MONTHLY OPERATING REPORT
BROWNS FERRY NUCLEAR PLANT
TENNESSEE VALLEY AUTHORITY

JANUARY 1988

"Safety and Quality are Paramount"

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

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

Submitted by:

John Walker

John G. Walker
Plant Manager

IE24
1/

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OPERATIONAL SUMMARY

SIGNIFICANT OPERATIONAL EVENTS SUMMARY

JANUARY 1988

Unit 1

01/01/88	0001	Unit remains on administrative hold to resolve various TVA and NRC concerns, and end of cycle 6 refueling and modifications continues.
01/31/88	2400	Unit remains on administrative hold to resolve various TVA and NRC concerns, and end of cycle 6 refueling and modifications continues.

Unit 2

01/01/88	0001	Unit remains on administrative hold to resolve various TVA and NRC concerns, and end of cycle 5 refueling and modifications continues.
01/31/88	2400	Unit remains on administrative hold to resolve various TVA and NRC concerns, and end of cycle 5 refueling and modifications continues.

Unit 3

01/01/88	0001	Unit remains on administrative hold to resolve various TVA and NRC concerns, and environmental qualifications and modifications continues.
01/31/88	2400	Unit remains on administrative hold to resolve various TVA and NRC concerns, and environmental qualifications and modifications continues.

FUEL PERFORMANCE AND SPENT FUEL STORAGE CAPABILITIES SUMMARY

JANUARY 1988

Unit 1

Unit 1 was placed on administrative hold in March 1985 to resolve TVA and NRC concerns. The unit also began its sixth refueling on June 1, 1985, with a scheduled restart date to be determined. The sixth refueling will involve loading 8x8R (retrofit) fuel assemblies into the core. The prior-to-startup unit 1 items are environmental qualification of electrical equipment (10CFR50.49), torus modification (NUREG 0661), containment modifications (NUREG 0737), electrical changes (Appendix R 10CFR50) (all), MSIV modifications, modification of masonry walls (IEB 80-11), evaluation of the vent drain and test connections, VDTC, (LER 82020), valve modification (Appendix J), HPCI concerns, modification of PCIS logic (LER 259 85009), replacement of plant process computers, seismic qualifications of piping (IEB 79-02/14), postaccident evaluation (NUREG 0737), RPS modifications (IE Notice 78-45), H_2O_2 sample line modification (LER 81050), radiation monitors modification (LER 80033), EECW carbon to stainless pipe change out, and all NRC commitment items except Anticipated Transients Without Scram (ATWS) modifications which is scheduled for next outage.

There are 0 assemblies in the reactor vessel. The spent fuel storage pool presently contains 284 new assemblies, 764 EOC-6, 252 EOC-5, 260 EOC-4, 232 EOC-3, 156 EOC-2, and 168 EOC-1 assemblies. The present available capacity of the fuel pool is 1355 locations.

FUEL PERFORMANCE AND SPENT FUEL STORAGE CAPABILITIES SUMMARY (CONT.)

JANUARY 1988

Unit 2

Unit 2 was shut down on September 15, 1984, for its fifth refueling outage with a scheduled restart date to be determined. On September 3, 1985, the unit was placed on administrative hold to resolve TVA and NRC safety concerns. The fifth refueling involves loading 8x8R (retrofit) fuel assemblies into the core. The prior-to-startup unit 2 items are CRD SDIV piping modification (IEB 80-17), environmental qualification of electrical equipment (10CFR50.49), torus modifications (NUREG 0661), containment modification (NUREG 0737), electrical changes (Appendix R 10CFR50) (partial), MSIV modifications, modification of masonry walls (IEB 80-11), addition of feedwater nozzle temperature monitoring (NUREG 0619), evaluation of the vent drain and test connections, VDTC, (LER 82020), valve modification (Appendix J) (partial), D/G speed sensor installation (LER 81004), HPCI and RCIC testable check valve change out, modification of PCIS logic (LER 259 85009), HPCI concerns, seismic program review, and EECW carbon to stainless pipe change out.

There are 0 assemblies in the reactor vessel. At month end there were 304 new assemblies, 764 EOC-5, 248 EOC-4, 352 EOC-3, 156 EOC-2, and 132 EOC-1 assemblies in the spent fuel storage pool. The present available capacity of the spent fuel pool is 1481 locations. All HDRs have been installed in the pool with the exception of two.

FUEL PERFORMANCE AND SPENT FUEL STORAGE CAPABILITIES SUMMARY (CONT.)

JANUARY 1988

Unit 3

Unit 3 was shut down on March 9, 1985, and placed on administrative hold to resolve various TVA and NRC concerns with a scheduled restart date to be determined. The sixth refueling outage has been scheduled for September 21, 1988, and involves loading 8x8R (retrofit) assemblies into the core and ATWS modifications. The prior-to-startup unit 3 items are environmental qualification of electrical equipment (10CFR50.49), containment modifications (NUREG 0737), electrical changes (Appendix R 10CFR50) (all), MSIV modifications, modification of masonry walls (IEB 80-11), evaluation of the vent drain and test connections, VDTC,(LER 82020), valve modifications (Appendix J), HPCI concerns, replacement of plant process computer, seismic qualifications of piping (IEB 79-02/14), postaccident evaluation (NUREG 0737), addition of redundant drywell control air supply, RPS modification (IE Notice 78-45), H_2O_2 sample line modification (LER 81050), radiation monitor modification (LER 80033), replacement of jet pump holddown beam assemblies (IEB 80-07), change out of switches in SBGT (LER 83018), EECW carbon to stainless pipe change out, and plant design upgrade to seismic qualification.

There are 0 assemblies in the reactor vessel. There are 764 assemblies to finish EOC-6, 248 EOC-5, 280 EOC-4, 124 EOC-3, 144 EOC-2, and 208 EOC-1 assemblies in the spent fuel storage pool. The present available capacity of the fuel pool is 585 locations. All high density racks (HDR) have been installed in the pool with the exception of six.

MSRVs (MAIN STEAM RELIEF VALVE) SUMMARY

JANUARY 1988

No MSRVs were challenged during the month.

ISSUANCE OF SPECIAL REPORTS

The following special report was submitted to the NRC in January 1988.

87-41-01 During a previous inspection of the Conditions Adverse to Quality (CAQ) program conducted in June 1987 (NRC Inspection Reprot Nos. 50-259, 260, and 296/87-24), it appeared that adequate management support and staff were committed to establish successful resolution for previously identified problems. However, this inspection identified that licensee management failed to achieve effective CAQ program control as evidenced by a 50 percent delinquency rate and increasing volume of escalated Conditions Adverse to Quality Reports(CAQRs).

JANUARY 1988

The following licensee event reports (LERs) were reported to the Nuclear Regulatory Commission in January 1988.

LER	Description of Event
1-87014 Rev. 1	Control Room Emergency Ventilation System Flow Out of Specification Due to Procedural Inadequacy. This revision provides details concerning a procedural inadequacy which resulted in auto start of the control room emergency ventilation system.
1-87031	Procedural Inadequacy Results in Start of Control Room Emergency Ventilation System. Units 1, 2, and 3 were in refueling outages and completely defueled when this event occurred. On December 4, 1987, at 1455 hours, the control room emergency ventilation (CREV) system auto started during switching operations on units 1 and 2 4-kV shutdown board A. A restart test procedure being utilized did not specify a position for the transfer switch on the 4-kV board. With the alternate power supply feeding the board, the assistant shift engineer placed the transfer switch in automatic. This caused the automatic transfer of the board to its normal power supply. This resulted in load shedding and CREV auto start. Systems were restored to normal at 1501 hours. The restart test procedure will be revised to specify transfer switch position.

OFFSITE DOSE CALCULATION MANUAL CHANGES

JANUARY 1988

No changes were made to the Browns Ferry offsite dose calculation manual during the month.

RADWASTE SUMMARY

JANUARY 1987

The radwaste system performed as designed. Approximately 7.79E+05 gallons of waste liquid were discharged containing approximately 1.33E-02 curies of activity.

There were four spent resin shipments and one trash shipment during January. All shipments were to Barnwell, SC.

Solid Radioactive Waste
January 1988

Dewatered Spent Resin Shipments (1)

Volume of condensate/waste resin shipped: 16.31 Cu.M. (576 Cu.Ft.)

