reduced thermal power to 91% for SI-4.3.A.2, Control Rod Drive (CRD) Exercise.
	0220	SI-4.3.A.2 complete, commenced power ascension.
	0300	Reactor thermal power at 94%, end-of-cycle 6 coastdown.
3/03	1500	Reactor thermal power at 93%, end-of-cycle 6 coastdown.
	2230	Commenced reducing thermal power for removal of "C" string high-pressure heater from service for maintenance.
	2255	Reactor thermal power at 82% for maintenance on "C" string high-pressure heater.
	2350	"C" string high-pressure heater back in service, commenced power ascension.
3/04	0010	Reactor thermal power at 94%, end-of-cycle 6 coastdown.
	1230	"C" string high pressure heater isolated on high level, commenced reducing thermal power.
	1300	Reactor thermal power at 89%, "C" string high-pressure heater limited.
3/05	0315	"C" string high-pressure heater back in service, commenced power ascension.
	0325	Reactor thermal power at 94%, end-of-cycle 6 coastdown.
	1500	Reactor thermal power at 93%, end-of-cycle 6 coastdown.
3/07	0700	Reactor thermal power at 92%, end-of-cycle 6 coastdown.
3/10	2300	Reactor thermal power at 91%, end-of-cycle 6 coastdown.
3/11	1345	During SI-4.1.A-5, control rod 54-39 scrambled, reducing thermal power to 89%.
	2225	Reducing thermal power for scram testing of control rod 54-39.
	2235	Reactor power at 87% for scram testing control rod 54-39.
	2300	Scram testing on control rod 54-39 complete, commenced power ascension.

Significant Operational Events

Date	Time	Event
Unit 1 (Continued)		
3/12	0030	Commenced PCIOMR from 89% thermal power.
	0300	Reactor thermal power at 92%, end-of-cycle 6 coastdown.
	2300	Reactor thermal power at 91%, end-of-cycle 6 coastdown.
3/13	1500	Reactor thermal power at 90%, end-of-cycle 6 coastdown.
3/16	0010	Reduced thermal power to 87% for CRD Exercise (SI-4.3.A.2).
	0145	SI-4.3.A.2 complete, reduced thermal power to 86% for turbine control valve tests and SIs.
	0530	Turbine control valve tests and SIs complete, commenced power ascension.
	0700	Commenced PCIOMR from 88% thermal power.
	0935	Reactor thermal power at 90%, end-of-cycle 6 coastdown.
	2200	Commenced reducing thermal power to remove "C" Reactor Feedwater Pump (RFP) from service for maintenance.
	2245	"C" RFP out-of-service for maintenance, reactor thermal power at 57% and reducing.
3/17	0200	Reactor thermal power at 53%, holding for "C" RFP maintenance.
	0245	"C" RFP maintenance continues, commenced power ascension.
	0320	"C" RFP back in service.
	0430	Commenced PCIOMR from 81% thermal power.
	1520	Reactor thermal power at 92%, end-of-cycle 6 coastdown.
	2000	Reactor thermal power at 91%, end-of-cycle 6 coastdown.
3/18	0700	Reactor thermal power at 90%, end-of-cycle 6 coastdown.
	1500	Reactor thermal power at 89%, end-of-cycle 6 coastdown.
	2315	Commenced reducing thermal power for shutdown to repair and leak test RCIC and HPCI valves 71-14 and 73-23.
3/19	0127	Reactor manual Scram No. 178 from 44% thermal power for repair and leak test of valve 71-14 and 73-23.
	1730	Reactor in cold shutdown.
3/26	0800	Management decided to keep unit 1 in a shutdown condition until the unit undergoes several modifications, including those necessary to bring the unit into compliance with environmental qualifications required under NUREG 0588. The unit was scheduled to begin a 231 day refueling and modification outage on June 1, 1985.

Significant Operational Events

<u>Date</u>	<u>Time</u>	<u>Event</u>
		Unit 1 (Continued)
3/31	2400	Management decided to keep unit 1 in a shutdown condition until the unit undergoes several modifications, including those necessary to bring the unit into compliance with environmental qualifications required under NUREG 0588. The unit was scheduled to begin a 231 day refueling and modification outage on June 1, 1985.

Significant Operational Events

Date	Time	Event
		Unit 2
3/01	0001	End-of-cycle 5 refuel outage continues.
3/31	2400	End-of-cycle 5 refuel outage continues.

