

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261
August 11, 1999

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

Serial No. 99-410
SPS Lic/JSA R0
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

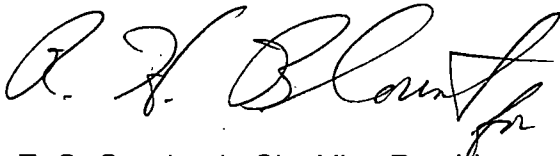
Gentlemen:

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 July 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

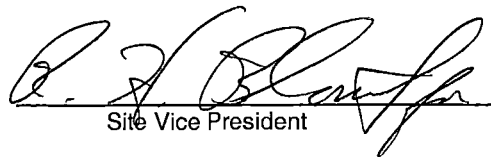
Mr. R. A. Musser
NRC Senior Resident Inspector
Surry Power Station

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**VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION
MONTHLY OPERATING REPORT
REPORT No. 99-07**

Approved:


Site Vice President

8/14/99
Date

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OPERATING DATA REPORT

Docket No.: 50-280
 Date: 08/02/99
 Completed By: R. Stief
 Telephone: (757) 365-2486

- 1. Unit Name: Surry Unit 1
- 2. Reporting Period: July 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: _____

	<u>This Month</u>	<u>Year-To-Date</u>	<u>Cumulative</u>
11. Hours in Reporting Period	744.0	5087.0	233231.0
12. Hours Reactor Was Critical	744.0	5087.0	166403.5
13. Reactor Reserve Shutdown Hours	0.0	0.0	3774.5
14. Hours Generator On-Line	744.0	5087.0	163858.4
15. Unit Reserve Shutdown Hours	0.0	0.0	3736.2
16. Gross Thermal Energy Generated (MWH)	1883592.0	12937305.7	387128263.2
17. Gross Electrical Energy Generated (MWH)	617382.0	4290648.0	127060804.0
18. Net Electrical Energy Generated (MWH)	592823.0	4137950.0	121124554.0
19. Unit Service Factor	100.0%	100.0%	70.3%
20. Unit Availability Factor	100.0%	100.0%	71.9%
21. Unit Capacity Factor (Using MDC Net)	99.5%	101.6%	66.6%
22. Unit Capacity Factor (Using DER Net)	101.1%	103.2%	65.9%
23. Unit Forced Outage Rate	0.0%	0.0%	14.0%

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 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: 08/02/99
 Completed By: R. Stief
 Telephone: (757) 365-2486

- 1. Unit Name: Surry Unit 2
- 2. Reporting Period: July 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: _____

	This Month	Year-To-Date	Cumulative
11. Hours in Reporting Period	744.0	5087.0	230112.0
12. Hours Reactor Was Critical	502.3	3945.8	163856.1
13. Reactor Reserve Shutdown Hours	0.0	0.0	328.1
14. Hours Generator On-Line	496.4	3821.9	161715.4
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	1238455.9	8989590.1	382785239.1
17. Gross Electrical Energy Generated (MWH)	405470.0	3004950.0	125552843.0
18. Net Electrical Energy Generated (MWH)	391158.0	2897467.0	119719494.0
19. Unit Service Factor	66.7%	75.1%	70.3%
20. Unit Availability Factor	66.7%	75.1%	70.3%
21. Unit Capacity Factor (Using MDC Net)	65.6%	71.1%	66.5%
22. Unit Capacity Factor (Using DER Net)	66.7%	72.3%	66.0%
23. Unit Forced Outage Rate	33.3%	6.1%	11.2%

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 Start-up: _____

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

	FORECAST	ACHIEVED
INITIAL CRITICALITY		
INITIAL ELECTRICITY		
COMMERCIAL OPERATION		

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

REPORT MONTH: July 1999

Docket No.: 50-280
 Unit Name: Surry Unit 1
 Date: 08/02/99
 Completed by: J. R. Pincus
 Telephone: (757) 365-2863

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
07/10/99	S	19H 32M	B	N/A	N/A	SG	COND	Clean condenser waterbox

(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: July 1999

Docket No.: 50-281
 Unit Name: Surry Unit 2
 Date: 08/02/99
 Completed by: J. R. Pincus
 Telephone: (757) 365-2863

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
07/05/99	F	247H 33M	A	3	S2-1999-003	AB	ISV	2-RC-MOV-2591 disc separated from stem
07/31/99	S	18H 48M	B	N/A	N/A	SG	COND	Clean condenser waterbox

(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
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 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: 08/02/99
 Completed by: J. S. Ashley
 Telephone: (757) 365-2161

MONTH: July 1999

Day	Average Daily Power Level (MWe - Net)	Day	Average Daily Power Level (MWe - Net)
1	808	17	812
2	808	18	811
3	806	19	809
4	804	20	809
5	793	21	809
6	786	22	806
7	790	23	806
8	792	24	807
9	792	25	808
10	756	26	806
11	679	27	806
12	805	28	806
13	788	29	804
14	790	30	805
15	789	31	803
16	810		

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: 08/06/99
 Completed by: J. S. Ashley
 Telephone: (757) 365-2161