Total curies shipped: 21.4964

Volume of reactor cleanup resin shipped: None

Total curies shipped: N/A

Date Shipped	Disposal Facility	Type of Resin
01/ 12/ 88	Barnwell, SC	CWPS
01/ 15/ 88	Barnwell, SC	CWPS
01/ 19/ 88	Barnwell, SC	CWPS
01/ 29/ 88 (2)	Barnwell, SC	CWPS

Dry Active Waste (1)

Number of drums shipped: None Volume: N/A

Total curies shipped: N/A

Number of boxes shipped: 8 Volume: 21.47 Cu.M (758.1 Cu.Ft.)

Total curies shipped: 0.7293

Date Shipped	Disposal Facility	Type of Package
01/ 06/ 88	Barnwell, SC	Boxes

(1) All Shipments were by Sole-Use Truck
(2) In transit, charged against February Volume

Solid Radioactive Waste (Continued)
January 1988

Summary

Type of Waste	Shipped to Barnwell During Month	Packaged on Site Awaiting Shipment	Gross Curie Content by Type of Waste	Estimated Generation for Next Month
Compacted Drums	0 Cu.Ft.(2)	113 Cu.Ft.	0.00E+00	375 Cu.Ft.(2)
Boxes	558 Cu.Ft.(2)	744 Cu.Ft.	7.29E-01	558 Cu.Ft.(2)
Uncompacted Drums	0 Cu.Ft.(2)	0 Cu.Ft.	0.00E+00	0 Cu.Ft.(2)
Boxes	200 Cu.Ft.(2)	498 Cu.Ft.	2.49E-02	306 Cu.Ft.(2)
Resins CWPS	432 Cu.Ft.(1)	1538 Cu.Ft.(3)	1.74E+01	400 Cu.Ft.(1)
RWCU	0 Cu.Ft.(1)	460 Cu.Ft.(3)	0.00E+00	30 Cu.Ft.(1)
TOTALS	1271 Cu.Ft.(2)	1355 Cu.Ft.(4)	1.82E+01	1239 Cu.Ft.(4)

Total volume of waste shipped during the month: 1271 Cu.Ft.(2)
Total volume of waste shipped year to date: 1271 Cu.Ft.
Unused 1988 burial volume allocation at Barnwell: 81529 Cu.Ft.

(1) Actual resin volume.
(2) Container burial volume.
(3) Estimated volume in separators
(4) Does not include resins

OPERATING STATISTICS

OPERATING DATA REPORT

DOCKET NO. 50-259
DATE 02-01-88
COMPLETED BY J. D. Crawford
TELEPHONE (205) 729-2507

OPERATING STATUS

1. Unit Name: Browns Ferry Unit One
2. Reporting Period: January 1988
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	744	118,424
12. Number of Hours Reactor Was Critical	0	0	59,521.38
13. Reactor Reserve Shutdown Hours	0	0	6,997.44
14. Hours Generator On-Line	0	0	58,267.26
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	0	0	168,066,787
17. Gross Electrical Energy Generated (MWH)	0	0	55,398,130
18. Net Electrical Energy Generated (MWH)	-828	-828	53,705,574
19. Unit Service Factor	0	0	49.20
20. Unit Availability Factor	0	0	49.20
21. Unit Capacity Factor (Using MDC Net)	0	0	42.58
22. Unit Capacity Factor (Using DER Net)	0	0	42.58
23. Unit Forced Outage Rate	100	100	41.56

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

	Forecast	Achieved
INITIAL CRITICALITY		
INITIAL ELECTRICITY		
COMMERCIAL OPERATION		

(9/77)

OPERATING DATA REPORT

DOCKET NO. 50-260
DATE 02-01-88
COMPLETED BY J. D. Crawford
TELEPHONE (205) 729-2507

OPERATING STATUS

1. Unit Name: Browns Ferry Unit Two
2. Reporting Period: January 1988
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	744	744	113,311
12. Number of Hours Reactor Was Critical	0	0	55,860.03
13. Reactor Reserve Shutdown Hours	0	0	14,200.44
14. Hours Generator On-Line	0	0	54,338.36
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	0	0	153,245,167
17. Gross Electrical Energy Generated (MWH)	0	0	50,771,798
18. Net Electrical Energy Generated (MWH)	-1,986	-1,986	49,181,847
19. Unit Service Factor	0	0	47.96
20. Unit Availability Factor	0	0	47.96
21. Unit Capacity Factor (Using MDC Net)	0	0	40.76
22. Unit Capacity Factor (Using DER Net)	0	0	40.76
23. Unit Forced Outage Rate	100	100	40.74

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

	Forecast	Achieved
INITIAL CRITICALITY		
INITIAL ELECTRICITY		
COMMERCIAL OPERATION		

(9/77)

OPERATING DATA REPORT

DOCKET NO. 50-296
DATE 02-01-88
COMPLETED BY J. D. Crawford
TELEPHONE (205) 729-2507

OPERATING STATUS

1. Unit Name: Browns Ferry Unit Three
2. Reporting Period: January 1988
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	744	95,736
12. Number of Hours Reactor Was Critical	0	0	45,306.08
13. Reactor Reserve Shutdown Hours	0	0	5,149.55
14. Hours Generator On-Line	0	0	44,194.76
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	0	0	131,868,267
17. Gross Electrical Energy Generated (MWH)	0	0	43,473,760
18. Net Electrical Energy Generated (MWH)	-4,658	-4,658	42,036,490
19. Unit Service Factor	0	0	46.16
20. Unit Availability Factor	0	0	46.16
21. Unit Capacity Factor (Using MDC Net)	0	0	41.23
22. Unit Capacity Factor (Using DER Net)	0	0	41.23
23. Unit Forced Outage Rate	100	100	44.08

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

	Forecast	Achieved
INITIAL CRITICALITY		
INITIAL ELECTRICITY		
COMMERCIAL OPERATION		

(9/77)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-259
Unit One
DATE 02-01-88
COMPLETED BY J.D. Crawford
TELEPHONE (205)729-2507

MONTH JANUARY 1988

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

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.

(9/77)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-260
Unit Two
DATE 02-01-88
COMPLETED BY J.D. Crawford
TELEPHONE (205)729-2507

MONTH JANUARY 1988

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

(9/77)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-296
Unit Three
DATE 02-01-88
COMPLETED BY J.D. Crawford
TELEPHONE (205)729-2507

MONTH JANUARY 1988

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

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH January

DOCKET NO. 50-259
UNIT NAME One
DATE 02/01/88
COMPLETED BY J. D. Crawford
TELEPHONE (205) 729-2507

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
315	01/01/88	F	744	4					Administrative hold to resolve various TVA and NRC concerns.

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. 50-260
UNIT NAME Two
DATE 02/01/88
COMPLETED BY J. D. Crawford
TELEPHONE (205) 729-2507

REPORT MONTH January

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	01/01/88	F	744	F	4				Administrative hold to resolve various TVA and NRC concerns.

1
F Forced
S Scheduled

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

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

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

5
Exhibit I - Same Source

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-296
UNIT NAME Three
DATE 02/01/88
COMPLETED BY J. D. Crawford
TELEPHONE (205) 729-2507

REPORT MONTH January

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
157	01/01/88	F	744	F	4				Administrative hold to resolve various TVA and NRC concerns.

