

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

November 15, 1999

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

Serial No. 99-588  
SPS Lic/JSA R0  
Docket Nos. 50-280  
50-281  
License Nos. DPR-32  
DPR-37

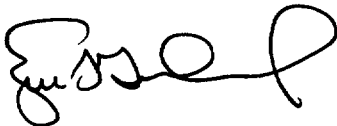
Gentlemen:

**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 1999 is provided in the attachment.

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

Very truly yours,



E. S. Grecheck, Site Vice President  
Surry Power Station

Attachment

Commitments made by this letter: None

cc: U. S. Nuclear Regulatory Commission  
Region II  
Atlanta Federal Center  
61 Forsyth Street, S. W.  
Suite 23T85  
Atlanta, Georgia 30303


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

IE24

PDL ADOCU

**VIRGINIA ELECTRIC AND POWER COMPANY  
SURRY POWER STATION  
MONTHLY OPERATING REPORT  
REPORT No. 99-10**

Approved:

  
\_\_\_\_\_  
Site Vice President

11/5/99  
\_\_\_\_\_  
Date

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**OPERATING DATA REPORT**

Docket No.: 50-280  
 Date: 11/02/99  
 Completed By: R. Stief  
 Telephone: (757) 365-2486

1. Unit Name: ..... Surry Unit 1
2. Reporting Period: ..... October 1999
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	7296.0	235440.0
12. Hours Reactor Was Critical	745.0	7296.0	168612.5
13. Reactor Reserve Shutdown Hours	0.0	0.0	3774.5
14. Hours Generator On-Line	745.0	7296.0	166067.4
15. Unit Reserve Shutdown Hours	0.0	0.0	3736.2
16. Gross Thermal Energy Generated (MWH)	1896097.9	18524696.4	392715653.9
17. Gross Electrical Energy Generated (MWH)	629923.0	6134437.0	128904593.0
18. Net Electrical Energy Generated (MWH)	608145.0	5917453.0	122904057.0
19. Unit Service Factor	100.0%	100.0%	70.5%
20. Unit Availability Factor	100.0%	100.0%	72.1%
21. Unit Capacity Factor (Using MDC Net)	101.9%	101.3%	67.0%
22. Unit Capacity Factor (Using DER Net)	103.6%	102.9%	66.2%
23. Unit Forced Outage Rate	0.0%	0.0%	13.9%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):  
 Refueling, April 15, 2000, 26 Days

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25. If Shut Down at End of Report Period, Estimated Date of Start-up: \_\_\_\_\_

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: 11/02/99  
 Completed By: R. Stief  
 Telephone: (757) 365-2486

- 1. Unit Name: ..... Surry Unit 2
- 2. Reporting Period: ..... October 1999
- 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:

---



---



---

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	7296.0	232321.0
12. Hours Reactor Was Critical	745.0	6154.8	166065.1
13. Reactor Reserve Shutdown Hours	0.0	0.0	328.1
14. Hours Generator On-Line	745.0	6030.9	163924.4
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	1895731.3	14506649.9	388302298.9
17. Gross Electrical Energy Generated (MWH)	633070.0	4833605.0	127381498.0
18. Net Electrical Energy Generated (MWH)	612652.0	4664247.0	121486274.0
19. Unit Service Factor	100.0%	82.7%	70.6%
20. Unit Availability Factor	100.0%	82.7%	70.6%
21. Unit Capacity Factor (Using MDC Net)	102.7%	79.8%	66.8%
22. Unit Capacity Factor (Using DER Net)	104.4%	81.1%	66.4%
23. Unit Forced Outage Rate	0.0%	3.9%	11.1%

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

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25. If Shut Down at End of Report Period, Estimated Date of Start-up: \_\_\_\_\_

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 1999

Docket No.: 50-280  
Unit Name: Surry Unit 1  
Date: 11/08/99  
Completed by: J. R. Pincus  
Telephone: (757) 365-2863

None during the Reporting Period

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(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)

(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

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

**REPORT MONTH:** October 1999

Docket No.: 50-281  
Unit Name: Surry Unit 2  
Date: 11/08/99  
Completed by: J. R. Pincus  
Telephone: (757) 365-2863

None during the Reporting Period

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(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)

(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: 11/02/99  
 Completed by: J. S. Ashley  
 Telephone: (757) 365-2161

