

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

December 10, 1999

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

Serial No. 99-608  
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 November 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

*JEAY*

*ROR ADDL 05000280*

**VIRGINIA ELECTRIC AND POWER COMPANY  
SURRY POWER STATION  
MONTHLY OPERATING REPORT  
REPORT NO. 99-11**

Approved:  12/10/99  
Site Vice President Date

**TABLE OF CONTENTS**

<b>Section</b>	<b>Page</b>
Operating Data Report - Unit No. 1 .....	3
Operating Data Report - Unit No. 2.....	4
Unit Shutdowns and Power Reductions - Unit No. 1.....	5
Unit Shutdowns and Power Reductions - Unit No. 2.....	6
Average Daily Unit Power Level - Unit No. 1.....	7
Average Daily Unit Power Level - Unit No. 2.....	8
Summary of Operating Experience - Unit Nos. 1 and 2 .....	9
Facility Changes That Did Not Require NRC Approval.....	10
Procedure or Method of Operation Changes That Did Not Require NRC Approval.....	12
Tests and Experiments That Did Not Require NRC Approval.....	13
Chemistry Report .....	14
Fuel Handling - Unit Nos. 1 and 2.....	15
Description of Periodic Test(s) Which Were Not Completed Within the Time Limits Specified in Technical Specifications.....	16

**OPERATING DATA REPORT**

Docket No.: 50-280  
 Date: 12/01/99  
 Completed By: R. Stief  
 Telephone: (757) 365-2486

- 1. Unit Name: ..... Surry Unit 1
- 2. Reporting Period: ..... November 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	720.0	8016.0	236160.0
12.	Hours Reactor Was Critical	720.0	8016.0	169332.5
13.	Reactor Reserve Shutdown Hours	0.0	0.0	3774.5
14.	Hours Generator On-Line	720.0	8016.0	166787.4
15.	Unit Reserve Shutdown Hours	0.0	0.0	3736.2
16.	Gross Thermal Energy Generated (MWH)	1830920.4	20355616.8	394546574.3
17.	Gross Electrical Energy Generated (MWH)	609886.0	6744323.0	129514479.0
18.	Net Electrical Energy Generated (MWH)	589183.0	6506636.0	123493240.0
19.	Unit Service Factor	100.0%	100.0%	70.6%
20.	Unit Availability Factor	100.0%	100.0%	72.2%
21.	Unit Capacity Factor (Using MDC Net)	102.2%	101.3%	67.1%
22.	Unit Capacity Factor (Using DER Net)	103.8%	103.0%	66.4%
23.	Unit Forced Outage Rate	0.0%	0.0%	13.8%

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: 12/01/99  
 Completed By: R. Stief  
 Telephone: (757) 365-2486

- 1. Unit Name: ..... Surry Unit 2
- 2. Reporting Period: ..... November 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	720.0	8016.0	233041.0
12.	Hours Reactor Was Critical	720.0	6874.8	166785.1
13.	Reactor Reserve Shutdown Hours	0.0	0.0	328.1
14.	Hours Generator On-Line	720.0	6750.9	164644.4
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	1832386.8	16339036.7	390134685.7
17.	Gross Electrical Energy Generated (MWH)	614560.0	5448165.0	127996058.0
18.	Net Electrical Energy Generated (MWH)	594391.0	5258638.0	122080665.0
19.	Unit Service Factor	100.0%	84.2%	70.7%
20.	Unit Availability Factor	100.0%	84.2%	70.7%
21.	Unit Capacity Factor (Using MDC Net)	103.1%	81.9%	66.9%
22.	Unit Capacity Factor (Using DER Net)	104.8%	83.3%	66.5%
23.	Unit Forced Outage Rate	0.0%	3.5%	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: November 1999**

Docket No.: 50-280  
Unit Name: Surry Unit 1  
Date: 12/01/99  
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: November 1999

Docket No.: 50-281  
Unit Name: Surry Unit 2  
Date: 12/01/99  
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: 12/01/99  
 Completed by: J. S. Ashley  
 Telephone: (757) 365-2161

MONTH: November 1999

<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>	<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>
1	819	17	818
2	820	18	819
3	819	19	818
4	819	20	819
5	813	21	819
6	818	22	816
7	819	23	818
8	819	24	819
9	819	25	820
10	820	26	819
11	820	27	817
12	819	28	815
13	820	29	818
14	820	30	817
15	819		
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: 12/01/99  
Completed by: J. S. Ashley  
Telephone: (757) 365-2161

