VIRGINIA ELECTRIC AND POWER COMPANY

SURRY POWER STATION

MONTHLY OPERATING REPORT

REPORT 88-02

APPROVED: David L. Benson
STATION MANAGER

IE24
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OPERATING DATA REPORT

DOCKET NO. 50-280
DATE 3/3/88
COMPLETED BY L. A. Warren
TELEPHONE 804-357-3184

OPERATING STATUS

1. Unit Name: Surry Unit # 1
2. Reporting Period: February 01-29, 1988
3. Licensed Thermal Power (MWt): 2441
4. Nameplate Rating (Gross MWe): 847.5
5. Design Electrical Rating (Net MWe): 788
6. Maximum Dependable Capacity (Gross MWe): 820
7. Maximum Dependable Capacity (Net MWe): 781
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:
9. Power Level To Which Restricted, If Any (Net MWe):
10. Reasons For Restrictions, If Any:

Notes

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	696.0	1440.0	133152.0
12. Number of Hours Reactor Was Critical	679.5	1423.5	86146.9
13. Reactor Reserve Shutdown Hours	0.0	0.0	3774.5
14. Hours Generator On-Line	672.0	1416.0	84387.2
15. Unit Reserve Shutdown Hours	0.0	0.0	3736.2
16. Gross Thermal Energy Generated (MWH)	1606034.0	3417744.2	196137965.6
17. Gross Electrical Energy Generated (MWH)	542760.0	1157695.0	63532868.0
18. Net Electrical Energy Generated (MWH)	516588.0	1102405.0	60257781.0
19. Unit Service Factor	96.6%	98.3%	63.4%
20. Unit Available Factor	96.6%	98.3%	66.2%
21. Unit Capacity Factor (Using MDC Net)	95%	98%	58.5%
22. Unit Capacity Factor (Using DER Net)	94.2	97.2%	57.4%
23. Unit Forced Rate	3.4%	1.7%	17.4%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
Refueling Outage, 4/2/88 - 62 days

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)

OPERATING DATA REPORT

DOCKET NO. 50-281
DATE 3/3/88
COMPLETED BY L. A. Warren
TELEPHONE 804-357-3184

OPERATING STATUS

1. Unit Name: Surry Unit # 2
2. Reporting Period: February 01-29, 1988
3. Licensed Thermal Power (MWt): 2441
4. Nameplate Rating (Gross MWe): 847.5
5. Design Electrical Rating (Net MWe): 788
6. Maximum Dependable Capacity (Gross MWe): 820
7. Maximum Dependable Capacity (Net MWe): 781
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:
9. Power Level To Which Restricted, If Any (Net MWe):
10. Reasons For Restrictions, If Any:

Notes

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	696.0	1440.0	130032.0
12. Number of Hours Reactor Was Critical	696.0	1440.0	86106.0
13. Reactor Reserve Shutdown Hours	0.0	0.0	328.1
14. Hours Generator On-Line	696.0	1440.0	84738.3
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	1673842.0	3484907.7	198655270.4
17. Gross Electrical Energy Generated (MWH)	557300.0	1163840.0	64536664.0
18. Net Electrical Energy Generated (MWH)	530236.0	1107816.0	61184293.0
19. Unit Service Factor	100%	100%	65.2%
20. Unit Available Factor	100%	100%	65.2%
21. Unit Capacity Factor (Using MDC Net)	97.5%	98.5	60.4%
22. Unit Capacity Factor (Using DER Net)	96.7%	97.6	59.7%
23. Unit Forced Rate	0.0%	0.0%	14.2%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
Refueling Outage, 9/2/88 - 48 days

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

DOCKET NO. 50-280
UNIT NAME Surry Unit 1
DATE 3/3/88
COMPLETED BY L. A. Warren
TELEPHONE 804-357-3184

REPORT MONTH FEBRUARY 1988

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
88-02	02-06-88	S	0.0	B	1				Unit was reduced to 70% power, 580 MW's to allow monthly testing of turbine valves (PT-29.1).
88-03	02-16-88	F	24.0	G	3	LER-280/ 88-003			During performance of PT-8.1, the Train "B" P-10 button was pushed when Train 'A' was being tested causing a NIS Power Range Lo SP Hi flux reactor trip. Corrective action is to ensure proper pre-job briefing and to change some wording in the procedure to give command type steps when referring to which Train to be in or to go to.

