

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**RICHMOND, VIRGINIA 23261**

November 15, 2000

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

Serial No. 00-593  
SPS Lic/JSA R0  
Docket Nos. 50-280  
50-281  
License Nos. DPR-32  
DPR-37

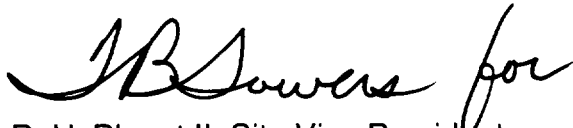
Gentlemen:

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

The Monthly Operating Report for Surry Power Station Units 1 and 2 for the month of October 2000 is provided in the attachment.

If you have any questions or require additional information, please contact us.

Very truly yours,



R. H. Blount II, Site Vice President  
Surry Power Station

Attachment

Commitments made by this letter: None

cc: United States Nuclear Regulatory Commission  
Region II  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW, Suite 23 T85  
Atlanta, Georgia 30303-8931

Mr. R. A. Musser  
NRC Senior Resident Inspector  
Surry Power Station

IE24

**VIRGINIA ELECTRIC AND POWER COMPANY  
SURRY POWER STATION  
MONTHLY OPERATING REPORT  
REPORT NO. 00-10**

Approved: *J. B. Soares for R. H. Blount* *11/15/00*  
Site Vice President Date

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# OPERATING DATA REPORT

Docket No.: 50-280  
Date: 11/01/00  
Completed By: R. Stief  
Telephone: (757) 365-2486

1. Unit Name: ..... Surry Unit 1
2. Reporting Period: ..... October 2000
3. Licensed Thermal Power (MWt): ..... 2546
4. Nameplate Rating (Gross MWe): ..... 847.5
5. Design Electrical Rating (Net MWe): ..... 788
6. Maximum Dependable Capacity (Gross MWe): ... 840
7. Maximum Dependable Capacity (Net MWe): ..... 801

8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:

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9. Power Level To Which Restricted, If Any (Net MWe): \_\_\_\_\_

10. Reasons For Restrictions, If Any: \_\_\_\_\_

	<u>This Month</u>	<u>Year-To-Date</u>	<u>Cumulative</u>
11. Hours in Reporting Period	745.0	7320.0	244224.0
12. Hours Reactor Was Critical	725.6	6763.6	176840.1
13. Reactor Reserve Shutdown Hours	0.0	0.0	3774.5
14. Hours Generator On-Line	717.3	6725.3	174256.7
15. Unit Reserve Shutdown Hours	0.0	0.0	3736.2
16. Gross Thermal Energy Generated (MWH)	1817721.0	16686316.3	413126564.7
17. Gross Electrical Energy Generated (MWH)	606171.0	5547166.0	135692499.0
18. Net Electrical Energy Generated (MWH)	580990.0	5345841.0	129448644.0
19. Unit Service Factor	96.3%	91.9%	71.4%
20. Unit Availability Factor	96.3%	91.9%	72.9%
21. Unit Capacity Factor (Using MDC Net)	97.4%	91.2%	67.9%
22. Unit Capacity Factor (Using DER Net)	99.0%	92.7%	67.3%
23. Unit Forced Outage Rate	3.7%	0.4%	13.3%

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

Type and duration of scheduled shutdowns are no longer provided.  
[Reference: Letter S/N 00-069, dated February 7, 2000]

25. If Shut Down at End of Report Period, Estimated Date of Start-up: Estimated start-up dates are no longer provided. [Reference: Letter S/N 00-069, dated February 7, 2000]

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

	<u>FORECAST</u>	<u>ACHIEVED</u>
INITIAL CRITICALITY	_____	_____
INITIAL ELECTRICITY	_____	_____
COMMERCIAL OPERATION	_____	_____

# OPERATING DATA REPORT

Docket No.: 50-281  
 Date: 11/01/00  
 Completed By: R. Stief  
 Telephone: (757) 365-2486