Significant Operational Events

Date	Time	Event
		Unit 3
3/01	0001	Reactor thermal power at 100%, maximum flow, rod limited.
3/02	0350	Commenced reducing thermal power for SI-4.3.A.2 (CRD Exercise).
	0430	Reactor thermal power at 96% for SI-4.3.A.2.
	0600	SI-4.3.A.2 complete, commenced power ascension.
	0700	Commenced PCIOMR from 97% thermal power.
	1000	Reactor thermal power at 100%, maximum flow, rod limited.
3/09	0200	Commenced reducing thermal power for turbine control valve test and SIs.
	0300	Reactor thermal power at 95% for turbine control valve test and SIs.
	0425	Turbine control valve test and SIs complete, commenced power ascension.
	0500	Reactor thermal power at 100%, maximum flow, rod limited.
	0745	Commenced reducing thermal power for shutdown to investigate reactor water level concerns.
	1935	Main turbine off line.
	2142	Reactor manual Scram No. 117 from less than 0.02% thermal power.
3/10	1240	Reactor in cold shutdown to repair a leak in the reactor water level reference leg instrument line. This was found to be the root cause of the reactor water level problem.
3/15	1200	The reactor water level reference leg instrument line has been repaired. The unit has been placed on administrative hold until various TVA and NRC concerns are resolved.
3/131	2400	The reactor water level reference leg instrument line has been repaired. The unit has been placed on administrative hold until various TVA and NRC concerns are resolved.

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-259
 UNIT Browns Ferry 1
 DATE 4/1/85
 COMPLETED BY T. Thom
 TELEPHONE (205) 729-2171

MONTH March 1985

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	953
2	999
3	998
4	959
5	984
6	981
7	978
8	971
9	971
10	973
11	947
12	952
13	958
14	956
15	952
16	910

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	870
18	950
19	14
20	-14
21	-15
22	-13
23	-16
24	-15
25	-15
26	-10
27	-8
28	-8
29	-6
30	-6
31	-6

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 4/1/85
 COMPLETED BY T. Thom
 TELEPHONE 729-2171

MONTH March 1985

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

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	-2
18	-2
19	-2
20	-2
21	-2
22	-2
23	-2
24	-2
25	-2
26	-7
27	-7
28	-7
29	-6
30	-7
31	-8

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 4/1/85
 COMPLETED BY T. Thom
 TELEPHONE (205) 729-2171

MONTH March 1985

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	1079
2	1076
3	1093
4	1080
5	1083
6	1085
7	1084
8	1081
9	552
10	-13
11	-13
12	-12
13	-11
14	-10
15	-11
16	-10

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	-10
18	-11
19	-10
20	-10
21	-11
22	-11
23	-11
24	-11
25	-11
26	-10
27	-11
28	-11
29	-10
30	-10
31	-11

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 4-1-85
 COMPLETED BY T. Thom
 TELEPHONE 729-2171

OPERATING STATUS

1. Unit Name: Browns Ferry One
 2. Reporting Period: March 1, 1985
 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>2,160</u>	<u>93,560</u>
12. Number Of Hours Reactor Was Critical	<u>433.45</u>	<u>1,647.78</u>	<u>59,521.38</u>
13. Reactor Reserve Shutdown Hours	<u>310.55</u>	<u>512.22</u>	<u>6,997.44</u>
14. Hours Generator On-Line	<u>433.45</u>	<u>1,626.67</u>	<u>58,267.26</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>1,308,962</u>	<u>4,982,981</u>	<u>168,144,427</u>
17. Gross Electrical Energy Generated (MWH)	<u>427,190</u>	<u>1,652,650</u>	<u>55,398,130</u>
18. Net Electrical Energy Generated (MWH)	<u>412,402</u>	<u>1,603,031</u>	<u>53,816,852</u>
19. Unit Service Factor	<u>58.3</u>	<u>75.3</u>	<u>62.3</u>
20. Unit Availability Factor	<u>58.3</u>	<u>75.3</u>	<u>62.3</u>
21. Unit Capacity Factor (Using MDC Net)	<u>52.0</u>	<u>69.7</u>	<u>54.0</u>
22. Unit Capacity Factor (Using DER Net)	<u>52.0</u>	<u>69.7</u>	<u>54.0</u>
23. Unit Forced Outage Rate	<u>41.7</u>	<u>24.7</u>	<u>22.2</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):