MONTH: July 1999

Day	Average Daily Power Level (MWe - Net)	Day	Average Daily Power Level (MWe - Net)
1	812	17	810
2	813	18	810
3	810	19	811
4	808	20	809
5	382	21	809
6	0	22	807
7	0	23	805
8	0	24	807
9	0	25	807
10	0	26	805
11	0	27	803
12	0	28	801
13	0	29	799
14	0	30	800
15	50	31	656
16	684		

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: July 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:

07/01/99	0000	Unit started the month at 100% / 844 MWe.
07/10/99	1855	Commenced ramp down to maintain condenser vacuum, Unit at 100% / 822 MWe.
07/10/99	2152	Stopped ramp, Unit at 75% / 586 MWe.
07/11/99	1115	Commenced ramp to 100%, Unit at 76% / 630 MWe.
07/11/99	1247	Stopped ramp for IRPI adjustment, Unit at 98% / 805 MWe.
07/11/99	1325	Recommended ramp to 100%.
07/11/99	1422	Unit at 100% / 825 MWe.
07/31/99	2400	Unit finished the month at 100% / 837 MWe.

UNIT TWO:

07/01/99	0000	Unit started the month at 100% / 845 MWe.
07/05/99	1121	Unit trip due to "A" loop stop valve disc separation from stem.
07/15/99	1213	Commenced Reactor startup.
07/15/99	1303	Reactor critical.
07/15/99	1854	Unit on-line, commenced ramp up.
07/15/99	1950	Stopped ramp, Unit at 30% / 205 MWe.
07/15/99	2106	Recommended ramp, Unit at 30% / 205 MWe.
07/16/99	0211	Stopped ramp, Unit at 53% / 400 MWe.
07/16/99	0251	Recommended ramp, Unit at 53% / 400 MWe.
07/16/99	0434	Stopped ramp, Unit at 75% / 640 MWe.
07/16/99	0604	Recommended ramp to 91%.
07/16/99	0702	Stopped ramp, Unit at 90% / 760 MWe.
07/16/99	1426	Recommended ramp to 96%.
07/16/99	1445	Unit at 96% / 815 MWe.
07/16/99	1955	Commenced ramp to 100%, Unit at 96.5% / 815 MWe.
07/16/99	2208	Unit at 100% / 840 MWe.
07/31/99	0407	Commenced ramp down for waterbox scraping. Unit at 100% / 820 MWe.
07/31/99	0441	Stopped ramp, Unit at 94% / 765 MWe.
07/31/99	0627	Recommended ramp, Unit at 94% / 765 MWe.
07/31/99	0754	Unit at 81% / 655 MWe.
07/31/99	2040	Commenced ramp up, Unit at 72% / 590 MWe.

UNIT TWO (CONT):

07/31/99	2140	Stopped ramp, Unit at 88% / 740 MWe.
07/31/99	2204	Recommenced ramp, Unit at 88% / 740 MWe.
07/31/99	2255	Unit at 100% / 832 MWe.
07/31/99	2400	Unit finished the month at 99% / 825 MWe.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: July 1999

DCP 92-028-3	Design Change Package (Safety Evaluation 97-010, Rev. 1)	10/25/97
	Design Change Package 92-028-3, "Replacement of Radiation Monitoring Recorders and Ratemeters", replaced remaining Radiation Monitoring (RM) equipment and re-arranged RM cabinets to conform to human performance criteria. Revision 1 of Safety Evaluation 97-010 added "Fail Safe" control logic under loss of power conditions or other failures detected by the ratemeter.	
DCP 99-031	Design Change Package (Safety Evaluation 99-047, Rev. 1)	07/01/99
	Design Change Package 99-031, "Trial Chemical Injection of Circ Water System", evaluates the effectiveness of chemically treating the Circulating Water (CW) system to control biofouling of the Unit 1 condensers. Revision 1 of Safety Evaluation 99-047 expanded the chemical treatment to both Unit 1 condensers.	
FS 99-020	UFSAR Change Request (Safety Evaluation 99-060)	07/01/99
	UFSAR Change Request FS 99-020 allows the use of a portable Passive Autocatalytic Recombiner system to maintain the Hydrogen concentration in the containment structure below 0.8% volume during non-accident conditions.	
TM S2-99-005	Temporary Modification (Safety Evaluation 99-061)	07/01/99
	Temporary Modification S2-99-005 was used to bypass the bearing lift oil pressure anti-start interlock in the Main Turbine Turning Gear motor circuitry to allow periodic rotation of the turbine rotor using the turning gear.	
FS 99-001	UFSAR Change Request (Safety Evaluation 99-062)	07/01/99
	As a result of the Integrated Configuration Management Project review, UFSAR Change Request FS 99-001 contains corrections and clarifications to the UFSAR sections that discuss Surry's Reactor Coolant System. These changes are to enhance accuracy and do not affect any reactor coolant system or structure, or any of its component's operation or performance.	
FS 99-018 TS 346 (Basis Only)	UFSAR Change Request Technical Specification Change Request (Safety Evaluation 99-063)	07/01/99
	As a result of the Integrated Configuration Management Project review, UFSAR Change Request FS 99-018 updates Tables 4.1-14 and 4.1-15 to match the latest information provided to the NRC. Technical Specification Change Request TS 346 (Basis Only) deletes two tables from TS basis and changes the basis to reference the UFSAR tables.	

