

VIRGINIA ELECTRIC AND POWER COMPANY

SURRY POWER STATION

MONTHLY OPERATING REPORT

REPORT 88-01

APPROVED: *David L. Benson*
STATION MANAGER

8802220166 880131
PDR ADOCK 05000280
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1/1

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OPERATING DATA REPORT

DOCKET NO. 50-280
 DATE 2/5/88
 COMPLETED BY L. A. Warren
 TELEPHONE 804-357-3184

OPERATING STATUS

1. Unit Name: Surry I
2. Reporting Period: Jan. 01 thru Jan. 31, 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: _____

Notes

9. Power Level To Which Restricted, If Any (Net MWe): _____
10. Reasons For Restrictions, If Any: _____

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	744.0	744.0	132456.0
12. Number of Hours Reactor Was Critical	744.0	744.0	85467.4
13. Reactor Reserve Shutdown Hours	0.0	0.0	3774.5
14. Hours Generator On-Line	744.0	744.0	83715.2
15. Unit Reserve Shutdown Hours	0.0	0.0	3736.2
16. Gross Thermal Energy Generated (MWH)	1811710.2	1811710.2	194531931.6
17. Gross Electrical Energy Generated (MWH)	614935	614935	62990108.0
18. Net Electrical Energy Generated (MWH)	585817	585817	59741193.0
19. Unit Service Factor	100%	100%	63.2%
20. Unit Available Factor	100%	100%	66%
21. Unit Capacity Factor (Using MDC Net)	100.8%	100.8%	58.3%
22. Unit Capacity Factor (Using DER Net)	99.9%	99.9%	57.2%
23. Unit Forced Rate	0%	0%	17.5%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
Refueling Outage April 8, 48 Days

25. If Shut Down At End Of Report Period Estimated Date of Startup: _____

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

INITIAL CRITICALITY
 INITIAL ELECTRICITY
 COMMERCIAL OPERATION

Forecast	Achieved
_____	_____
_____	_____
_____	_____

OPERATING DATA REPORT

DOCKET NO. 50-281
DATE 2/5/88
COMPLETED BY L. A. Warren
TELEPHONE 804-357-3184

OPERATING STATUS

1. Unit Name: Surry 2
2. Reporting Period: Jan. 01 thru Jan. 31, 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: _____

Notes

9. Power Level To Which Restricted, If Any (Net MWe): _____
10. Reasons For Restrictions, If Any: _____

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	744.0	744.0	129336.0
12. Number of Hours Reactor Was Critical	744.0	744.0	85410.0
13. Reactor Reserve Shutdown Hours	0.0	0.0	328.1
14. Hours Generator On-Line	744.0	744.0	84042.3
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	1811065.7	1811065.7	196981428.4
17. Gross Electrical Energy Generated (MWH)	606540.0	606540.0	63979364.0
18. Net Electrical Energy Generated (MWH)	577580.0	577580.0	60654057.0
19. Unit Service Factor	100%	100%	65%
20. Unit Available Factor	100%	100%	65%
21. Unit Capacity Factor (Using MDC Net)	99.4%	99.4%	60.2%
22. Unit Capacity Factor (Using DER Net)	98.5%	98.5%	59.5%
23. Unit Forced Rate	0%	0%	14.3%
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	_____	_____

UNIT SHUTDOWNS AND POWER REDUCTIONS

PAGE 3

DOCKET NO. 50-280
 UNIT NAME Surry 1
 DATE 02/05/88
 COMPLETED BY L. A. Warren
 TELEPHONE 804-357-3184

REPORT MONTH JANUARY 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
88-01	1/9/88	S	0.0	B	1				Unit was reduced to 69% power, 572 MW's 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.
 3 - Automatic Scram.
 4 - Other (Explain)

4

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

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Exhibit 1 - Same Source

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

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DOCKET NO. 50-281
 UNIT NAME Surry 2
 DATE 02/05/88
 COMPLETED BY L. A. Warren
 TELEPHONE 804-357-3184

REPORT MONTH JANUARY 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
88-01	01/23/88	S	0.0	B	1				Unit was reduced to 70% power, 590 MW's 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.
 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

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-280
UNIT Surry 1
DATE 2/08/88
COMPLETED BY L. A. Warren
TELEPHONE 804-357-3184

MONTH JANUARY 1988

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>787</u>
2	<u>787</u>
3	<u>788</u>
4	<u>788</u>
5	<u>787</u>
6	<u>787</u>
7	<u>788</u>
8	<u>788</u>
9	<u>728</u>
10	<u>789</u>
11	<u>788</u>
12	<u>789</u>
13	<u>788</u>
14	<u>789</u>
15	<u>789</u>
16	<u>790</u>