MONTH: October 1999

Day	Average Daily Power Level (MWe - Net)	Day	Average Daily Power Level (MWe - Net)
1	812	17	817
2	815	18	818
3	815	19	816
4	814	20	818
5	812	21	818
6	814	22	818
7	814	23	818
8	812	24	819
9	817	25	818
10	816	26	819
11	811	27	819
12	814	28	819
13	814	29	820
14	817	30	819
15	817	31	819
16	817		

**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: 11/02/99  
 Completed by: J. S. Ashley  
 Telephone: (757) 365-2161

MONTH: October 1999

<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>	<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>
1	823	17	821
2	822	18	820
3	822	19	823
4	822	20	824
5	823	21	824
6	824	22	823
7	815	23	823
8	825	24	824
9	822	25	825
10	822	26	824
11	823	27	825
12	825	28	823
13	825	29	811
14	820	30	822
15	822	31	822
16	821		

**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 1999

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:

10/01/99	0000	Unit started the month at 100% / 845 MWe.
10/11/99	0505	Tagged out and removed from service 1-CW-E-1A. Generator output 839 MWe.
10/11/99	1515	1-CW-E-1A returned to service. Generator output 851 MWe.
10/31/99	2400	Unit finished the month at 100% / 853 MWe.

### UNIT TWO:

10/01/99	0000	Unit started the month at 100% / 854 MWe.
10/29/99	0911	Commenced ramp down to 90% to perform 2-OSP-TM-001.
10/29/99	0955	Stopped ramp at 91% to adjust IRPIs in "D" bank.
10/29/99	1203	Commenced ramp up to 100%.
10/29/99	1225	Stopped ramp at 96% to adjust IRPIs.
10/29/99	1248	IRPI adjustment complete. Commenced ramp to 100%.
10/29/99	1330	Unit at 100% / 852 MWe.
10/31/99	2400	Unit finished the month at 100% / 854 MWe.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: October 1999

DCP 93-038 FS 99-033 FS 99-034	<b>Design Change Package UFSAR Change Requests</b> (Safety Evaluation 97-084 Rev. 1)	09/27/99
	Work Scope Addition 11 to Design Change Package 93-038, "Standing MI Abandoned in Place Equipment/Surry/Unit 1&2", will disconnect and abandon in place the equipment associated with the Decay Heat Release Subsystem.	
DCP 99-078	<b>Design Change Package</b> (Safety Evaluation 99-092)	09/30/99
	Design Change Package 99-078, "Low Head SI Pump Recirc Line Penetrations/Surry/Unit 1", proposed a hole through the outer wall of both Low Head Safety Injection (LHSI) pump cubicles to pass new LHSI pump recirculation lines.	
FS 99-022	<b>UFSAR Change Request</b> (Safety Evaluation 99-093)	10/07/99
	As a result of the Integrated Configuration Management Project review, UFSAR Change Request FS 99-022 contains corrections and clarifications to the UFSAR sections that discuss Surry's component cooling (CC) water system. They include clarification of component activities, correct description of components, and more precise characterization of equipment. These changes are to enhance accuracy and do not affect any CC system or structure, or any of its component's operation or performance.	
FS 99-041	<b>UFSAR Change Request</b> (Safety Evaluation 99-094)	10/14/99
	As a result of the Integrated Configuration Management Project review, UFSAR Change Request FS 99-041 contains corrections and clarifications to the UFSAR sections that discuss Surry's chemical and volume control (CVCS) and residual heat removal (RHR) systems. They include clarification of component activities, correct description of components, and more precise characterization of equipment. These changes are to enhance accuracy and do not affect any CVCS or RHR system or structure, or any of its component's operation or performance.	
FS 99-045	<b>UFSAR Change Request</b> (Safety Evaluation 99-095)	10/14/99
	UFSAR Change Request FS 99-045 exempts the high head safety injection, normal charging, loop fill, low head safety injection and outside recirculation spray pumps containment suction penetrations from Local Leak Rate Testing or Type C Testing based on the fluid conditions in the piping.	