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 1 - Same Source

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-281
UNIT NAME Surry Unit 2
DATE 3/3/88
COMPLETED BY L. A. Warren
TELEPHONE 804-357-3184

REPORT MONTH FEBRUARY 1988

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
88-02	02-20-88	S	0.0	B	1				Unit was reduced to 70% power, 580 MW to allow monthly testing of turbine valves (PT-29.1)

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.
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4 - Other (Explain)

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

5 Exhibit 1 - Same Source

(9/77)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-280
UNIT Surry Unit 1
DATE 3/3/88
COMPLETED BY L. A. Warren
TELEPHONE 804-357-3184

MONTH February 1988

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	789	17	167
2	788	18	561
3	788	19	787
4	788	20	785
5	789	21	787
6	724	22	788
7	788	23	788
8	785	24	787
9	788	25	788
10	789	26	787
11	790	27	785
12	789	28	787
13	788	29	782
14	789	30	
15	789	31	
16	385		

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. 50-281
UNIT Surry Unit 2
DATE 3/3/88
COMPLETED BY L. A. Warren
TELEPHONE 804-357-3184

MONTH February 1988

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	776	17	767
2	778	18	764
3	777	19	774
4	777	20	606
5	776	21	712
6	775	22	775
7	776	23	776
8	777	24	775
9	777	25	774
10	776	26	770
11	774	27	671
12	776	28	744
13	775	29	771
14	776	30	
15	776	31	
16	773		

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)

SUMMARY OF OPERATING EXPERIENCE

MONTH/YEAR FEBRUARY 1988

Listed below in chronological sequence by unit is a summary of operating experiences for this month which required load reductions or resulted in significant non-load related incidents.

UNIT ONE

02-01-88	0000	This reporting period begins with the Unit at 100% power, 830 MW s.
02-06-88	1047	Commenced rampdown at 150 MW/hr. for performance of PT-29.1 (turbine valve stroking test).
	1258	Holding power at 70%, 580 MW s.
	1430	Commenced power increase at 40 MW s/hr.
	2101	Unit at 100% power, 830 MW s.
02-16-88	1143	Rx trip caused by NIS Power Range Lo SP Hi Ø, while PT-8.1 was being performed.
02-17-88	0410	Rx critical.
	1144	Generator on line.
	1225	Holding power at 30%, 180 MW s.
	1440	Commenced power increase at 150 MW/hr.
	1616	Holding power at 57%, 403 MW s due to Δ flux problems.
02-18-88	1113	Commenced slow power increase.
	2100	Unit at 100% power, 825 MW s.
02-29-88	2400	This reporting period ends with the Unit at 100% power, 825 MW s.

SUMMARY OF OPERATING EXPERIENCE

MONTH/YEAR FEBRUARY 1988

Listed below in chronological sequence by unit is a summary of operating experiences for this month which required load reductions or resulted in significant non-load related incidents.

UNIT TWO

02-01-88	0000	This reporting period begins with the Unit at 100% power, 815 MW s.
02-20-88	0455	Commenced slow power decrease due to losing condenser vacuum.
	0515	Holding power at 99%, 800 MW s.
	0712	Commenced power decrease at 150 MW/hr for performance of PT-29.1 (turbine valve stroking test).
	0841	Holding power at 70%, 580 MW s.
02-21-88	0528	Commenced power increase at 150 MW/hr.
	0730	Unit at 100% power, 810 MW s.
02-26-88	2230	Commenced power decrease at 150 MW/hr to allow removal of "1A" FW heater.
	2315	Holding power at 89%, 720 MW s.
02-28-88	0604	Commenced power increase at 150 MW/hr.
	0737	Unit at 100% power, 810 MW s.
02-29-88	2400	This reporting period ends with the Unit at 100% power, 810 MW s.

FACILITY CHANGES REQUIRING NRC APPROVAL

MONTH/YEAR FEBRUARY 1988

NONE DURING THIS PERIOD

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR FEBRUARY 1988

T-MOP-2007 **REPLACEMENT OF RV-BR-109** **02-12-88**

This temporary operating procedure involved the temporary hookup of fill and vent hoses from the gas stripper feed heat exchangers (HX) to the overhead gas compressors suction to evacuate the stripper feed HX while RV-BR-109 was replaced.

This change will not have an effect on the volume control tank (VCT) or waste gas decay tank (WGDT) rupture analyses as the gas concentration and release rates are unaffected and no condition exists wherein the relief capacities of the tanks relief devices are exceeded.

TM-S1-88-3 **TEMPORARY CCW MAKEUP SUPPLY FROM PG** **02-01-88**

A temporary modification connected a hose from a primary grade water service connection to a connection at the component cooling water (CCW) pump suction header in order to work 1-CD-372.