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)

NUCLEAR PLANT OPERATING STATISTICS

Browns Ferry Nuclear Plant

Period Hours 744 Month January 1988

	Item No.	Unit No.	Unit 1	Unit 2	Unit 3	Plant	
Generation	1	Average Hourly Gross Load, kW	0	0	0	0	
	2	Maximum Hour Net Generation, MWh	0	0	0	0	
	3	Core Thermal Energy Gen, GWD (t)[2]	0	0	0	0	
	4	Steam Gen. Thermal Energy Gen., GWD (t)[2]					
	5	Gross Electrical Gen., MWh	0	0	0	0	
	6	Station Use, MWh	828	1986	4658	7472	
	7	Net Electrical Gen., MWh	-828	-1986	-4658	-7472	
	8	Station Use, Percent	0	0	0	0	
	9	Accum. Core Avg. Exposure, MWD/Ton[1]	0	0	0	0	
	10	CTEG This Month, 10^6 BTU	0	0	0	0	
	11	SGTEG This Month, 10^6 BTU					
	12						
Factors & Use	13	Hours Reactor Was Critical	0	0	0	0	
	14	Unit Use, Hours-Min.	0	0	0	0	
	15	Capacity Factor, Percent	0	0	0	0	
	16	Turbine Avail. Factor, Percent	0	0	0	0	
	17	Generator Avail. Factor, Percent	0	0	0	0	
	18	Turbogen. Avail. Factor, Percent	0	0	0	0	
	19	Reactor Avail. Factor, Percent	0	0	0	0	
	20	Unit Avail. Factor, Percent	0	0	0	0	
	21	Turbine Startups	0	0	0	0	
	22	Reactor Cold Startups	0	0	0	0	
	23						
Efficiency	24	Gross Heat Rate, Btu/kWh	0	0	0	0	
	25	Net Heat Rate, Btu/kWh	0	0	0	0	
	26						
	27						
Temp & Press	28	Throttle Pressure, psig	0	0	0	0	
	29	Throttle Temperature, °F	0	0	0	0	
	30	Exhaust Pressure, inHg Abs.	0	0	0	0	
	31	Intake Water Temp., °F	0	0	0	0	
	32						
Flows	33	Main Feedwater, M lb/hr					
	34						
	35						
	36						
Misc.	37	Full Power Capacity, EFPD (3)	(4)	(4)	(4)		
	38	Accum. Cycle Full Power Days, EFPD	(4)	(4)	(4)		
	39	Oil Fired for Generation, Gallons				7,300	
	40	Oil Heating Value, Btu/Gal.				139,900	
	41	Diesel Generation, MWh				63.0	
	42						

Station Data		Max. Hour Net Gen.			Max. Day Net Gen.		Load Factor, %
		MWh	Time	Date	MWh	Date	
	43	0			0		0

Remarks: [1]For BFNP this value is MWD/STU and for SQNP and WBNP this value is MWD/MTU.
[2](t) indicates Thermal Energy.
3 Information furnished by Reactor Analysis Group, Chattanooga
4 Administrative hold.

Date Submitted _____ Date Revised _____

John Walker 2/4/88
Plant Superintendent

TVA 6560C (PP-3-76)

UNIT OUTAGE AND AVAILABILITY

Browns Ferry Nuclear Plant

Licensed Reactor Power 3293 MW(th)

Unit No One

Generator Rating 1152 MW(e)

Month/Year January 1988

Design Gross Electrical Rating 1098.4 MW

Period Hours 744

Day	Time Unit Available						Time Not Available								Unit		OUTAGE CAUSE	METHOD OF SHUTTING DOWN REACTOR	UNIT STATUS DURING OUTAGE	CORRECTIVE ACTION TAKEN TO PREVENT REPETITION
	Total		Gen.		Not Used		Turbine		Gen.		Reactor		Unit		Time Out	Time In				
	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs Min	Hrs Min				
1							24	00	24	00	24	00	24	00			Administrative hold continues			
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
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24																				
25																				
26																				
27																				
28																				
29																				
30																				
31							24	00	24	00	24	00	24	00						
Total							744	00	744	00	744	00	744	00						

TVA 6568C (PP-3-76)

UNIT OUTAGE AND AVAILABILITY

Browns Ferry Nuclear Plant

Licensed Reactor Power 3293 MW(th)

Unit No. Two

Generator Rating 1152 MW(e)

Month/Year January 1988

Design Gross Electrical Rating 1098.4 MW

Period Hours 744

Day	Time Unit Available						Time Not Available								Unit				OUTAGE CAUSE	METHOD OF SHUTTING DOWN REACTOR	UNIT STATUS DURING OUTAGE	CORRECTIVE ACTION TAKEN TO PREVENT REPETITION
	Total		Gen.		Not Used		Turbine		Gen.		Reactor		Unit		Time Out		Time In					
	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min				
1							24	00	24	00	24	00	24	00					Administrative hold continues			
2																						
3																						
4																						
5																						
6																						
7																						
8																						
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21																						
22																						
23																						
24																						
25																						
26																						
27																						
28																						
29																						
30																						
31							24	00	24	00	24	00	24	00								
Total							744	00	744	00	744	00	744	00								

TVA 6560C (PP-3-76)

UNIT OUTAGE AND AVAILABILITY

Browns Ferry Nuclear Plant

Licensed Reactor Power 3293 MW(th)

Unit No. Three

Generator Rating 1152 MW(e)

Month/Year January 1988

Design Gross Electrical Rating 1098.4 MW

Period Hours 744

Day	Time Unit Available						Time Not Available								Unit				OUTAGE CAUSE	METHOD OF SHUTTING DOWN REACTOR	UNIT STATUS DURING OUTAGE	CORRECTIVE ACTION TAKEN TO PREVENT REPETITION
	Total		Gen.		Not Used		Turbine		Gen.		Reactor		Unit		Time Out		Time In					
	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min	Hrs	Min				
1							24	00	24	00	24	00	24	00								
2																						
3																						
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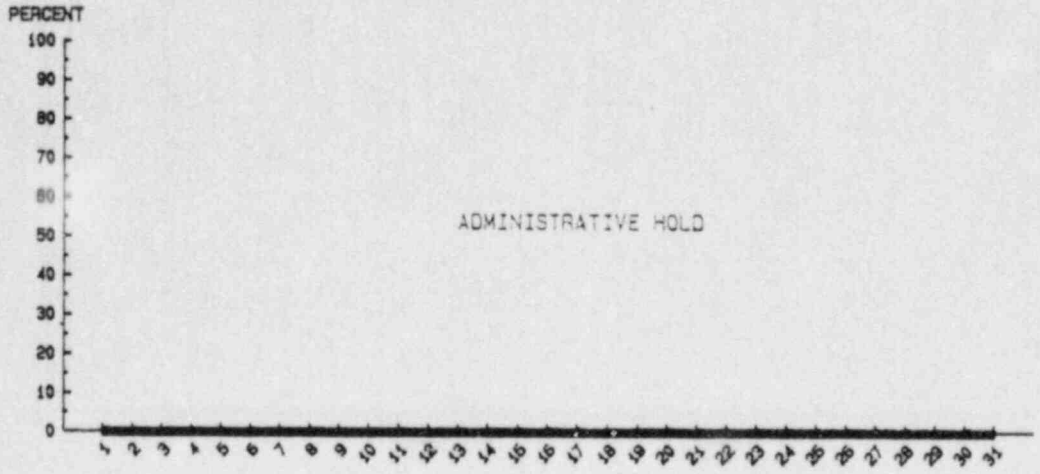
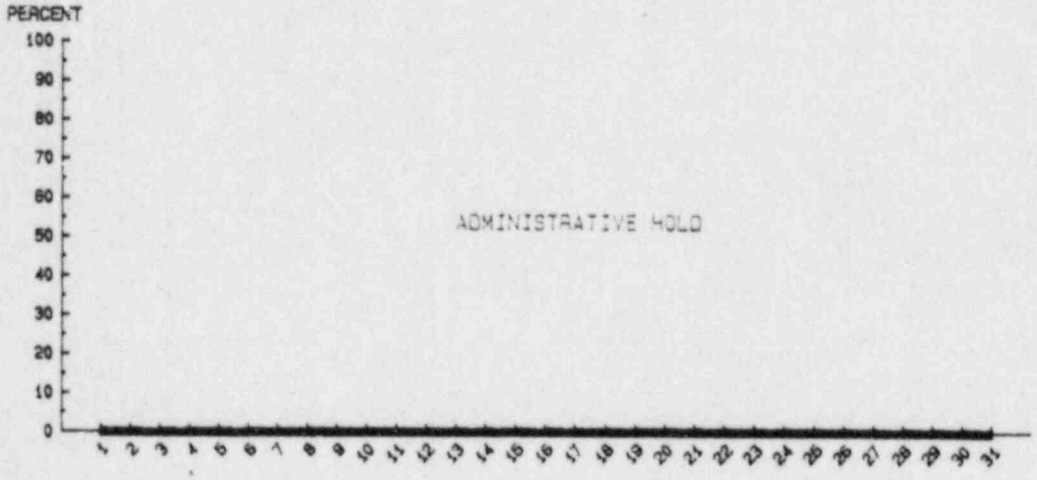
28																						
29																						
30																						
31							24	00	24	00	24	00	24	00								
Total							744	00	744	00	744	00	744	00								