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	<u>791</u>
18	<u>791</u>
19	<u>791</u>
20	<u>791</u>
21	<u>791</u>
22	<u>791</u>
23	<u>791</u>
24	<u>791</u>
25	<u>790</u>
26	<u>791</u>
27	<u>791</u>
28	<u>790</u>
29	<u>791</u>
30	<u>791</u>
31	<u>790</u>

INSTRUCTIONS

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

(9/77)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-281
 UNIT Surry 2
 DATE 2/08/88
 COMPLETED BY L. A. Warren
 TELEPHONE 804-357-3184

MONTH JANUARY 1988

DAY AVERAGE DAILY POWER LEVEL
 (MWe-Net)

1	<u>779</u>
2	<u>778</u>
3	<u>778</u>
4	<u>777</u>
5	<u>778</u>
6	<u>778</u>
7	<u>778</u>
8	<u>779</u>
9	<u>777</u>
10	<u>778</u>
11	<u>778</u>
12	<u>778</u>
13	<u>779</u>
14	<u>778</u>
15	<u>778</u>
16	<u>778</u>

DAY AVERAGE DAILY POWER LEVEL
 (MWe-Net)

17	<u>778</u>
18	<u>779</u>
19	<u>778</u>
20	<u>778</u>
21	<u>779</u>
22	<u>778</u>
23	<u>731</u>
24	<u>776</u>
25	<u>777</u>
26	<u>776</u>
27	<u>776</u>
28	<u>777</u>
29	<u>777</u>
30	<u>778</u>
31	<u>779</u>

INSTRUCTIONS

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

(9/77)

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SUMMARY OF OPERATING EXPERIENCE

MONTH/YEAR January 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

01-01-88	0000	This reporting period begins with the unit at 100% power, 830MW's.
01-09-88	1000	Commenced power reduction at 150MW/hr. for scheduled testing of turbine valves (PT-29.1).
	1136	Holding power at 69% power, 572 MW's.
	1445	Commenced power increase at 150 MW/hr.
	1845	Unit at 100% power, 830 MW's.
01-31-88	2400	This reporting period ends with the unit at 100% power, 830 MW's.

UNIT TWO

01-01-88	0000	This reporting period begins with the unit at 100% power, 820 MW's.
01-23-88	1213	Commenced power reduction at 150 MW's/hr for scheduled testing of turbine valves (PT-29.1).
	1346	Holding power at 70%, 590 MW's.
	1650	Commenced power increase at 150 MW/hr.
	1930	Unit at 100% power, 815 MW's.
01-31-88	2400	This reporting period ends with the unit at 100% power, 815 MW's.

FACILITY CHANGES REQUIRING NRC APPROVAL

MONTH/YEAR JANUARY 1988

NONE DURING THIS PERIOD

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL
MONTH/YEAR January 1988

EWR 87-331 ADDITION OF FP CARDOX ODORIZER UNITS 1 & 2 1/29/88

This engineering work request added an odorizer to the Cardox System to enhance worker safety by providing another means of detecting a discharge of the system.

The addition of odorizers does not effect the function of the Cardox System. Therefore, the enhancement does not impact plant or public health and safety nor result in an unreviewed safety question.

EWR 87-400 REPLACE MAIN STEAM VALVE (1-MS-104) UNIT 1 1/12/88

This engineering work request installed an equivalent safety related gate valve to replace 1-MS-104, an isolation globe valve for the auxiliary feedwater pump steam flow transmitter which had a bonnet steam cut.

The replacement valve is of the same pressure class and material as the original valve. Therefore, there are no changes in the probability or consequences of accidents analyzed in the UFSAR, nor has the possibility of a new accident being created. The margin of safety is not affected.

EWR 87-403 MODIFY FEEDWATER VALVES UNITS 1 & 2 1/05/88
(1/2-FW-MOV-150A, B/250A, B)

This engineering work request evaluated modifications to the Unit 1 and 2 feedwater pump discharge valves (1-FW-MOV-150 A/B and 2-FW-MOV-250 A/B) to prevent the operator mounting studs from pulling loose from the operator body.

The installation of: 1) all thread rod studs to ensure thread engagement, 2) one new stud between existing holes for support and 3) a new yoke flange will not result in an unreviewed safety question.

EWR 87-410 EVALUATE GLAND BOLT MATERIAL CHANGE 1/05/88
(1-CH-163, 164) UNIT 1

This engineering work request compared chemical and mechanical properties of the old (A193) and the new (A582) gland bolt materials for Westinghouse valves (2" - T58) to determine if the new material was acceptable.