1. Unit Name: ..... Surry Unit 2
2. Reporting Period: ..... October 2000
3. Licensed Thermal Power (MWt): ..... 2546
4. Nameplate Rating (Gross MWe): ..... 847.5
5. Design Electrical Rating (Net MWe): ..... 788
6. Maximum Dependable Capacity (Gross MWe): ... 840
7. Maximum Dependable Capacity (Net MWe): ..... 801

8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:

---

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9. Power Level To Which Restricted, If Any (Net MWe): \_\_\_\_\_

10. Reasons For Restrictions, If Any: \_\_\_\_\_

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	<u>This Month</u>	<u>Year-To-Date</u>	<u>Cumulative</u>
11. Hours in Reporting Period	745.0	7320.0	241105.0
12. Hours Reactor Was Critical	26.6	6601.6	174130.7
13. Reactor Reserve Shutdown Hours	0.0	0.0	328.1
14. Hours Generator On-Line	0.5	6575.5	171963.9
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	267.3	16641714.3	408669707.5
17. Gross Electrical Energy Generated (MWH)	30.0	5583214.0	134216112.0
18. Net Electrical Energy Generated (MWH)	22.0	5388084.0	128084941.0
19. Unit Service Factor	0.1%	89.8%	71.3%
20. Unit Availability Factor	0.1%	89.8%	71.3%
21. Unit Capacity Factor (Using MDC Net)	0.0%	91.9%	67.8%
22. Unit Capacity Factor (Using DER Net)	0.0%	93.4%	67.4%
23. Unit Forced Outage Rate	0.0%	0.0%	10.6%

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

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Type and duration of scheduled shutdowns are no longer provided.  
 [Reference: Letter S/N 00-069, dated February 7, 2000]

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25. If Shut Down at End of Report Period, Estimated Date of Start-up: Estimated start-up dates are no longer provided. [Reference: Letter S/N 00-069, dated February 7, 2000]

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

	<u>FORECAST</u>	<u>ACHIEVED</u>
INITIAL CRITICALITY	_____	_____
INITIAL ELECTRICITY	_____	_____
COMMERCIAL OPERATION	_____	_____

**UNIT SHUTDOWN AND POWER REDUCTION**  
**(EQUAL TO OR GREATER THAN 20%)**

**REPORT MONTH:** October 2000

Docket No.: 50-280  
 Unit Name: Surry Unit 1  
 Date: 11/01/00  
 Completed by: R. Stief  
 Telephone: (757) 365-2486

Date	(1) Type	Duration Hours	(2) Reason	(3) Method of Shutting Down Rx	LER No.	(4) System Code	(5) Component Code	Cause & Corrective Action to Prevent Recurrence
10/24/00	F	27H 41M	H	3	S1-00-004-00	TG	RV	Unit 1 Reactor Trip due to Unit 2 Outage Work being performed on wrong unit (1-EH-RV-1).

(1)  
 F: Forced  
 S: Scheduled

(2)  
 REASON:  
 A - Equipment Failure (Explain)  
 B - Maintenance or Test  
 C - Refueling  
 D - Regulatory Restriction  
 E - Operator Training & Licensing 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

for Licensee Event Report (LER) File (NUREG 0161)

**UNIT SHUTDOWN AND POWER REDUCTION  
(EQUAL TO OR GREATER THAN 20%)**

**REPORT MONTH:** October 2000

Docket No.: 50-281  
Unit Name: Surry Unit 2  
Date: 11/01/00  
Completed by: R. Stief  
Telephone: (757) 365-2486

Date	(1) Type	Duration Hours	(2) Reason	(3) Method of Shutting Down Rx	LER No.	(4) System Code	(5) Component Code	Cause & Corrective Action to Prevent Recurrence
10/01/00	S	744H 33M	C	1	N/A	N/A	N/A	Refueling Outage

(1)  
F: Forced  
S: Scheduled

(2)  
REASON:  
A - Equipment Failure (Explain)  
B - Maintenance or Test  
C - Refueling  
D - Regulatory Restriction  
E - Operator Training & Licensing 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 Name: Surry Unit 1  
 Date: 11/01/00  
 Completed by: R. Stief  
 Telephone: (757) 365-2486