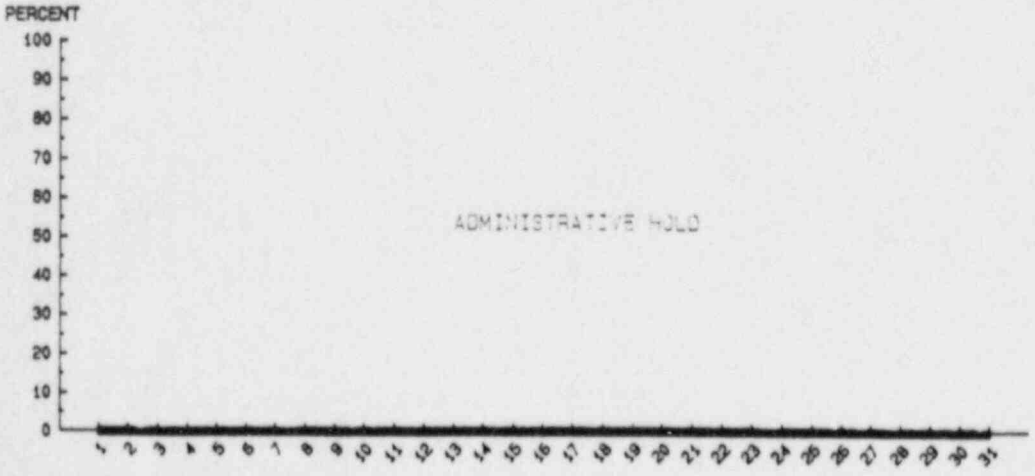
REACTOR POWER PERCENT
JANUARY 1988
UNIT 1



UNIT 2



UNIT 3



MAINTENANCE SUMMARY

ELECTRICAL TECHNICAL SECTION

MONTHLY REPORT

JANUARY, 1988

Unit Common
Major Routine Activities --

Power Service Shop Electricians on site to work on repair of U-2 main generator stator cooling leaks. Two leaks have been identified, one has been physically located and the other appears to be further in on the winding. Work is continuing to try and locate the second leak. A purchase request has been submitted to get a General Electric generator specialist on sight to determine if leaks can be repaired.

The overspeed setpoint of all eight diesel generators was checked and adjusted as necessary to ensure that the overspeed trip was between 1035 and 1050 RPM.

A dye-penetrant check of the accessible portions of the U-2 main generator retaining rings did not reveal any problems due to stress corrosion cracking.

Major maintenance continues on the 500KV power circuit breaker No. 5214 which began on 12/15/87.

ELECTRICAL EQUIPMENT LIST UPDATE: 344 drawings were received in January, 1988. 3550 drawings are in backlog. Training for review of drawings continues.

Instrument (tech-spec) fuses list has been given to the I&C group for identification of location, instruments, drawings and type fuses involved. When this information is given to the Electrical Technical Section, it will be entered into the electrical equipment list.

FUSE CONTROL PROGRAM: EMI 92, SEMI 42 and BF 6.12 are expected to be in word processing by February 3, 1988. EMI 110 is still being revised. Information is being gathered for a fuse control training class. Drawings are being reviewed to add fuses to the data base.

Contracts TSD-093 and TSD-099 have been awarded by DNE for evaluation of fuses. Most of the information the contractors need has been provided by the Electrical Technical Section. The fuse control program expects the first portion of the contractor evaluation to be received in mid February, 1988.

CIRCUIT BREAKER REBUILDS:	4160V	480/250V
Total number of breakers to be rebuilt	303	497
Total number of breakers rebuilt	9	13
Completed this month	0	0

BFN maintenance section has received a new battery capacity testing device for use in testing all battery banks and/or chargers.

New problems were discovered with shutdown board "B" battery cells exhibiting excessive post lifting. Replacement cells are on order.

2

Electrical Technical Section
Monthly Report

Repair work is complete on 250V SB-A charger. Testing to begin in early February 1988.

System 74 (RHR) valves listed as high vibration are 74-52, 74-53, 74-57, 74-58, 74-59, 74-66, 74-67, 74-71, 74-72, and 74-73. These valves are in need of grade 5 motor bolts.

MR tracking has resulted in twenty-four MR's cog reviewed. Seven were no longer needed and were deleted. Eight MR's have been totally removed from the MR print out list for Electrical Technical.

Electrical Technical engineer attended the valve maintenance workshop in Atlanta sponsored by MOVATS Inc. on the 14th and 15th of January, 1988. Topics of discussion were NRC approval of Union Calloway's response to IEB 85-03, motor load unit testing and valve refurbishment.

Provided support to system engineering group on the fuse problem associated with breaker lift motors.

The status of the following limitorque valves was changed form E.Q. to non-E.Q. per the Q.I.R. issued to the M.E.B. group during January, 1988.

Valves covered under the Q.I.R. are: 2-FCV 73-16, 73-34, 73-35, 73-36, 73-40, 73-44, and 73-81. FCR 88-0116 changed the status of the following valves: 2-FCV 73-34, 73-40 and 73-44 to non-E.Q. under ECN P3116.

FCR #87-1857 was approved to install terminal block on 2-FCV 1-56. Waiting on material from limitorque to complete work on this valve.

FCR #87-1632 was submitted to install terminal block on 2-FCV 71-34. Waiting on material and FCR to be approved to complete work on this valve.

All physical work is complete on WP & IR 2225-87. Waiting on FCR #87-1795 to issue updated drawing before closeout of FCR and workplan can be completed.

ELECTRICAL TECHNICAL SECTION
MONTHLY REPORT
JANUARY 1988

I. WORK TIME SCHEDULE

	Received/ Assigned	Completed	Open
Red Folders	0	0	8
Orange Folders	5	0	13
Yellow Folders	0	0	1
Blue Folders	4	0	5
Purple Folders	0	0	1
Active Engineering Assignments	0	4	17
Engineering Backlog	0	6	70
New Engineering Assignments	1	0	0
Completed Engineering Assignments	0	10	0

II. COMMITMENT TRACKING

Licensing Issues (NCO & SLT)			
NCO	0	1	25
SLT	0	0	4
PORS Tracking Items (BFC)	0	0	1
CAQRs	2	4	6
Average Age of CAQRs	Three months and seven and one-half days		
Employee Concerns	0	0	1
Safety Issues List	0	0	0

III. STAFFING LEVELS AND TRAINING

Personnel	Approved Headcounts	Current Headcounts
ASP	24	24
ATL	2	4
HTL	0	0
Contractors	11	6
TOTAL	37	34

IV. OVERTIME 5.4%

V. PROCEDURES

8 procedures PORC approved
9 procedures sent to Word Processing

I&C TECHNICAL
JANUARY 1988

I. Work Item Schedule

	Received/ Assigned	Completed	Open
Red Folders	1	2	2
Orange Folders	1	1	8
Yellow Folders	0	0	0
Blue Folders	1	0	1
Total Assignments			
Active Engineering Assignments	2	4	50
Engineering Backlog			14

II. Commitment Tracking

Licensing Issues(NCO & SLT)			
NCO	1	1	18
SLT	0	0	6
PORS Tracking Items(BFC)	0	0	3
DR	0	0	2
CAR	0	0	0
CAQR (Onsite)	3	2	13
CAQR (Off-site)	0	0	0
Average Age of CAQRs	6 months		
Employee Concerns	0	0	0
Safety Issues List	0	0	0

III. Staffing Levels and Training

Personnel	Approved Headcounts	Current Headcounts
ASP	17	12
ATL	4	5
HTL	0	0
Contractors	-	4
TOTAL	21	21

IV. Overtime 5.98%

V. Procedures

30 procedures were sent to Word Processing

I&C TECHNICAL
JANUARY 1988

SUMMARY

The major activities of the month involved preparation of procedures to support the retest schedule and the scheduled NRC SI review. Scaling and Setpoint Documents to support these procedures are also being issued.