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: July 1999

TRM Rev. 0
FS 99-023**Technical Requirements Manual
UFSAR Change Request**
(Safety Evaluation 99-064)

07/01/99

This initial issuance of the Surry Technical Requirements Manual (TRM) is considered an administrative change and will relocate existing Fire Protection System technical requirements from the UFSAR to the TRM. The TRM will provide operational convenience by placing, and later consolidating, certain technical requirements in this licensee controlled document.

FS 98-036

UFSAR Change Request
(Safety Evaluation 99-066)

07/08/99

UFSAR Change Request FS 98-036 permits the addition of a dilute ammonium chloride solution either in place of, or in conjunction with, selective anion resin regenerations to maintain the steam generator sodium to chloride molar ratio within the recommended operating range to minimize the potential for corrosion.

TM S1-99-006

Temporary Modification
(Safety Evaluation 99-067)

07/09/99

Failure of one or both of the cooling fans for the power controller of the Pressurizer proportional heaters causes a switch to actuate that reduces the heaters to "minimum" output and could lead to an unplanned pressure transient and/or Unit 1 shutdown. Temporary Modification S1-99-006 defeats the over temperature protection circuit in the power controller for the Pressurizer proportional heaters and installs a temporary cooling fan.

TM S2-99-007

Temporary Modification
(Safety Evaluation 99-068 Rev. 0, Rev. 1)

07/09/99

Temporary Modification S2-99-007 allows operation of Unit 2 reactor with the internals of T-cold loop stop valve removed. Revision 1, of the Safety Evaluation dated July 12, 1999, addresses the valve being left fully open by motor and limit switch position.

TM S2-99-008

Temporary Modification
(Safety Evaluation 99-070)

07/19/99

During the Spring, 1999 Unit 2 refueling outage, the manipulator crane gripper and the spent fuel long handling tool were modified to allow movement of fuel assemblies with damaged top nozzle guide holes. Temporary Modification S2-99-008 allows the moving of one of the damaged fuel assemblies that is having its top nozzle replaced using the modified tool.

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

MONTH/YEAR: July 1999

2B-62/H-6
2-OP-RC-005

**Annunciator Response Procedure
Operating Procedure**
(Safety Evaluation 99-065)

07/07/99

Annunciator Response Procedure 2B-62/H6, "RHR HX OUT HI Temp" and Operating Procedure 2-OP-RC-005, "Draining the RCS From Flange Level to Mid-Nozzle (Reduced Inventory)", were temporarily modified to lower the RHR Heat Exchanger Outlet High Temperature Alarm Setpoint to provide the operator with prompt indication of RCS heatup during reduced inventory.

0-MOP-BR-001

Maintenance Operating Procedure
(Safety Evaluation 99-073)

07/29/99

Maintenance Operating Procedure 0-MOP-BR-001, "Replacing 1-BR-RV-109 and 1-BR-RV-108", was revised to allow the directing of primary grade water into the Boron Recovery system's tanks to help evacuate hydrogen gas. The combustible hydrogen gas must be purged in order to replace two relief valves.

TESTS AND EXPERIMENTS THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: July 1999

None during the Reporting Period

CHEMISTRY REPORT

MONTH/YEAR: July 1999

Primary Coolant Analysis	Unit No. 1			Unit No. 2		
	Max.	Min.	Avg.	Max.	Min.	Avg.
Gross Radioactivity, $\mu\text{Ci/ml}$	3.30E-1	1.92E-1	2.56E-1	2.20E-1	3.19E-3	1.25E-1
Suspended Solids, ppm	-	-	-	0.25	0.01	0.13
Gross Tritium, $\mu\text{Ci/ml}$	1.04E+0	9.15E-1	9.69E-1	3.31E-1	6.38E-2	1.55E-1
^{131}I , $\mu\text{Ci/ml}$	5.78E-4	2.14E-4	3.96E-4	$\leq 1.62\text{E-}4$	$\leq 5.93\text{E-}5$	$\leq 8.73\text{E-}5$
$^{131}\text{I}/^{133}\text{I}$	0.1	0.05	0.07	≤ 0.37	≤ 0.16	≤ 0.26
Hydrogen, cc/kg	38.9	35.8	36.9	35	2.6	17.4
Lithium, ppm	2.33	2.08	2.2	3.15	0.21	2.01
Boron - 10, ppm*	168.86	145.43	154.01	454.92	226.58	322.16
Oxygen, (DO), ppm	≤ 0.005	≤ 0.005	≤ 0.005	0.35	≤ 0.005	≤ 0.022
Chloride, ppm	0.022	0.01	0.017	0.01	0.003	0.007
pH @ 25 degree Celsius	6.78	6.68	6.74	6.53	5.09	5.94

* Boron - 10 = Total Boron x 0.196

Comments:

None

**FUEL HANDLING
UNITS 1 & 2**

MONTH/YEAR: July 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: July 1999

None during the Reporting Period