Since a source of makeup is provided to CCW system and CCW remains operable and reliable, accidents are not affected or created.

TM-S1-88-06 **TRANSFER OF ION EXCHANGE RESIN** **02-23-88**

A temporary modification installed a fitting and flexible hose for transfer of ion exchange resin.

This modification does not constitute an unreviewed safety question because its probability of failure was not increased (due to appropriate pressure rating of components and pre-use testing of installation) and consequences of failure are previously evaluated.

TM-S2-88-8 **ADMINISTRATIVE CONTROL OF TV-SS-202A & TV-SS-202B** **02-02-88**

This temporary modification "failed" closed (by lifting solenoid valve leads and isolating instrument air) and placed under administrative control the sample trip valves TV-SS-202 A/B.

No unreviewed safety question exists due to this modification because alternate PASS flowpaths via RHR sample lines, RCS - Loop Hot Leg Sample lines and CVCS demineralized sample lines will remain available.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR FEBRUARY 1988

TM-S 2-88-10 **CORROSION PRODUCT STUDY** **02-25-88**

A temporary modification installed sampling lines for the following Unit 2 components/systems: A and C blowdown, feedwater, and 2A feedwater heater.

No unreviewed safety question exists due to this modification since additional sampling lines do not increase probability of tube rupture and consequences of main steam line rupture are previously analyzed.

SP-88-08 **PLANT COASTDOWN** **02-25-88**

Setpoints of various plant instruments were changed to allow an end of cycle plant coastdown.

Accidents and equipment were reviewed for the proposed average temperature. Proposed reduction was within previously reviewed range resulting in no unreviewed safety question.

SCAFFOLD REQUEST **02-10-88**

A temporary scaffold platform was constructed in the Unit 2 Main Steam valve house at 27' elevation to work on 2-MS-176 (steam supply check valve to 2-FW-P-2).

Installation of this temporary scaffolding was reviewed for effect on accident analyses and equipment operability/function. Conclusion is that assumptions, bases and probabilities of accident analyses and equipment malfunctions are not affected.

ADMINISTRATIVE CONTROL OF CH HEAT TRACING **02-22-88**

Heat tracing circuit 2A1-25 (CH) was placed under administrative control to provide increased surveillance of the heat tracing circuit and, if required, manual operation of the circuit to maintain temperature within the required band.

Manual control of CH heat tracing does not constitute an unreviewed safety question because it will be under administrative control ensuring that fluid temperatures are maintained between 120°F and 180°F.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR FEBRUARY 1988

SCAFFOLD REQUEST **02-23-88**

A temporary scaffold platform was constructed in the Auxiliary Building at ten feet elevation to work a vertical ladder.

Installation of this temporary scaffolding was reviewed for effect on accident analyses and equipment operability/function. Conclusion is that assumptions, bases and probabilities of accident analyses and equipment malfunctions are not affected.

SCAFFOLD REQUEST **02-23-88**

A temporary scaffold platform was constructed in the Auxiliary Building at five feet elevation to work on a vertical ladder.

Installation of this temporary scaffolding was reviewed for effect on accident analyses and equipment operability/function. Conclusion is that assumptions, bases and probabilities of accident analyses and equipment malfunctions are not affected.

SCAFFOLD REQUEST **02-26-88**

A temporary scaffold platform was constructed in the Turbine Building Basement at nine feet elevation to work on 1-CW-MOV-100A.

Installation of this temporary scaffolding was reviewed for effect on accident analyses and equipment operability/function. Conclusion is that assumptions, bases and probabilities of accident analyses and equipment malfunctions are not affected.

PROCEDURE OR METHOD OF OPERATION CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR FEBRUARY 1988

EMP-P-RT-13 PROTECTIVE RELAY MAINTENANCE FOR CB 15H1 02-25-88

A procedure deviation was approved to place the H and J bus cross connect breaker in test to perform the preventive maintenance procedure while at power.

Placing the H and J cross connect breaker in test while at power will have no effect on the H & J buses because the breaker will not be placed in the connect position.

IMP-C-RPI-32 ROD POSITION INDICATION SYSTEM MAINTENANCE UNIT 2 02-10-88

Procedure deviation to allow use of the Prodac 250 computer to monitor control bank 'B' rod positions during repair of benchboard IRPI.

Control rod position indication from the P-250 computer is an acceptable substitute for benchboard IRPI provided that T.S. 3.12.E is complied with and duration of substitute is minimized.

MOP-12.4 RETURN OF RM-SS-113 TO SERVICE UNIT 1 02-16-88

Procedure deviation to align blowdown of two steam generators (B & C) through RM-SS-113 which contradicted UFSAR 11.3.3.8. UFSAR 11.3.3.8 states that all three steam generator blowdown flows are through one radiation monitor.