MECHANICAL TECHNICAL SECTION MONTHLY REPORT
COMMON UNIT ONLY (UNIT 0)
JANUARY 1988

Common

No major nonroutine activities

1. Closed the following commitments:

   a. IE Notice 86-012 - Target Rock Setpoint Drift

   b. INPO SER 86-026 - SRV Setpoint Drift

   c. INPO OER 87-2135 - T-Drain Plugs on Limitorque Valve Operators blocked with paint. (Hold)

   d. INPO SER 87-035 - Reactor Coolant System Leak (Hold)

   e. NCO 820329001 - HPCI Check Valve Replacement-unit 1 (Transferred to System Engineering)

   f. NCO 820329002 - HPCI Check Valve Replacement-unit 2 (Transferred to System Engineering)

   g. NCO 820329003 - HPCI Check Valve Replacement-unit 3 (Transferred to System Engineering)

   h. R35 880113 572 - MS-MEB-001 and 002 - Safety-Related Piping - Installation, Modification, and Maintenance

   i. R35 880115 642 - MS-MEB-001 - Installation, Modification, and Maintenance

   j. G-29(R0) - PS 5.M.1.2 Add.1(R1)

   k. G-29(R0) - PF-1078(R0)

   l. G-29(R0) - DWP GT-88-0-7A(R0)

   m. N-VT-7(R0) - Visual Examination

   n. NQAM,III,7.3 - Common-mode Failures - Maintenance Initiated Manual

   o. G-50(R3) - Torque and Limit Switch Settings for Motor-Operated Valves

   p. R00 880122 777 - INPO Operating Experience Report 87-2193(OE)

   q. G-29(R0) - DWP GM11-B-11(R0)

   r. G-29(R0) - DWP GT11-0-7(R0)

   s. G-29(R0) - PQR GT13-SPEC-1(R0)

MECHANICAL TECHNICAL SECTION MONTHLY REPORT
COMMON UNIT ONLY (UNIT 0)
JANUARY 1988

t. G-29(RO) - DWP GT13-0-1(RO)

u. G-29(RO) - DWP GM11-B-12(RO)

v. G-29(RO) - DWP GT11-0-5(RO)

w. G-29(RO) - DWP GT11-0-6(RO)

x. NQAM,I,2.16(QN) - Quality Notice - Corrective Action Manual

y. G-29(RO) - PS 1.C.1.2 FIG.1(RO)

2. The following instructions were approved, revised, or cancelled.

a. 0-SI-4.5.B.2.A - Residual Heat Removal System Drywell Spray Header Air Test

b. 0-SI-4.5.B.2.B - Torus Nozzle Test

c. SI-4.6.D.1 - Bench Test Relief Valves

d. SI-4.6.D.4 - Disassemble One Relief Valve

e. 0-SI-4.6.H.1 - Visual Examination of Hydraulic and Mechanical Snubbers

f. SI-4.6.H.2 - Functional Testing of Hydraulic and Mechanical Snubbers

g. MMI-16B - RHR Pump Rotating Assembly, Removal, and Replacement

h. MMI-87 - Preventive and Corrective Maintenance of Limitorque Operators

i. MCI-0-033-CLR002 - Service Air System Compressor Intercooler - Joy Model WNOL-112E; Disassembly, Inspection, Rework, and Reassembly

3. The following CAQRs (Conditions Adverse to Quality Reports) were closed.

a. BFP 87-1096 - Review forms written and approved by same person.

b. BFP 87-437 - Mechanism for, including ONP, identified unqualified coatings.

4. The Mechanical Technical Section devoted 300 hours to training during the month of January.

0950G
CLG

MODIFICATIONS MONTHLY REPORT

JANUARY 1988

MAJOR WORK PERFORMED	ECN	NARRATIVE
Appendix R	P0753	Continued separation of HPCI/ADS cabling (work plan 2084-85).
	P0808	Continued conduit and cable work on control power circuits (work plan 2008-87).
	P0885	Continued conduit and support work on RB fire detectors (work plans 2012-87, 2013-87, 2014-87, and 2015-87).
	P0879	Continued structural and electrical work on Phase III fire door modifications (work plans 2075-87, and 2139-87).
	P0913	Began fuse and fuse block replacement (work plan 2048-87).
Environmental Qualification	P3145	Continued electrical conduit sealing activities (work plans 2073-85, 2074-85, and 2078-85).
	P3180	Electrical work associated with containment penetration replacement (work plans 2036-87 and 2137-87).
	P3205	Continued small piping and support work on H_2O_2 analyzer lines (work plans 2158-87, 2159-87, 2199-87, 2200-87, 2160-87, 2161-87, 2201-87, 2202-87, and 2163-87).
Seismic Issues	P0370	Continued structural work on seismic qualification and designation of block walls (work plans 1030-87, 2092-87, and 3024-87).
	P0361	SMMI rework of torus attached piping and drain supports continued.
	P0859	Continued work on non-CRD attachments and catwalks R9 and 13 (work plans 2066-87, 2140-87, and 2194-87).

MAJOR WORK PERFORMED	ECN	NARRATIVE
Seismic Issues (Continued)	P0933	Continued seismic qualification of Unit 2 RB elev 593-621 conduit (work plans 2010-87 and 2157-87).
	P0998	Drywell catwalk upper elevation work continued on a concerted basis (work plans 2147-87 and 2148-87).
	P2036	Started additional 79-14 support fixes to CRD return piping (work plan 1036-87).
	P2054	Started additional 79-14 fixes to RBCCW piping (work plan 1034-87).
	P2064	Continued additional 79-14 fixes to RB floor drain piping (work plan 3033-87).
	P7029	Repair of lower drywell structural steel started (work plan 2234-87).
TMI Mods	P0324	Continued electrical work on high-range containment radiation monitors (work plans 2009-85 and 2241-84).
Appendix J	P0959	Support installation continued on RBCCW system (work plan 2122-87).
Other	P0085	Started reroute of conduit on drywell pressure and temperature upgrade (work plan 2192-87).
	P0286	Continued work on yard security lighting (work plans 0017-86 and 0018-86).
	P0284	Continued fabrication and installation of seismic conduit supports for the acoustic monitoring system (work plan 2205-84).
	P0384	Continued tubing and electrical work on containment purge valves (work plan 2049-86).
	P0392	Continued SMMI rework of scram discharge volume supports.
	P0569	Continued support work on RPV vent line (work plans 2051-84 and 2204-84).

MAJOR WORK PERFORMED	ECN	NARRATIVE
Other (Continued)	P0612	Began support work on flex lines to MSRVs (work plan 2266-87).
	P0651	Continued electrical reconnection of FCV-73-45 (work plan 2147-85).
	P0720	Continued work of jet pump instrumentation lines (work plans 2069-85 and 2109-85).
	P0956	Continued installation of duct and duct supports for new shutdown board room HVAC (work plans 2156-87, 2228-87, 2229-87, 2248-87, 2253-87, 2254-87, 2262-87, and 2268-87).
	P1001	Recirculation Loop A support work started (work plan 2283-87).
	P5269	Installation of supports for uninterruptable demineralized water correction for torus water level transmitters continued (work plan 2292-87).
	P5480	Installation of vessel drain supports continued (work plan 2218-87).