An analysis of the impact of the valve failure as analyzed in UFSAR was made. As the material's properties are equivalent, there is no effect on the UFSAR analyses.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL
MONTH/YEAR January 1988

N/A	SCAFFOLD REQUEST	1/29/88
	<p>A temporary scaffold platform was constructed in #1 EDG Room to work #1 Diesel Room Dampers.</p> <p>Installation of this temporary scaffolding was reviewed for affect on accident analyses and equipment operability/function. Conclusion is that assumptions, bases and probabilities of accident analyses and equipment malfunctions are not affected.</p>	
N/A	SCAFFOLD REQUEST	1/20/88
	<p>A temporary scaffold platform was constructed in Auxiliary Building to work FT-VS-118 and FT-VS-218.</p> <p>Installation of this temporary scaffolding was reviewed for affect on accident analyses and equipment operability/function. Conclusion is that assumptions, bases and probabilities of accident analyses and equipment malfunctions are not affected.</p>	
TM S1-88-2	TEMPORARY MODIFICATION	1/29/88
	<p>Temporary modification removed and blanked the piping connection on the PG tank heat exchanger thermal relief valves, 1-RV-BR-114A, B.</p> <p>It was determined that maintaining the PG tank heat exchanger inlet and outlet isolation valves open prevents heat exchanger overpressurization while the thermal relief valves are removed. Therefore, the radioactive liquid release probability is not increased.</p>	
TM S2-88-2	TEMPORARY MODIFICATION	1/07/88
	<p>This temporary procedure closed manual valve 2-SW-117 and placed it under administrative control to prevent over-cooling of lube oil for 2-CH-P-1B while the pump is off.</p> <p>Closure of 2-SW-117 does not constitute an unreviewed safety question because it is under administrative control ensuring it will be opened if needed before operability of any plant equipment is affected.</p>	

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL
MONTH/YEAR January 1988

TM S2-88-3	TEMPORARY MODIFICATION	1/11/88
<p>This temporary modification closed manual valve 2-SW-168 (lube oil cooler SW isolation) under administrative control to prevent over cooling of lube oil for 2-CH-P-1A while the pump is shut down.</p> <p>Closure of 2-SW-168 does not constitute an unreviewed safety question since it is under administrative control ensuring it will be opened, if required, before operability of any plant equipment is affected.</p>		
TM S2-88-5	TEMPORARY MODIFICATION	1/26/88
<p>This temporary modification placed the emergency borate valve, 2-CH-MOV-2350, under administrative control because the normal boric acid flow path from the blender was inoperable due to a heat tracing failure.</p> <p>Placing 2-CH-MOV-2350 under administrative control will ensure two boric acid flow paths are available to the charging pump suction as required.</p>		
TM S2-88-7	TEMPORARY MODIFICATION	1/26/88
<p>This temporary modification locked closed 2-RC-133 to isolate containment penetration #57 and the pressurizer vent and vapor space sample.</p> <p>The pressurizer vent system is used as a backup bleed path in case of a loss of heat sink transient. However, the preferred path remained available. The pressurizer vent system can also be used to vent non-condensable gases from the pressurizer vapor space. However, the PORV's remain available if this function is required.</p>		

PROCEDURE OR METHOD OF OPERATION CHANGES
THAT DID NOT REQUIRE NRC APPROVAL
MONTH/YEAR January 1988

2-TOP-2015**AUXILIARY FEEDWATER CHECK VALVE
LEAKAGE GUIDELINES UNIT 2****1/05/88**

This temporary operating procedure isolated steam generator auxiliary feedwater flow paths on Unit 2 to determine potential check valve leakage paths.

Since the flow paths were under administrative control during the temporary operations and since automatic actuation will return the system to the required operating condition, it was determined that an unreviewed safety question was not created.

2-TOP-2015**AUXILIARY FEEDWATER CHECK VALVE
LEAKAGE GUIDELINE UNIT 2****1/26/88**

The temporary operating procedure was revised to extend the implementation date.

The administrative control and automatic actuations remain in place; therefore, the evaluation above remains valid.

SUADM-ADM-21**STATION PROCEDURES****1/26/88**

This procedure revision updated the procedure deviation process to reflect the 10CFR50.59 screening and review process.