Changing the UFSAR assumed alignment of steam generator blowdown flow through the radiation monitors enhances the ability to detect primary-to-secondary leakage. Therefore, SGTR accident analyses and consequences are not adversely affected.

PROCEDURE OR METHOD OF OPERATION CHANGES THAT DID REQUIRE NRC APPROVAL

- NONE -

TESTS AND EXPERIMENTS REQUIRING NRC APPROVAL

MONTH/YEAR FEBRUARY 1988

NONE DURING THIS PERIOD

TESTS AND EXPERIMENTS THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR FEBRUARY 1988

NONE DURING THIS PERIOD

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VIRGINIA POWER
SURRY POWER STATION
CHEMISTRY REPORT

February 19 88

PRIMARY COOLANT ANALYSIS	UNIT NO. 1			UNIT NO. 2		
	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.
Gross Radioact., µCi/ml	1.63 E+0	4.60 E-1	1.16 E+0	2.43 E-1	1.54 E-1	1.83 E-1
Suspended Solids, ppm	0.0	0.0	0.0	0.0	0.0	0.0
Gross Tritium, µCi/ml	6.90 E-2	3.40 E-2	4.60 E-2	1.59 E-1	1.20 E-1	1.40 E-1
Iodine^{131}, µCi/ml	9.30 E-1	5.53 E-3	7.08 E-2	4.13 E-4	2.91 E-5	1.50 E-4
I^{131} / I^{131}	0.24	0.12	0.18	0.23	0.06	0.10
Hydrogen, cc/kg	33.9	25.6	28.3	33.6	26.2	29.8
Lithium, ppm	0.63	0.26	0.40	0.90	0.63	0.79
Boron-10, ppm*	43.9	1.18	10.3	69.0	52.9	61.5
Oxygen, (DO), ppm	0.005	0.005	0.005	0.005	0.005	0.005
Chloride, ppm	0.010	0.001	0.006	0.010	0.001	0.007
pH @ 25 degree Celsius	7.98	6.65	7.31	6.81	6.56	6.70

* Boron-10 = Total Boron X 0.196

REMARKS: Unit One: Lithium additions on 2-8 @ 1430 290g, 2-17 @ 0210 290g, 2-18 @ 0905 380 g, and 2-19 @ 0555 400g for a total LiOH addition of 1360g. Unit One A Deborating Bed was in service on 2-24 at 2040 until 2-25 0327 for Boron removal; Operations also put A DEB in service as needed for Boron control.

Unit Two: No Lithium additions; Cation Bed in service for Lithium removal on 2-3 from 0600 to 0838 and 2-16 from 2000 - 2237.

UNIT 1 FUEL HANDLING DATE FEB 1988

NEW OR SPENT FUEL SHIPMENT #	DATE SHIPPED OR RECEIVED	NUMBER OF ASSEMBLIES PER SHIPMENT	ASSEMBLY #	ANSI #	INITIAL ENRICHMENT	NEW OR SPENT FUEL SHIPPING CASK ACTIVITY LEVEL
		NONE DURING THIS PERIOD				

UNIT 2 FUEL HANDLING DATE FEB 1988

NEW OR SPENT FUEL SHIPMENT #	DATE SHIPPED OR RECEIVED	NUMBER OF ASSEMBLIES PER SHIPMENT	ASSEMBLY #	ANSI #	INITIAL ENRICHMENT	NEW OR SPENT FUEL SHIPPING CASK ACTIVITY LEVEL
		NONE DURING THIS PERIOD				

PROCEDURE REVISIONS THAT CHANGED THE OPERATING MODE DESCRIBED IN THE FSAR

MONTH/YEAR FEBRUARY 1988

NONE DURING THIS PERIOD

DESCRIPTION OF PERIODIC TEST WHICH WERE NOT COMPLETED WITHIN THE TIME LIMITS SPECIFIED IN TECHNICAL SPECIFICATIONS

MONTH/YEAR FEBRUARY 1988

NONE DURING THIS PERIOD

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

March 15, 1988

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Serial No. 88-132
NO/DAS:vlh
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
MONTHLY OPERATING REPORT

Enclosed is the Monthly Operating Report for Surry Power Station Units 1 and 2 for the month of February 1988.

Very truly yours,

W. L. Stewart

Enclosure

cc: U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N. W.
Suite 2900
Atlanta, Georgia 30323

Mr. W. E. Holland
NRC Senior Resident Inspector
Surry Power Station

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