**MONTH:** October 2000

Day	Average Daily Power Level (MWe - Net)	Day	Average Daily Power Level (MWe - Net)
1	803	17	818
2	802	18	820
3	814	19	821
4	816	20	818
5	816	21	820
6	815	22	820
7	816	23	820
8	819	24	262
9	818	25	297
10	817	26	815
11	817	27	812
12	817	28	795
13	818	29	833
14	818	30	812
15	818	31	806
16	818		

**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.: 50-281  
 Unit Name: Surry Unit 2  
 Date: 11/01/00  
 Completed by: R. Stief  
 Telephone: (757) 365-2486

**MONTH:** October 2000

Day	Average Daily Power Level (MWe - Net)	Day	Average Daily Power Level (MWe - Net)
1	1	17	0
2	0	18	0
3	0	19	0
4	0	20	0
5	0	21	0
6	0	22	0
7	0	23	0
8	0	24	0
9	0	25	0
10	0	26	0
11	0	27	0
12	0	28	0
13	0	29	0
14	0	30	0
15	0	31	0
16	0		

**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.

## SUMMARY OF OPERATING EXPERIENCE

MONTH/YEAR: October 2000

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

### UNIT ONE:

10/01/00	0000	Unit started the month at 100% / 849 MWe.
10/24/00	0741	Unit 1 Reactor/Unit Trip due to work being performed on 1-EH-RV-1 in lieu of 2-EH-RV-1, Turbine Stop valves closed causing an automatic reactor trip on steam generator lo-lo level.
10/25/00	0215	Commenced Reactor Startup.
10/25/00	0303	Reactor Critical at 2% power.
10/25/00	1122	Closed output breaker to place unit on line.
10/25/00	1218	Stopped unit ramp to perform Station Service swap-over.
10/25/00	1223	Steam Dumps closed, Unit at 30% / 312 MWe.
10/25/00	1618	Unit ramp suspended at 70% for IRPI adjustments.
10/25/00	1742	IRPI adjustments complete, ramp to full power.
10/26/00	0131	Unit at 100% / 850 MWe.
10/31/00	2400	Unit finished the month at 100% / 850 MWe.

### UNIT TWO:

10/01/00	0000	Unit started the month at 20% / 155 MWe.
10/01/00	0027	Unit taken off line for Refueling Outage.
10/01/00	0145	Reactor Manually Tripped.
10/30/00	0256	Reactor Critical.
10/31/00	0346	Reactor Manually Tripped to reduce pressure to allow "B" Safety Valve to seat.
10/31/00	2400	Unit finished the month at 0% / 0 MWe.

**FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL**

**MONTH/YEAR:** October 2000

DCP 99-073 FS 99-057	<b>Design Change Package UFSAR Change Request</b> (Safety Evaluation 00-004)	01/06/00
	Design Change Package 99-073, "Steam Generator PORV Upgrade/Surry/Units 1&2" upgraded the Steam Generator Power Operated Relief Valves to safety related for function by installing a safety related valve actuator diaphragm, tubing, valves and backup bottled air system.	
TM S1-00-030	<b>Temporary Modification</b> (Safety Evaluation 00-107)	09/15/00
	Temporary Modification S1-00-030 installs a piece of ductwork to the existing Unit 1 Control Room ventilation system and routes it to the Unit 1 P-250 computer compartment to provide additional cooling for the computer.	
TM S1-00-031	<b>Temporary Modification</b> (Safety Evaluation 00-112)	09/22/00
	Temporary Modification S1-00-031 was installed as a result of a failed cable in the Security System.	
TM S2-00-009	<b>Temporary Modification</b> (Safety Evaluation 00-120)	10/06/00
	Temporary Modification S2-00-009 reviewed the mounting of a man-lift on top of the Polar Crane Trolley to allow placement of instrumentation at the Containment Spray Ring elevation for Type A testing.	
DCP 00-050 FS 00-045	<b>Design Change Package UFSAR Change Request</b> (Safety Evaluation 00-121)	10/07/00
	Design Change Package 00-050, "Installation of Time Delay Relay on 58 Fan/Surry/Units 1&2" installs a time delay in the start circuitry of the Auxiliary Building Filtered Exhaust Fans to prevent the fans from starting immediately upon receipt of a Safety Injection signal. This delay will allow dampers to complete their full travel prior to the fans starting.	
DCP 00-051	<b>Design Change Package</b> (Safety Evaluation 00-123, Rev. 1&2)	10/09/00
	Design Change Package 00-051, "Ventilation System Setpoint Change 01-VS-PS-128A/128B/Surry/Units 1&2" provides a setpoint change to the F-58 fans pressure switches from -16" to -16.7" water vacuum. Revision 1 includes changing the setpoint on pressure switches 128A-1 and 128B-1. Revision 2 increased the setpoint from -16.7" to -18".	

**FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL**

**MONTH/YEAR:** October 2000

TM S1-00-032	<b>Temporary Modification</b> (Safety Evaluation 00-125)	10/16/00
<p>Temporary Modification S1-00-032 installed a blank flange upstream of Service Water valve 02-SW-444 in order to return the system to service while performing maintenance on strainer 02-SW-S-2A.</p>		
TM S2-00-010	<b>Temporary Modification</b> (Safety Evaluation 00-126)	10/19/00
<p>Temporary Modification S2-00-010 electrically bypassed the torque switch and installed a "kill" switch to open and close valve 2-RC-MOV-2591 locally until the motor operator is overhauled during the next refueling outage.</p>		
DCP 00-053 FS 00-046	<b>Design Change Package</b> <b>UFSAR Change Request</b> (Safety Evaluation 00-127)	10/20/00
<p>In-core thimble 2-RC-TW-N8 has leakage past the seal plug assembly, indicating that the outer tube has a through wall leak. Design Change Package 00-053, "Flux Thimble Tube N8 Modification/Surry/Unit 2" cut and capped the Unit 2 in-core thimble to provide a leak tight Reactor Coolant system pressure boundary.</p>		
TM S2-00-011	<b>Temporary Modification</b> (Safety Evaluation 00-132)	10/31/00
<p>Temporary Modification S2-00-011 installed a chart recorder on the Pressurizer Safety Valves Acoustic Monitors to monitor the valves for leakage.</p>		

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

**MONTH/YEAR:** October 2000

1-OP-VS-002.00	<b>Operating Procedure</b> (Safety Evaluation 00-116)	10/05/00
Operating Procedure 1-OP-VS-002.00, "Control of Charging Pump Dampers", was written to allow opening of a second Unit 1 charging pump damper while operating the 1-VS-F-58B fan to lower fan suction pressure and reduce the probability of tripping the fan. Unit 2 was in refueling and did not change operating modes while in this configuration.		
S-2000-004	<b>Appendix R Report Change</b> (Safety Evaluation 00-117)	10/05/00
Appendix R Report Change S-2000-004 is being revised to state source range neutron indication is not required for Appendix R safe shutdown for a containment fire.		
1-PT-18.2 2-PT-18.2	<b>Operations Periodic Test Procedures</b> (Safety Evaluations 00-118, 00-119)	10/05/00
Operations Periodic Test Procedures 1&2-PT-18.2, "Testing of Main Steam Line Trip and RWST Cross Tie Valve Actuation From Safety Injection Signal", were temporarily modified to test Unit 1&2 Main Steam Header – Line Refueling Water Storage Tank trip logic modifications.		
0-OPT-VS-010	<b>Operations Periodic Test Procedure</b> (Safety Evaluation 00-122)	10/07/00
Operations Periodic Test Procedure 0-OPT-VS-010, "Auxiliary Ventilation Engineered Safeguards Test", was written to allow post installation testing of the modifications made by DCP 00-050 that installed time delay relays to the Auxiliary Building Filtered Exhaust fan start circuits and additional extensive testing of the fans.		
S2-00-1013	<b>Administrative Control</b> (Safety Evaluation 00-124)	10/14/00
Administrative Control S2-00-1013 assured the capability to meet design basis for Unit 2 Service Water supply valve 2-SW-MOV-202A, while it was without power while the 2H bus work was being completed.		
SC-00-001, Rev. 1	<b>Justification for Continued Operation</b> (Safety Evaluation 00-057, Rev. 1)	10/19/00
Justification for Continued Operation (JCO) SC-00-001, "Auxiliary Building Filtered Exhaust Fan Operation Following a DBA to Assure Filtration and Ventilation of Safeguards and Charging Pump Cubicles" changes applicable procedures and establishes administrative controls to ensure that, in the event of a DBA requiring filtered exhaust, the Auxiliary Building filtered exhaust total flow is 36,000 cfm. Revision 1 imposed additional restrictions for improved fan operability.		