Forecast

Achieved

INITIAL CRITICALITY

INITIAL ELECTRICITY

COMMERCIAL OPERATION

OPERATING DATA REPORT

DOCKET NO. 50-260
 DATE 4/1/85
 COMPLETED BY T. Thom
 TELEPHONE (205) 729-2171

OPERATING STATUS

1. Unit Name: Browns Ferry Two
 2. Reporting Period: March 1985
 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	<u>744</u>	<u>2160</u>	<u>88,447</u>
12. Number Of Hours Reactor Was Critical	<u>0</u>	<u>0</u>	<u>55,860.03</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>14,200.44</u>
14. Hours Generator On-Line	<u>0</u>	<u>0</u>	<u>54,338.36</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>153,245,167</u>
17. Gross Electrical Energy Generated (MWH)	<u>0</u>	<u>0</u>	<u>50,771,798</u>
18. Net Electrical Energy Generated (MWH)	<u>-2,528</u>	<u>-8,232</u>	<u>49,294,741</u>
19. Unit Service Factor	<u>0</u>	<u>0</u>	<u>61.4</u>
20. Unit Availability Factor	<u>0</u>	<u>0</u>	<u>61.4</u>
21. Unit Capacity Factor (Using MDC Net)	<u>0</u>	<u>0</u>	<u>52.3</u>
22. Unit Capacity Factor (Using DER Net)	<u>0</u>	<u>0</u>	<u>52.3</u>
23. Unit Forced Outage Rate	<u>0</u>	<u>0</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: September 1985

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 4/1/85
 COMPLETED BY T. Thom
 TELEPHONE (205) 729-2171

OPERATING STATUS

1. Unit Name: Browns Ferry Three
2. Reporting Period: March 1985
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>2160</u>	<u>70,872</u>
12. Number Of Hours Reactor Was Critical	<u>213.70</u>	<u>1,517.65</u>	<u>45,306.08</u>
13. Reactor Reserve Shutdown Hours	<u>396.00</u>	<u>508.05</u>	<u>5,149.55</u>
14. Hours Generator On-Line	<u>211.58</u>	<u>1496.96</u>	<u>44,194.76</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>226,850</u>	<u>1,572,770</u>	<u>43,473,760</u>
17. Gross Electrical Energy Generated (MWH)	<u>215,175</u>	<u>1,526,475</u>	<u>42,192,226</u>
18. Net Electrical Energy Generated (MWH)	<u>28.4</u>	<u>69.3</u>	<u>62.4</u>
19. Unit Service Factor	<u>28.4</u>	<u>69.3</u>	<u>62.4</u>
20. Unit Availability Factor	<u>27.2</u>	<u>66.4</u>	<u>55.9</u>
21. Unit Capacity Factor (Using MDC Net)	<u>27.2</u>	<u>66.4</u>	<u>55.9</u>
22. Unit Capacity Factor (Using DER Net)	<u>71.5</u>	<u>30.6</u>	<u>18.4</u>
23. Unit Forced Outage Rate			
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: April 15, 1985

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 4/1/85
 COMPLETED BY T. Thom
 TELEPHONE (205) 729-2171

REPORT MONTH March

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
312	3/16/85	F		A					Derated for "C" RFWP Maintenance
313	3/19/85	F	174.55	A	2				Rx scrambled for repair and leak test on valve 71-14 and 73-23.
314	3/26/85	F	136.0	D					Unit remains offline for modifications to bring the unit into compliance with environmental qualifications required under NUREG 0588.

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 4/1/85

COMPLETED BY T. Thom

TELEPHONE (205) 729-2171

REPORT MONTH March

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
305 (Cont)	3/1/85	5	744	C	4				EOC-5 Refuel Outage (Controlled Shutdown 9/15/84)

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. 50-296UNIT NAME Browns Ferry 3DATE 4/1/85COMPLETED BY T. ThomTELEPHONE (205) 729-2171REPORT MONTH March

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
155	3/9/85	F	136.42	A	2				Turbine offline to investigate reactor water level concerns.
156	3/15/85	F	396.0	F					Unit remains down due to being placed on administrative hold until various TVA and NRC concerns are resolved.