TVA GENERATING AVAILABILITY DATA SYSTEM (GADS) EVENT REPORT

CODE 201 YEAR 1988

TVA GADS EVENT REPORT FORM

MONTH JANUARY

NET WINTER MDC, MW 1065 PLANT Browns Ferry UNIT 1

VERBAL DESCRIPTION (MAY BE CONTINUED ON THE NEXT CARD IN COLUMNS 38-77. IF SO PUT A 1 IN COLUMN 6 AND COMPLETE COLUMNS 7-27 OF THE CONTINUATION CARD)

Line	Card Code (A/C, D)	Event Type	Component Cause Code	Component Identification	Net Capability During - MW	Start Time Month	Day	Hour	Min.	End Time Month	Day	Hour	Min.	Event Contribution Code	Load Dispatch	Verbal Description
1	A	U1	9510		0000											
2	C	U1	9510		0000									1	1	ADMIN HOLD TVA & NRC CONCERNS
3	D	S1	2070		0000											
4	D	S1	1450		0000									3		EDC-6 REFUEL OUTAGE
5	D	S1	4830		0000									3		TURB INSP & OVERHAUL
6	D	SE	2628		0000									3		GEN INSP & OVERHAUL
7	D	SE	2230		0000									3		TORUS MOD
8														3		RECIRC PIPING INSP
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																

TVA GADS EVENT REPORT FORM

CODE 202 YEAR 1988

MONTH JANUARY

NET WINTER MDC, MW 1065 PLANT Browns Ferry UNIT 2

Line	Card Code (A, C, D)	Event Type	Component Cause Code	Component Identification	Net Capability During (MW)	Start Time Month	Day	Hour	Min.	End Time Month	Day	Hour	Min.	Event Contribution Code	Capacity Desig.	Verbal Description (may be continued on the next card in columns 38-77. If so put a 1 in column 6 and complete columns 7-27 of the continuation card)
1	A	U1	9510		0000									1		AUBIN HOLD TVA & NRC CONCERNS
2	C	U1	9510		0000											
3	D	SE	2070		0000									3		EOC-5 REFUEL OUTAGE
4	D	SE	4450		0000									3		TURB INSP & OVERHAUL
5	D	SE	4830		0000									3		GEN INSP & OVERHAUL
6	D	SE	2628		0000									3		TORUS MOD
7	D	SE	2230		0000									3		RECIRC PIPING INSP

CODE 203 YEAR 1988

TVA GADS EVENT REPORT FORM

MONTH JANUARY

NET WINTER MDC, MW 1065 PLANT Browns Ferry UNIT 3

Line	C. (RC) Code (A/C/D) (6)	Event Type (7–8)	Component Cause Code (9–12)	(13)	Component Identification (14–15)	Net Capability During (MW) (16–19)	Start Time: Month	Day	Hour	Min.	End Time: Month	Day	Hour	Min.	Event Contribution Code (36)	Load/Derate (37)	Verbal Description (May be continued on the next card in columns 38-77. If so put a 1 in column 6 and complete columns 7-27 of the continuation card)
1	A	U1	951	0		0000											
2	A	U1	951	0		0000									1	1	ADMIN HOLD TVA & NRC CONCERNS
3	D	SE	445	0		0000											
4	D	SE	483	0		0000									3		TURB INSP & OVERHAUL
5	D	SE	262	8		0000									3		GEN INSP & OVERHAUL
6	D	SE	223	0		0000									3		TORUS MOD
7															3		RECIRC PIPING INSP
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	

OTHER REPORTS

CHEMISTRY SUMMARY

JANUARY 1988

Primary Coolant Chemistry

Unit 1

The conductivity of the reactor coolant remained within technical specification and fuel warranty limits during the month. Chloride concentration and pH of the reactor coolant remained within technical specification and fuel warranty limits during the month. This calendar year, the technical specification and fuel warranty limits for conductivity and chloride have not been exceeded.

Unit 2

The conductivity of the reactor coolant remained within technical specification and fuel warranty limits during the month. Chloride concentration and pH of the reactor coolant remained within technical specification and fuel warranty limits during the month. This calendar year, the technical specification and fuel warranty limits for conductivity and chloride have not been exceeded.

Unit 3

The conductivity of the reactor coolant remained within technical specification and fuel warranty limits during the month. Chloride concentration and pH of the reactor coolant remained within technical specification and fuel warranty limits during the month. This calendar year, the technical specification and fuel warranty limits for conductivity and chloride have not been exceeded.

PRIMARY COOLANT CHEMISTRY
JANUARY 1988

Parameter	Unit 1	Unit 2	Unit 3
1. Gross Radioactivity			
a. Crud (filter) (µci/ml)			
High	N/A	N/A	N/A
Low	N/A	N/A	N/A
Average	N/A	N/A	N/A
b. Filtrate (µci/ml)			
High	N/A	N/A	N/A
Low	N/A	N/A	N/A
Average	N/A	N/A	N/A
2. Milipore Iron (Fe,ppb)			
High	N/A	N/A	N/A
Low	N/A	N/A	N/A
Average	N/A	N/A	N/A
3. Tritium (µci/ml)			
High	7.022E-05	7.698E-05	1.340E-04
Low	6.290E-05	5.802E-05	1.185E-04
Average	6.607E-05	6.619E-05	1.278E-04
4. Iodine-131 (µci/ml)			
High	0	0	0
Low	0	0	0
Average	0	0	0
5. Iodine-131:Iodine-133 Ratio			
High	N/A	N/A	N/A
Low	N/A	N/A	N/A
Average	N/A	N/A	N/A

PRIMARY COOLANT CHEMISTRY (Continued)

JANUARY 1988

Parameter		Unit 1	Unit 2	Unit 3
6. Chloride (ppb)				
	High	<10	<10	<10
	Low	<10	<10	<10
	Average	<10	<10	<10
7. pH@25°C				
	High	6.1	6.1	6.1
	Low	5.6	5.7	5.7
	Average	5.9	5.9	5.9
8. Conductivity (µmho/cm@25°C)				
	High	0.40	0.94	0.29
	Low	0.14	0.83	0.12
	Average	0.17	0.87	0.21

CHEMISTRY SUMMARY (Continued)

JANUARY 1988

Environmental Technical Specification Requirements

The ambient upstream river temperature (24-hr. avg max) averaged 43.7°F ranging from 48.7°F on January 1 to 39.3°F on January 11. The downstream temperature varied between 48.9°F on January 1 to 38.1°F on January 12. The greatest temperature change was 1.7°F on January 7.

The sedimentation pond (DSN 102) remained out of service for the entire month while repair work was done to the dike.

The plant experienced compliance problems from the unit 1 and 2 control bay floor drain discharge (DSN 110). The total suspended solids (TSS) concentrations exceeded the NPDES permit limit of 100 mg/L in seven of 31 samples taken duirng the month. Five of those exceedances were associated with flushes (water only) of the drains to remove accumulated materials from the drain. Further actions are being investigated to correct the problem.

The sewage lagoon operated in compliance for the month. The BOD_5 concentration ranged between 20 mg/L and 24 mg/L while TSS ranged between 6 mg/L and 29 mg/L. Flow averaged 40,363 gallons per day (gpd) and varied between 31,248 gpd and 49, 248 gpd.

AIRBORNE RELEASES(1)

JANUARY 1988

SUMMATION OF ALL RELEASES	UNIT	THIS MONTH
A. FISSION AND ACTIVATION GASES		
1. TOTAL RELEASE	CI	< 1.05E 02
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	< 4.33E 01
3. PERCENT OF TECH. SPEC. LIMIT(0.15 CI/SEC)	%	0.00E-01
B. IODINES		
1. TOTAL IODINE - 131	CI	< 7.39E-05
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	< 3.06E-05
3. PERCENT OF TECH. SPEC. LIMIT(2.19 UCI/SEC)	%	0.00E-01
C. PARTICULATES		
1. PARTICULATES WITH HALF-LIFES > OR = TO 8 DAYS	CI	2.62E-05
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	1.08E-05
3. PERCENT OF TECH. SPEC. LIMIT(2.19 UCI/SEC)	%	4.93E-04
4. GROSS ALPHA RADIOACTIVITY	CI	6.66E-07
D. TRITIUM		
1. TOTAL RELEASE	CI	1.70E-02
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	7.04E-03
3. PERCENT OF TECH. SPEC. LIMIT(2.19 UCI/SEC)	%	3.21E-01
4. GROUND LEVEL RELEASE	CI	1.64E-02
5. ELEVATED RELEASE	CI	6.38E-04

(1) REPORTING PERIOD 28 DAYS

AIRBORNE RELEASES (CONTINUED)

JANUARY 1988

ELEVATED RELEASES

		UNIT	THIS MONTH
A.	FISSION GASES		
	KR-85M	CI	< 8.74E-02
	KR-85	CI	< 3.29E 01
	KR-87	CI	< 2.41E-01
	KR-88	CI	< 1.74E-01
	XE-133	CI	< 1.29E-01
	XE-135M	CI	< 5.12E-02
	XE-135	CI	< 7.53E-02
	XE-138	CI	< 3.72E-01
	OTHERS(SPECIFY)		
	TOTAL FOR PERIOD	CI	< 3.40E 01
B.	IODINES		
	I-131	CI	< 2.58E-06
	I-133	CI	< 4.79E-05
	I-135	CI	< 2.65E-02
	TOTAL FOR PERIOD	CI	< 2.66E-02