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

**MONTH/YEAR:** October 1999

FS 99-039	<b>UFSAR Change Request</b> (Safety Evaluation 99-097)	10/28/99
<p>As a result of the Integrated Configuration Management Project review, UFSAR Change Request FS 99-039 contains corrections and clarifications to the UFSAR sections that discuss Surry's containment systems. They include clarification of component activities, correct description of testing and components, and more precise characterization of equipment. These changes are to enhance accuracy and do not affect any containment system or structure, or any of its component's operation or performance.</p>		
SE 99-100	<b>Safety Evaluation</b>	10/28/99
<p>Safety Evaluation 99-100 allows use of the <i>Safety Monitor</i><sup>TM</sup> that will provide quantitative estimates of the risk increase resulting from removing components from service, as required by 10CFR50.65 (the Maintenance Rule). This model will supplement both the previously installed model and the current VPAP-2805 Shutdown Risk Program.</p>		

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

**MONTH/YEAR: October 1999**

1/2-MOP-EP-001 1/2-MOP-EP-002 1/2-MOP-EP-003 1/2-MOP-EP-004 TSI-015A, 015B	<b>Maintenance Operating Procedures Technical Specification Interpretations</b> (Safety Evaluation 99-057, Rev. 2)	10/05/99
	<p>Based on an integrated review of the DC system, a preliminary engineering evaluation indicates two battery chargers are required for each battery (which is more restrictive than the Technical Specifications requirement of one charger per battery). Therefore, a 24 hour Administrative Clock was established in the event that a station battery charger is removed from service. Revision 2 of Safety Evaluation 99-057 includes the reference to the electrical requirements of the Auxiliary Feedwater cross-connect described in Technical Specification 3.6.</p> <p>This administrative requirement will be maintained pending the results of an on-going Engineering evaluation. If it is determined two chargers are necessary, a Technical Specifications change will be initiated. If results determine one charger is necessary, the administrative requirement will be deleted. Since this administrative requirement is more restrictive than the current license requirement, an unreviewed safety question does not exist. Annunciator Response Procedures and Maintenance Operating Procedures were changed and Technical Specification Interpretation 015A and 15B were initiated to impose this technical requirement.</p>	
1/2-OP-CP-005	<b>Operating Procedures</b> (Safety Evaluation 99-096)	10/18/99
	<p>Operating Procedures 1/2-OP-CP-005, "Resin Transfer from Unit 1/2 Resin Mix Tank 1/2-CP-TK-10 to Unit 1/2 Resin Separator Feed Tank 1/2-CP-TK-26" install a temporary modification to allow the opening of 1/2-CP-AOV-238 to allow the transfer of resin from the Mix Tank to the Separator Feed Tank.</p>	
0-MCM-1411-12	<b>Mechanical Corrective Maintenance Procedure</b> (Safety Evaluation 99-098)	10/28/99
	<p>Mechanical Corrective Maintenance Procedure 0-MCM-1411-12, "Main Turbine EHC System Flush and Restoration", installs a temporary modification to allow the deenergizing of the electric turbine overspeed solenoid and the turbine trip solenoids to latch the turbine during post flush system set-up if conditions require.</p>	

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

**MONTH/YEAR:** October 1999

None during the Reporting Period

**CHEMISTRY REPORT**

MONTH/YEAR: October 1999

Primary Coolant Analysis	Unit No. 1			Unit No. 2		
	Max.	Min.	Avg.	Max.	Min.	Avg.
Gross Radioactivity, $\mu\text{Ci/ml}$	3.58E-1	2.01E-1	2.55E-1	1.88E-1	1.14E-1	1.54E-1
Suspended Solids, ppm	-	-	-	-	-	-
Gross Tritium, $\mu\text{Ci/ml}$	6.08E-1	6.06E-1	6.07E-1	6.07E-1	4.82E-1	5.40E-1
$^{131}\text{I}$ , $\mu\text{Ci/ml}$	4.81E-4	3.57E-4	4.33E-4	$\leq 8.90\text{E-5}$	$\leq 4.53\text{E-5}$	$\leq 7.48\text{E-5}$
$^{131}\text{I}/^{133}\text{I}$	0.08	0.06	0.07	$\leq 0.23$	$\leq 0.10$	$\leq 0.18$
Hydrogen, cc/kg	38.3	35.3	37.0	40.4	33.6	37.1
Lithium, ppm	2.31	2.05	2.15	2.32	2.07	2.21
Boron - 10, ppm*	105.45	85.85	96.30	200.70	185.81	192.44
Oxygen, (DO), ppm	$\leq 0.005$	$\leq 0.005$	$\leq 0.005$	$\leq 0.005$	$\leq 0.005$	$\leq 0.005$
Chloride, ppm	0.010	0.006	0.008	0.007	0.003	0.006
pH @ 25 degree Celsius	7.05	6.93	6.99	6.63	6.50	6.57

\* Boron - 10 = Total Boron x 0.196

Comments:

None

**FUEL HANDLING  
UNITS 1 & 2**

**MONTH/YEAR:** October 1999

<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 1999

None during the Reporting Period