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

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of March 19 85

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1985 2/24	480V common boards	27-215-3/10A-BY undervoltage aux relay 27BY	DPSO functional testing 480V common board 3	None	Coil open on relay	Lost of undervoltage protection for 480V common board 3	Replaced undervoltage auxiliary relay MR 181133
3/1	Radiation monitoring	TC-90-0044 temperature controller for heat race on Isokinetic probe	Check heat traces for proper operation	None	Heat trace defective	Temperature of line was 74°F. Should be between 110°F & 150°F	Replaced heat traces MR 310349
3/8	Standby gas treatment	HTR-065-0060 SGT relative humidity control heater for filter train C	Troubleshoot to determine cause of breaker	None	Defective breaker (BKR-065-0060)	Loss of redundancy due to C train inoperable	Replaced breaker MR 171119
3/14	High pressure fire protection	MTR-26-0001 fire pump A motor	Replace defective bearing in motor	None	Bad upper bearings	Excessive vibration and noise on motor	Replaced upper bearing MR 317734
3/26	High pressure fire protection	STN-26-1504 fire pump A strainer motor	Troubleshoot - contacts smoking on motor	None	Contacts burned up on starter	Fire pump A strainer motor inoperable	Changed out contacts on starter MR 180518

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

 For the Month of March 19 85

ate	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
85 25	RPS	RLY-099-5AK3D main steam line isol vlv- closure sensor relay. Channel B2	Adjust/replace limit switch per EMI 39	Half Scram on unit 1	Limit switch 3, on FCV-001-26 which energizes relay 5AK3D, was out of adjustment	Relay 5AK3D dropped out and gave a half scram when channel B inboard & outboard MSIV's were tested	Adjusted limit switch 3 on FCV-001-26 MR 321785 20
4	HPCI	FCV-73-6A & 6B HPCI steam line drain isolation valves	Performing SI 4.5.E.1.c	HPCI system declared inop - Entered 7-day LCO	Arc suppressing resistors found to be open in both valves	HPCI inverter fuse blown when valves were cycled	Replace blown fuse- MR 216545 Troubleshoot system MR 171114 Replacement of re- sistors (later) MR 171115 & 171116 LER 259/85006
7	480V reactor MOV bds	LPCI MG sets 1DA, 1DN, 1EA, 1EN	Inspect loose diode connections & high exciter field voltage	N/A	N/A	N/A	(Interim Repairs) Diodes tested and rotating rectifier rings tightened. MR 157548/157549. LER 259/85004. MG sets will be sent to Louis-Allis for permanent repair during outage
2	Neutron monitoring	MONT-92-7-41A MONT-92-7-41A intermediate range monitor	Correct excessive noise problem on IRM's A&C signal cables to pre- amp detector	None	Connectors were not adequate for the application	IRM's A & C were experiencing high noise levels	Drywell penetration connectors were modified to isolate the center shield from the connector body MR 190483

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of March 19 85

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
3/22/85	Radwaste	FSV-077-0014A drywell equip drain sump recirc vlv	Troubleshoot to identify problem with blown fuse	None	Unknown - suspect moisture present in either JB3078 or at the solenoid itself causing the cables to be grounded	Fuse 1-20A-F77 blows each time drywell sump attempts to recirculate	Replaced blown fuse MR 558105
3/24/85	Main steam	1-FCV-001-026 main steam line B inbd isol vlv	Replace limit switch arm on LS-2	None	Missing arm - unknown	Could not check proper operation of valve FCV-1-26	Replaced limit switch arm MR 321156

CSSC EQUIPMENT

ELECTRICAL MAINTENANCE SUMMARY

 For the Month of March 19 85

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
985 /6	RPS	RLY-99-5AK01C A2 west scram dis vol hi wtr lvl sensor relay	Check circuitry for short	Half Scram	Defective relay	Blows fuse 5A-F1C and give half scram when not bypassed by control room switch	Replaced relay MR 179929
/8	HPCI	FSV-73-006A HPCI steam line condensate inboard drain valve	Check resistor to use as replacement on unit 1 FSV-73-6A or 6B	None	N/A	Resistor found bad on FSV-73-6A	Check resistor for replacement/repair of unit 1 - MR 171117. Replace resistor - MR 554205
/14	Cranes and hoists	Bridge crane refuel floor	Replace limit switch	None	Worn out cam in sensitive switch head	Switch for refuel interlock hangs in the UP position	Replaced sensitive switch head MR 064216