MONTH: November 1999

<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>	<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>
1	820	17	828
2	805	18	828
3	811	19	829
4	825	20	828
5	826	21	828
6	827	22	828
7	827	23	827
8	828	24	827
9	827	25	827
10	826	26	827
11	826	27	827
12	826	28	827
13	826	29	827
14	827	30	827
15	827		
16	828		

**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: November 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:**


11/01/99	0000	Unit started the month at 100% / 850 MWe.
11/05/99	0902	Commenced ramp down to 90% to perform 1-OSP-TM-001.
11/05/99	0939	Stopped ramp for IRPI adjustment. Unit at 93% / 784 MWe.
11/05/99	1005	Stopped ramp at 90% / 770 MWe.
11/05/99	1058	1-OSP-TM-001 completed SAT. Commence ramp up.
11/05/99	1251	Unit at 100% / 850 MWe.
11/30/99	2400	Unit finished the month at 100% / 848 MWe.

**UNIT Two:**

11/01/99	0000	Unit started the month at 100% / 854 MWe.
11/30/99	2400	Unit finished the month at 100% / 856 MWe.

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

**MONTH/YEAR: November 1999**

<b>DCP 99-050 FS 99-019</b>	<b>Design Change Package UFSAR Change Request (Safety Evaluation 99-078)</b>	<b>08/11/99</b>
	<p>Design Change Package 99-050, "Steam Generator PORV Appendix "R" Local Control Mods/Surry/Unit 1&amp;2", modified the Steam Generator Power Operated Relief Valves (PORV) to allow local operation of the valves to support cooldown during an Appendix "R" event.</p>	
<b>FS 98-042</b>	<b>UFSAR Change Request (Safety Evaluation 99-102)</b>	<b>11/04/99</b>
	<p>As a result of the Integrated Configuration Management Project review, UFSAR Change Request FS 98-042 contains corrections and clarifications to the UFSAR sections that discuss Surry's safety injection (SI) system. They include clarification of component activities, correct description of components, and more accurate reflection of current design. These changes are to enhance accuracy and do not affect any SI system or structure, or any of its component's operation or performance.</p>	
<b>TM S1-99-007</b>	<b>Temporary Modification (Safety Evaluation 99-103)</b>	<b>11/05/99</b>
	<p>Temporary Modification S1-99-007 installed an air regulator that allows local manual operator action to position valve 1-BC-TCV-101. This valve controls bearing cooling flow through the turbine lube oil coolers and is currently isolated due to a faulty valve actuator.</p>	
<b>TM S2-99-011</b>	<b>Temporary Modification (Safety Evaluation 99-104)</b>	<b>11/09/99</b>
	<p>Pressurizer spray valve controller 02-RC-PC-2444D is intermittently failing to zero output in automatic. Temporary Modification S2-99-011 defeats the automatic function and allows Unit 2 operation with the controller in manual.</p>	
<b>FS 99-027</b>	<b>UFSAR Change Request (Safety Evaluation 99-108)</b>	<b>11/18/99</b>
	<p>As a result of the Integrated Configuration Management Project review, UFSAR Change Request FS 99-027 contains corrections and clarifications to the UFSAR sections that discuss Surry's fire protection (FP) system. They include clarification of component activities, correcting inaccuracies, and more precise characterization of equipment. These changes are to enhance accuracy and do not affect any FP system or structure, or any of its component's operation or performance.</p>	
<b>SE 99-111</b>	<b>Safety Evaluation</b>	<b>11/24/99</b>
	<p>Safety Evaluation 99-111 allows the replacement of the non Y2K-ready Outage Shutdown Safety Assessment (OSSA) code with the currently used Outage Risk Assessment Management (ORAM) code for performing outage safety evaluations in compliance with the requirements of VPAP-2805, "Shutdown Risk Program".</p>	