AIRBORNE RELEASES (CONTINUED)

JANUARY 1988

ELEVATED RELEASES

		UNIT	THIS MONTH
C.	PARTICULATES		
	SR-89	CI	< 2.26E-07
	SR-90	CI	< 1.08E-07
	CS-134	CI	< 3.03E-06
	CS-137	CI	< 1.80E-06
	BA-140	CI	< 7.61E-06
	LA-140	CI	< 4.53E-06
	OTHERS(SPECIFY)		
	CO-60	CI	2.62E-05
	TOTAL FOR PERIOD	CI	2.62E-05
D.	TRITIUM	CI	6.38E-04

AIRBORNE RELEASES (CONTINUED)

JANUARY 1988

GROUND RELEASES

		UNIT	THIS MONTH
A.	FISSION GASES		
	KR-85M	CI	< 1.94E-01
	KR-85	CI	< 6.71E 01
	KR-87	CI	< 2.56E-01
	KR-88	CI	< 6.65E-01
	XE-133	CI	< 7.49E-01
	XE-135M	CI	< 5.54E-01
	XE-135	CI	< 1.46E-01
	XE-138	CI	< 1.04E 00
	OTHERS(SPECIFY)		
	TOTAL FOR PERIOD	CI	< 7.07E 01
B.	IODINES		
	I-131	CI	< 7.14E-05
	I-133	CI	< 2.20E-04
	I-135	CI	< 1.91E-01
	TOTAL FOR PERIOD	CI	< 1.91E-01

AIRBORNE RELEASES (CONTINUED)

JANUARY 1988

GROUND RELEASES

		UNIT	THIS MONTH
C.	PARTICULATES		
	SR-89	CI	< 1.79E-06
	SR-90	CI	< 1.24E-06
	CS-134	CI	< 7.97E-05
	CS-137	CI	< 8.25E-05
	BA-140	CI	< 1.95E-04
	LA-140	CI	< 3.87E-05
	OTHERS(SPECIFY)		
	TOTAL FOR PERIOD	CI	< 3.99E-04
D.	TRITIUM	CI	1.64E-02

BROWNS FERRY NUCLEAR PLANT
MONTHLY REPORT CALCULATIONS
LIQUID RELEASES
JANUARY, 1988

RADIOACTIVE LIQUID EFFLUENTS

		UNITS	
1.	GROSS RADIOACTIVITY		
	a) TOTAL RELEASE	CURIES	1.33E-02
	b) AVERAGE DILUTED CONCENTRATION RELEASED	UCI/ML	1.13E-09
	c) PERCENT OF APPLICABLE LIMIT (1E-07 UCI/ML)	%	1.13E 00
2.	TRITIUM		
	a) TOTAL RELEASE	CURIES	8.67E-02
	b) AVERAGE DILUTED CONCENTRATION RELEASED	UCI/ML	7.36E-09
	c) PERCENT OF APPLICABLE LIMIT (3E-03 UCI/ML)	%	2.45E-04
3.	DISSOLVED NOBLE GASES (1)		
	a) TOTAL RELEASE	CURIES	< 5.63E-04
	b) AVERAGE DILUTED CONCENTRATION RELEASED	UCI/ML	< 4.78E-11
	c) PERCENT OF APPLICABLE LIMIT (2E-04 UCI/ML)	%	< 2.39E-05
4.	GROSS ALPHA RADIOACTIVITY		
	a) TOTAL RELEASE	CURIES	7.05E-04
	b) AVERAGE DILUTED CONCENTRATION RELEASED	UCI/ML	5.98E-11
5.	VOLUME OF LIQUID WASTE TO DISCHARGE CANAL	LITERS	2.95E 06
6.	VOLUME OF DILUTION WATER	LITERS	1.18E 10

(1) INCLUDES XE-133, Xe-135, AND OTHERS

BROWNS FERRY NUCLEAR PLANT
MONTHLY REPORT CALCULATIONS
LIQUID RELEASES
JANUARY, 1988

ISOTOPES RELEASED	UNITS
	CI
CR-51	< 1.54E-03
MN-54	1.66E-05
CO-58	< 1.57E-04
FE-59	< 2.84E-04
CO-60	1.49E-03
ZN-65	6.57E-04
NB-95	< 1.51E-04
ZR-95	< 2.53E-04
MOTC-99M	< 1.41E-04
I-131	< 2.13E-04
XE-133	< 4.53E-04
CS-134	2.49E-03
XE-135	< 1.10E-04
CS-137	8.69E-03
BA-140	< 7.30E-04
LA-140	< 1.02E-04
CE-141	< 2.42E-04
SR-89	< 6.19E-05
SR-90	< 3.86E-05

BROWNS FERRY NUCLEAR PLANT
MONTHLY REPORT CALCULATIONS
LIQUID RELEASES
JANUARY, 1988

OTHERS	UNITS
	CI

NONE

BROWNS FERRY NUCLEAR PLANT
MONTHLY REPORT CALCULATIONS
LIQUID RELEASES
JANUARY, 1988

LAUNDRY DRAIN VOLUME RELEASED:	10938.8	GALLONS
FLOOR DRAIN VOLUME RELEASED:	767793.4	GALLONS
WASTE SAMPLE TANK VOLUME RELEASED:	0.0	GALLONS
DISTILLATE TANK VOLUME RELEASED:	0.0	GALLONS
LOCATION OTHER THAN RADWASTE VOLUME RELEASED:	0.0	GALLONS
TOTAL VOLUME RELEASED TO THE RIVER:	778732.2	GALLONS
HIGHEST BATCH ACTIVITY RELEASED FOR MONTH:	1.06E-08	UCI/ML A/D
LONGEST RELEASE TIME FOR MONTH:	385	MINUTES
SHORTEST RELEASE TIME FOR MUNTH:	172	MINUTES
TOTAL TIME OF RELEASES FOR MONTH:	7778	MINUTES
AVERAGE TIME FOR BATCH RELEASES:	259	MINUTES

COMPOSITE INFORMATION:

	COMPOSITE UCI/ML	CI RELEASED	AFTER DILUTION UCI/ML
SR-89	< 2.10E-08	< 6.19E-05	< 5.25E-12
SR-90	< 1.31E-08	< 3.86E-05	< 3.28E-12
H-3	2.94E-05	8.67E-02	7.36E-09
GROSS ALPHA	2.39E-07	7.05E-04	5.98E-11

NUMBER OF BATCHES RELEASED:	30
NUMBER OF ADMINISTRATIVE LIMIT VIOLATIONS:	0
NUMBER OF TECHNICAL SPECIFICATION VIOLATIONS:	0

RESIN USAGE REPORT
JANUARY 1988
RESIN CONSUMED (CU.FT.)

	% of Total	Bead	POWDEX	ECODEX	ECOSORB	EPIFLOC	Total
Radwaste							
Floor Drain Filter	43.9	0	120	0	0	49	151
Waste Demineralizer	0	0	0	0	0	0	0
Waste Filter	38.2	0	108	0	14	0	122
Fuel Pool Demins	1.3	0	4	0	0	0	4
Reactor Water Cleanup							
Unit 1	1.3	0	4	0	0	0	4
Unit 2	2.5	0	8	0	0	0	8
Unit 3	0	0	0	0	0	0	0
Cond. Demins							
Unit 1	0	0	0	0	0	0	0
Unit 2	9.4	0	30	0	0	0	30
Unit 3	0	0	0	0	0	0	0
Totals	100	0	256	0	14	49	319

FUEL CLADDING INTEGRITY PARAMETERS
JANUARY 1988

Unit 1

Reactor Water Iodines (uci/sec.)

Date	I-131	I-132	I-133	I-134	I-135

Unit in Outage

Fission Gases at Discharge of SJAE (uci/sec)

Date	Flow	MWt	Xe-138	Kr-87	Kr-88	Kr-85m	Xe-135	Xe-133

Unit in Outage

Unit 2

Reactor Water Iodines (uci/sec.)

Date	I-131	I-132	I-133	I-134	I-135

Unit in Outage

Fission Gases at Discharge of SJAE (uci/sec)

Date	Flow	MWt	Xe-138	Kr-87	Kr-88	Kr-85m	Xe-135	Xe-133

Unit in Outage

Unit 3

Reactor Water Iodines (uci/sec.)