CNSC DOCUMENT

ELECTRICAL MAINTENANCE SUMMARY

For the Month of March 19 85

Date	System	Component	Nature of Maintenance	Effect on Safe Operation of The Reactor	Cause of Malfunction	Results of Malfunction	Action Taken To Preclude Recurrence
1985 2/28	Control bay heat, vent & AC sys	CHR-31-1996 3B2 shutdown bd rm chiller	Troubleshoot chiller tripped off and will not start	None	Evaporator freeze protection thermo-stat bad	Caused chiller to trip and not start automatically	Replaced thermostat MR 182831
3/4	Control bay heat, vent and AC sys	CHR-31-1976 3B1 shutdown bd rm chiller	Troubleshoot. Chiller not operating properly	None	Found hole in cap tube on expansion valve	Expansion valve freezing up	Replaced expansion valve MR 121244
3/7	480V reactor MOV bd	LPCI MG sets 3DA, 3DN, 3EA, 3EN	Inspect loose diode connections & high exciter field voltage	N/A	N/A	N/A	(Interim repairs) Diodes tested and rotating rectifier rings tightened. MR 157547/157543. LER 259/85004. MG sets will be sent to Louis-Alli for permanent repairs during outage
3/11	Neutron monitoring	MONT-92-7-41D channel D intermediate range monitor	Repair/replace IRM cable connector	None	Broken pin in connector	Connection to detector not made up	Replace connector MR 310415
3/27	Control bay heating, vent & AC sys	CHR-31-1951 3B control bay chiller	Replace thermo pilot regulator on pilot expansion valve	None	Broken thermo pilot regulator on expansion vlv	Chiller would not operate properly	Replaced pilot expansion valve MR 554214

CSSC EQUIPMENT

MECHANICAL MAINTENANCE SUMMARY

For the Month of March 19 85

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	EFFECT ON SAFE OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
3-19-85	71	HCV-71-14	Replace Inner Outer Bonnet Gaskets	Loss of Primary Containment	Normal wear	Failed LLRT	Replaced two gaskets MR 308126
3-19-85	73	HCV-73-23	Replace inner & outer bonnet gaskets	Loss of primary containment	Ruptured gasket	Failed LLRT	Replaced gasket MR 560752
2-22-85	74	Duct Hanger for 1D RHR Pump Motor	Remove hanger to replace RHR pump motor	None	None	NA	Re-weld duct hangers in 1D RHR Room MR 182425

MECHANICAL MAINTENANCE SUMMARY

CSSC EQUIPMENT

For the Month of March 1985

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	EFFECT ON SAFE OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
3-27-85	71	RCIC minimum flow orifice flange	Inspection	None	NA	NA	NA
1-5-84	67	EECWS H-12	Remove ARC strikes from hanger welds	None	Inservice Inspection	NA	NA

CSSC EQUIPMENT

MECHANICAL MAINTENANCE SUMMARY

For the Month of March 19 85

DATE	SYSTEM	COMPONENT	NATURE OF MAINTENANCE	EFFECT ON SAFE OPERATION OF THE REACTOR	CAUSE OF MALFUNCTION	RESULTS OF MALFUNCTION	ACTION TAKEN TO PRECLUDE RECURRENCE
15-85	74	FCV-74-60	Inspect motor pinion gear arrangements	None	Preventative maintenance	NA	NA
13-85	74	FCV-74-12	Repair valve Operator	None	Motor pinion installed backwards	Failed to close during S.I. 4.5.B.1.c	Reoriented motor pinion gear
23-85	75	FCV-74-22	Inspect motor pinion gear arrangements	None	Preventative maintenance	NA	NA
25-85	71	HCV-71-14	Replace inner & outer bonnet gaskets	Loss of primary containment	Normal age & use	Failed LLRT	Replaced gaskets

OUTAGE MAINTENANCE & MAJOR MODIFICATION MANAGEMENT
March 1985

MAJOR WORK COMPLETED

A. Refuel Floor

1. Decontamination of unit 1 fuel pool equipment started on March 7, 1985, finished in March.
2. SRM/IRM dry tube inspections were completed on March 19, 1985 with one suspect tube reported.

B. Turbine

The rebuilt low-pressure "C" turbine was returned from Muscle Shoals and was set on the turbine floor on March 6, 1985. The generator end coupling required boring, which was completed on March 22. The turbine is installed, upper diaphragms are installed and the inner casing is set but not torqued.

C. Drywell

Instrument lines and tents were set up as of March 31 in preparation for vessel drain and jet pump instrument line nozzle replacements.

D. Balance-of-Plant

1. "B" residual heat removal (RHR) heat exchanger tube plugging was completed. "B" RHR heat exchanger service water vent line modifications were completed.
2. The Condenser Cooling Water intake tunnel was pumped down on March 1, but joint repairs have been postponed.

E. Modifications Mechanical

1. Valve 74-54 work was completed on March 1, 1985.
2. "B" RHR pump seal heat exchanger and associated RHR and Emergency Equipment Cooling Water piping were changed out on March 18.