The updated procedure incorporated more stringent requirements governing procedure deviations than outlined in the administration section of Technical Specification (section 6.4)

TESTS AND EXPERIMENTS THAT DID NOT REQUIRE NRC APPROVALMONTH/YEAR JANUARY 1988

NONE DURING THIS PERIOD

TESTS AND EXPERIMENTS REQUIRING NRC APPROVAL

MONTH/YEAR JANUARY 1988

NONE DURING THIS PERIOD

OTHER CHANGES, TEST AND EXPERIMENTS

MONTH/YEAR JANUARY 1988

NONE DURING THIS PERIOD

VIRGINIA POWER
SURRY POWER STATION
CHEMISTRY REPORT

JANUARY 19 88

PRIMARY COOLANT ANALYSIS	UNIT NO. 1			UNIT NO. 2		
	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.
Gross Radioact., $\mu\text{Ci/ml}$	1.42	7.78E-1	1.24	2.72E-1	1.27E-1	2.03E-1
Suspended Solids, ppm	0.0	0.0	0.0	0.0	0.0	0.0
Gross Tritium, $\mu\text{Ci/ml}$	7.82E-2	3.22E-2	5.43E-2	1.32E-1	2.78E-2	9.42E-2
Iodine ^{131}I , $\mu\text{Ci/ml}$	1.48E-2	6.41E-3	9.87E-3	2.65E-4	7.88E-5	1.40E-4
$\text{I}^{131} / \text{I}^{131}$	0.26	0.12	0.19	0.13	0.06	0.09
Hydrogen, cc/kg	39.3	31.0	33.3	34.7	30.3	32.0
Lithium, ppm	0.66	0.41	0.54	1.05	0.77	0.91
Boron-10, ppm*	37.6	15.1	25.1	87.2	70.2	78.2
Oxygen, (DO), ppm	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloride, ppm	0.010	0.001	0.003	0.010	0.002	0.003
pH @ 25 degree Celsius	7.05	6.52	6.81	6.70	6.46	6.56

* Boron-10 = Total Boron X 0.196

REMARKS: Unit 1: No LiOH additions made in January, Deborating Bed placed in service for LiOH removal on 1-04-88 from 1115 to 1247; 1-19-88 from 1250 to 1430; 1-22-88 from 0950 to 1208; 1-29-88 from 1820 to 2031.

Unit 2: No LiOH additions made in January. Cation Bed placed in service for LiOH removal on 1-3-88 from 0515 to 0844; 1-7-88 from 0945 to 1321; 1-9-88 from 1810 to 2239; 1-12-88 from 0925 to 1204; 1-15-88 from 0950 to 1326; 1-19-88 from 1810 to 2040; 1-22-88 from 1535 to 1705.

UNIT 1

FUEL HANDLING

DATE JAN 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
Cask #6	01-05-88	21	B02	N/A	2.57	N/A
Cask #6	01-05-88	21	B03	N/A	2.57	N/A
Cask #6	01-05-88	21	B05	N/A	2.57	N/A
Cask #6	01-05-88	21	B11	N/A	2.57	N/A
Cask #6	01-05-88	21	B13	N/A	2.57	N/A
Cask #6	01-05-88	21	B37	N/A	2.57	N/A
Cask #6	01-05-88	21	B46	N/A	2.57	N/A
Cask #6	01-05-88	21	B51	N/A	2.57	N/A
Cask #6	01-05-88	21	C05	N/A	3.12	N/A
Cask #6	01-05-88	21	C16	N/A	3.12	N/A
Cask #6	01-05-88	21	C22	N/A	3.12	N/A
Cask #6	01-05-88	21	C23	N/A	3.12	N/A
Cask #6	01-05-88	21	C29	N/A	3.12	N/A
Cask #6	01-05-88	21	C30	N/A	3.12	N/A
Cask #6	01-05-88	21	C31	N/A	3.12	N/A
Cask #6	01-05-88	21	C33	N/A	3.12	N/A
Cask #6	01-05-88	21	C34	N/A	3.12	N/A
Cask #6	01-05-88	21	C39	N/A	3.12	N/A
Cask #6	01-05-88	21	C41	N/A	3.12	N/A
Cask #6	01-05-88	21	C45	N/A	3.12	N/A
Cask #6	01-05-88	21	C46	N/A	3.12	N/A

UNIT 2

FUEL HANDLING

DATE JAN 1988

[illegible]

PROCEDURE REVISIONS THAT CHANGED THE
OPERATING MODE DESCRIBED IN THE FSAR

MONTH/YEAR JANUARY 1988

NONE DURING THIS PERIOD

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

MONTH/YEAR JANUARY 1988

NONE DURING THIS PERIOD

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

February 15, 1988

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

Serial No. 88-075
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 January 1988.

Very truly yours,


W. L. Stewart

Enclosure

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

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

1E24
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