Date	I-131	I-132	I-133	I-134	I-135

Unit in Outage

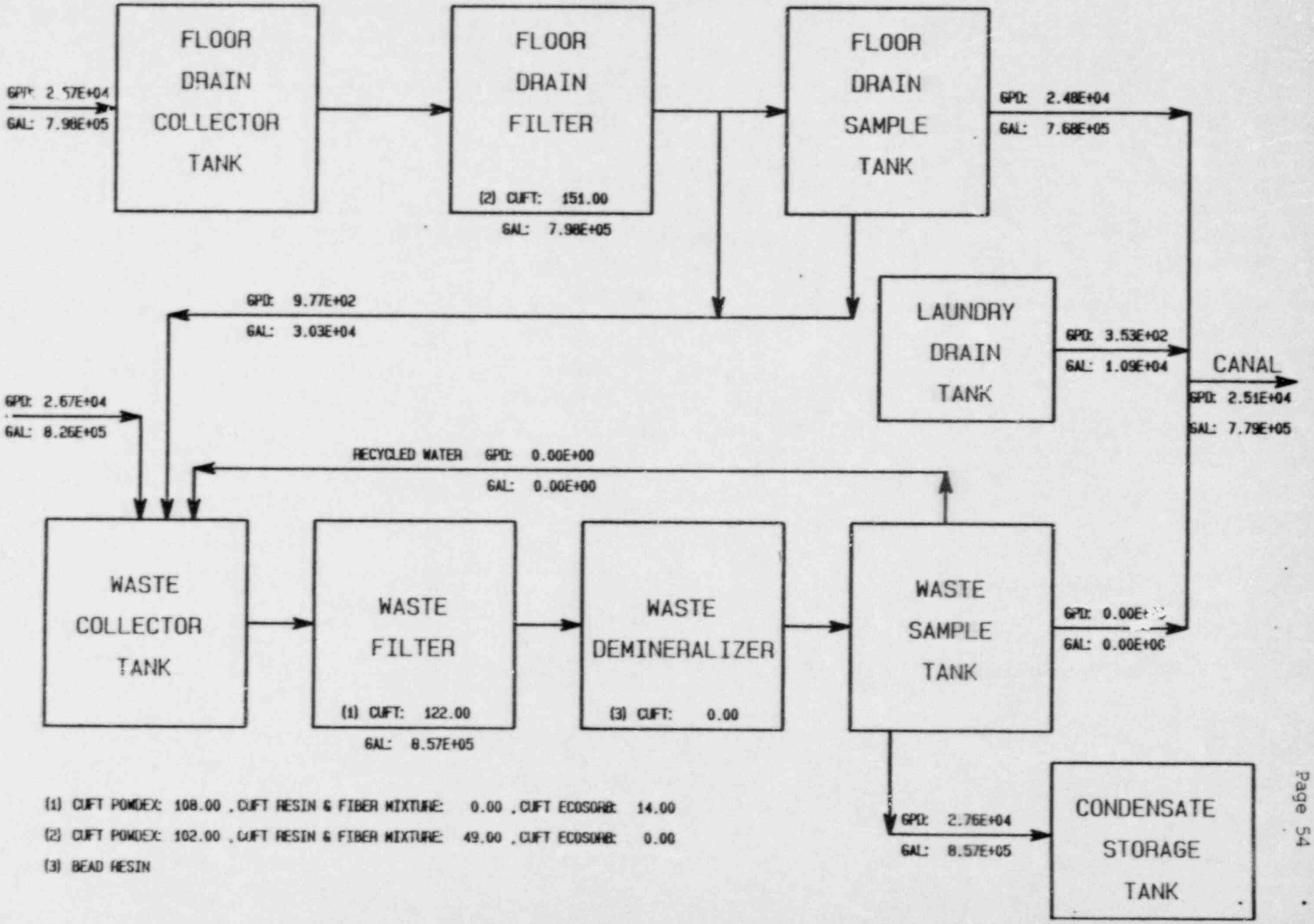
Fission Gases at Discharge of SJAE (uci/sec)

Date	Flow	MWt	Xe-138	Kr-87	Kr-88	Kr-85m	Xe-135	Xe-133

Unit in Outage

WASTE TREATMENT SYSTEM THROUGHPUTS

JANUARY 1988



(1) CUFT POWDEX: 108.00 , CUFT RESIN & FIBER MIXTURE: 0.00 , CUFT ECOSORB: 14.00

(2) CUFT POWDEX: 102.00 , CUFT RESIN & FIBER MIXTURE: 49.00 , CUFT ECOSORB: 0.00

(3) BEAD RESIN

TESTING SUMMARY

JANUARY 1988

Surveillance Testing

Unit 0

A total of 94 surveillance tests were completed per 34 different test instructions.

Unit 1

A total of 95 surveillance tests were completed on unit 1 per 34 different test instructions.

Unit 2

A total of 145 surveillance tests were completed on unit 2 per 17 different test instructions.

Unit 3

A total of 83 surveillance tests were completed on unit 3 per 25 different test instructions.

TESTING SUMMARY (Continued)

JANUARY 1988

Changes, Test, and Experiments Requiring Authorization From the NRC Pursuant to 10 CFR 50.59(a)

There was one revision for unit 1, 2, and 3 technical specifications.

Changes, Tests, and Experiments not Requiring Authorization from NRC Pursuant to 10 CFR 50.59(a)

There were no special tests completed for this month.

REACTOR VESSEL FATIGUE USAGE EVALUATION

JANUARY 1988

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

	Usage Factor		
Location	Unit 1	Unit 2	Unit 3
Shell at water line	0.00620	0.00492	0.00431
Feedwater nozzle	0.29782	0.21319	0.16139
Closure studs	0.24204	0.17629	0.14360

CHANGE IN PROCEDURE

JANUARY 1988

There were 360 revisions to plant instructions during the month; 356 instructions were changed primarily for correction, and the remaining 4 revisions related to safe operation of the plant.

PLANT INSTRUCTION REVISIONS

JANUARY 1988

Category	Instruction	Reason for Request
Change in Response to LER, IE Bulletin, NRC Inspection Report, OPQA Audit, etc.	SDSP 13.1 Quality Control of Welding	To add reference to SDSP 13.13 weld map documentation requirements. Add RADCON notification note; add purge dam requirements per disposition of CAQR BFP-870768.
	SDSP 13.13 Weld Map Procedure	New Procedure to facilitate implementation of CAQR 87-0038.
	SI 4.8.A.1-1 Release Procedure - Liquid Effluents	To make changes required per CAQR BFQ871132.
	RCI-1 Radiological Control Program	To outline an NRC commitment on release of liquids; to clarify definition of a whole body frisk; to provide references for wok situations that do not require an RWP.

CHANGE IN FACILITY DESIGN

There were no workplans closed out for the month due to QA review.

CHANGES IN PLANT ORGANIZATION

JANUARY 1988

There was one change in plant staff for those positions designated as key supervisory positions, Walter T. Christopher, Head, U1 Maintenance Group.

ACCIDENTS

JANUARY 1988

There were no loss-of-time accidents during the month.

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-259
Unit One
DATE 01-01-88
COMPLETED BY J.D. Crawford
TELEPHONE (205)729-2507

MONTH * DECEMBER 1988

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

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.

*Revision

(9/77)

TENNESSEE VALLEY AUTHORITY
Browns Ferry Nuclear Plant
Post Office Box 2000
Decatur, Alabama 35602

FEB 17 1988

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Attention: Office of Management Information and Program Control

In the Matter of the	)	Docket Nos. 50-239
Tennessee Valley Authority	)	50-260
		50-296

BROWNS FERRY NUCLEAR PLANT (BFN) - MONTHLY OPERATING REPORT - JANUARY 1988

Enclosed is the January 1988 Monthly Operating Report to NRC for Browns Ferry Nuclear Plant units 1, 2, and 3.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. G. Walker
Plant Manager

Enclosure
cc: Mr. G. E. Gears
Browns Ferry Project Manager
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Bethesda, Maryland 20814

U.S. Nuclear Regulatory Commission
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