OUTAGE MAINTENANCE & MAJOR MODIFICATION MANAGEMENT
March 1985

MAJOR WORK COMPLETED (Continued)

E. Modifications Mechanical (Continued)

3. Torus heat cure started on March 8. As of March 31, six of 16 bays had been heat cured.
4. Scram header cuts for changeout of instrument volumes were started on March 25.
5. Induction heat stress improvement (IHSI) was completed on March 31.

The following system welds were treated:

Core Spray	- 9
Recirculation	- 101
Residual Heat Removal	- 29
Reactor water Cleanup	- 14
Total	- 155

Two recirculation system welds (KR-2-37 and KR-2-36) received reheats.

F. Modifications Electrical

1. "A" recirculation motor generator (MG) set linkage was inspected as a result of operational problems. The HEIM rod end coupling was repaired and the MG set was turned over to operations on March 7.
2. Instrumentation was removed from the scram discharge header instrument volumes on March 24, 1985.

G. Major Maintenance

1. 2B RHR pump motor was removed to be installed on 1D RHR pump. The replacement motor, which was sent from the service shop, was installed on the pump but was removed prior to coupling on March 25 to replace 3D RHR pump motor, which had failed several days earlier. Projected delivery of a rebuilt pump motor is early May.

OUTAGE MAINTENANCE & MAJOR MODIFICATION MANAGEMENT
March 1985

MAJOR WORK COMPLETED (Continued)

G. Major Maintenance (Continued)

2. All turbine building cranes and the reactor building (refuel floor) crane were taken out of service on March 29 following a fatal accident on March 28 associated with the unit 2 turbine building crane.
3. During post-IHSI ultrasonic transmitters weld GR-2-15, "A" recirculation riser-to-reducer weld to nozzle N2H, was found to have a 1" through-wall indication.
4. Control rod drive system maintenance started following removal of the system from service on March 19.
5. Final local leak rate testing started this month. "B" feedwater header string was tested, with valve 69-579 being the only valve on the string reported failed.

CRITICAL PATH STATUS

A. Work Plan Approvals; Modifications Group

	<u>March 1</u>	<u>April 1</u>	<u>Change</u>
Total Workplans	242	280	+38
Approved Workplans	23	61	+38
Outstanding Workplans	219	219	0
Workplans in Approval Cycle	74	69	N/A

B. ECN P0126; Replace Transmitters with Analog/Trip System

<u>Conduit Installation Location</u>	<u>March 1</u>	<u>April 1</u>
Auxiliary Instrument Room	5%	20%
El. 565'	10%	75%
Turbine Building	25%	90%
Spreader Room	-	10%

OUTAGE MAINTENANCE & MAJOR MODIFICATION MANAGEMENT
March 1985

CRITICAL PATH STATUS (Continued)

C. ECN PO361; Torus Attached Piping Hanger Modifications

Hangers Installed: March 1 - 11
April 1 - 83

Hanger Status by System:

HPCI	- 17%
RCIC	- 41%
RHR I	- 43%
RHR II	- 62%
CS I	- 4%
CS II	- 27%
Drywell Torus Purge	- 36%

RETURN TO SERVICE DATE: September 21, 1985

MODIFICATIONS IN PROGRESS

PO392 - Scram Discharge Header Modifications
 PO361 - Torus Attached Piping Hangers
 PO126 - Analog/Trip System Installation
 PO613/4 - MSIV Mods on "B" I/B and Both "C" Valves
 PO689/91 - System 64 Valve Overlays
 PO547 - Replace CRD Supply Water Valves to Recir Pump Seals
 PO653 - Modify MSRV Vacuum Breakers (Preps)
 PO684 - Modify Drywell to Torus Vacuum Breakers
 PO697 - Control Bay HVAC Systems Installation
 PO555 - Sandblast, Paint, Heat Cure Torus
 P5187 - Revise Off-gas Piping As-Constructed Drawings
 P5177 - Revise Valve Marker Tag Tabulation
 PO533 - Install Improved Torus Temperature Monitor Systems
 PO415 - Install Reactor Feedwater Header Temperature Monitoring System
 PO085 - Replace Existing Drywell Sensors
 L1965 - Replace CRD Scram Pilot Valve Solenoid O-Rings
 *PO692 - Generator Breaker Monorail (TACF)
 *P5041 - Remove Leak Rate Test Devices (TACF)
 PO586 - Rod Consolidation Demonstration Equipment Installation
 *Completed during this month.