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

**MONTH/YEAR:** October 2000

2-OPT-CT-102

**Operations Periodic Test Procedure**  
(Safety Evaluation 00-128)

10/23/00

Operations Periodic Test Procedure 2-OPT-CT-102, "Preparation, Alignment, and Restoration for Type A Test", was changed to allow the use of a temporary air hose to provide operating air to the containment hogger suction inside isolation valve during the Unit 2 Integrated Leak Rate Test.

2-ECM-1515-01

**Electrical Corrective Maintenance Procedure**  
(Safety Evaluation 00-130)

10/26/00

The torque switch on 2-RC-MOV-2591 is inoperable and could not be removed from the actuator during the Unit 2 Refueling Outage. Electrical Corrective Maintenance Procedure 2-ECM-1515-01, "Operation of 2-RC-MOV-2591 With Deadman Switch", was revised to electrically bypass the torque switch and install a "kill" switch to open and close the valve locally until the motor operator is overhauled during the next refueling outage.

**TESTS AND EXPERIMENTS THAT DID NOT REQUIRE NRC APPROVAL**

**MONTH/YEAR:** October 2000

None during the Reporting Period

# CHEMISTRY REPORT

MONTH/YEAR: October 2000

Primary Coolant Analysis	Unit No. 1			Unit No. 2		
	Max.	Min.	Avg.	Max.	Min.	Avg.
Gross Radioactivity, $\mu\text{Ci/ml}$	3.32E-1	1.46E-1	2.38E-1	1.91E-1	8.36E-4	1.89E-2
Suspended Solids, ppm	$\leq 0.010$	$\leq 0.010$	$\leq 0.010$	0.25	$\leq 0.010$	0.011
Gross Tritium, $\mu\text{Ci/ml}$	1.20E+0	8.71E-1	1.11E+0	3.23E-2	3.23E-2	3.23E-2
$I^{131}$ , $\mu\text{Ci/ml}$	4.13E-4	8.78E-5	2.04E-4	$\leq 6.40\text{E-}5$	$\leq 4.20\text{E-}5$	$\leq 5.30\text{E-}5$
$I^{131}/I^{133}$	0.15	0.05	0.08	-	-	-
Hydrogen, cc/kg	42.5	35.9	39.8	33.2	2.5	15.1
Lithium, ppm	2.55	2.06	2.23	3.48	0.1	0.61
Boron - 10, ppm*	251.5	197.4	219	483.3	13.1	407.3
Oxygen, (DO), ppm	$\leq 0.005$	$\leq 0.005$	$\leq 0.005$	8	$\leq 0.005$	$\leq 3.5$
Chloride, ppm	0.018	0.013	0.015	0.041	$\leq 0.001$	$\leq 0.004$
pH @ 25 degree Celsius	6.61	6.36	6.54	7.43	4.74	5.12

\* Boron - 10 = Total Boron x 0.196

Comments:

None



**FUEL HANDLING  
UNITS 1 & 2**

**MONTH/YEAR:** October 2000

<u>New Fuel Shipment or Cask No.</u>	<u>Date Stored or Received</u>	<u>Number of Assemblies per Shipment</u>	<u>Assembly Number</u>	<u>ANSI Number</u>	<u>Initial Enrichment</u>	<u>New or Spent Fuel Shipping Cask Activity</u>
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None during the Reporting Period

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

**MONTH/YEAR:** October 2000

None during the Reporting Period