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

**MONTH/YEAR: November 1999**

<b>TM S2-99-012</b>	<b>Temporary Modification (Safety Evaluation 99-112)</b>	<b>11/30/99</b>
	<p>Temporary Modification S2-99-012 replaced a non-functional Panametrics dewpoint sensor on the Unit 2 main generator hydrogen dryer skid with a Kahn dewpoint sensor. The Kahn sensor utilizes a display meter that provides a digital readout of the hydrogen dewpoint.</p>	
<b>1/2-DRP-021 FS 99-060</b>	<b>Design Reference Procedures UFSAR Change Request (Safety Evaluation 99-106)</b>	<b>11/17/99</b>
	<p>Design Reference Procedures 1/2-DRP-021, "Core Operating Limits Report (COLR)" were changed to reflect a change in the local peaking factor (FQ) limit at rated power specified in the COLR from 2.32 to 2.20. UFSAR Change Request 99-060 revises Sections 14.5.1 and 14.5.2 to incorporate a summary of the peak cladding temperature (PCT) penalties and benefits for the large break and small break loss of coolant accident (LOCA) which are reported per 10CFR50.46 requirements. The incorporation of a lower value for the FQ limit into the Surry Units 1 and 2 COLRs is necessary to accommodate effects of a Westinghouse large break LOCA code error and ensure compliance with acceptance criterion in 10CFR50.46(b)(1).</p>	

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

**MONTH/YEAR: November 1999**

<b>0-OPT-VS-003, 004, 005</b>	<b>Operations Periodic Test Procedures</b>	<b>11/17/99</b>
<b>0-OP-VS-014</b>	<b>Operating Procedure</b>	
<b>0-OSP-VS-004, 007</b>	<b>Operations Surveillance Procedures (Safety Evaluation 99-107)</b>	

Operations Periodic Test Procedures 0-OPT-VS-003, "Control Room Air Filtration System Test", 0-OPT-VS-004, "Control Room Air Filtration System Flow Test" and 0-OPT-VS-005, "Control Room Leakage Test", Operating Procedure 0-OP-VS-014, "Main Control Room Emergency Ventilation System" and Operations Surveillance Procedures 0-OSP-VS-004, "Control Room and Relay Room Operational Pressure Test" and 0-OSP-VS-007, "Control Room Envelope Sequential System Pressure Test" were changed to give operators the administrative control to secure the main control room emergency fans in the event of a safety injection or control room air bottle discharge initiation.

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

**MONTH/YEAR: November 1999**

**None during the Reporting Period**

**CHEMISTRY REPORT**

**MONTH/YEAR: November 1999**

Primary Coolant Analysis	Unit No. 1			Unit No. 2		
	Max.	Min.	Avg.	Max.	Min.	Avg.
Gross Radioactivity, $\mu\text{Ci/ml}$	4.62E-1	2.04E-1	3.08E-1	2.64E-1	1.43E-1	2.06E-1
Suspended Solids, ppm	-	-	-	-	-	-
Gross Tritium, $\mu\text{Ci/ml}$	6.02E-1	5.14E-1	5.56E-1	7.11E-1	6.33E-1	6.81E-1
$^{131}\text{I}$ , $\mu\text{Ci/ml}$	5.69E-4	3.90E-4	4.51E-4	$\leq 1.23\text{E-4}$	$\leq 6.62\text{E-5}$	$\leq 9.13\text{E-5}$
$^{131}\text{I}/^{133}\text{I}$	0.09	0.06	0.07	$\leq 0.33$	$\leq 0.16$	$\leq 0.21$
Hydrogen, cc/kg	38.1	36.9	37.3	41.2	36.6	38.6
Lithium, ppm	2.31	2.08	2.17	2.34	2.06	2.20
Boron - 10, ppm*	85.1	66.4	76.2	186.0	172.1	178.8
Oxygen, (DO), ppm	$\leq 0.005$	$\leq 0.005$	$\leq 0.005$	$\leq 0.005$	$\leq 0.005$	$\leq 0.005$
Chloride, ppm	0.008	0.004	0.006	0.007	0.004	0.006
pH @ 25 degree Celsius	7.29	6.95	7.10	6.81	6.44	6.60

\* Boron - 10 = Total Boron x 0.196

Comments:

None

**FUEL HANDLING  
UNITS 1 & 2**

**MONTH/YEAR: November 1999**

<b>New Fuel Shipment or Cask No.</b>	<b>Date Stored or Received</b>	<b>Number of Assemblies per Shipment</b>	<b>Assembly Number</b>	<b>ANSI Number</b>	<b>Initial Enrichment</b>	<b>New or Spent Fuel Shipping Cask Activity</b>
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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: November 1999**

**None during the Reporting Period**