VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

January 15, 1999

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

Serial No. 99-014
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 December 1998 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

220012

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. 98-12

Approved: _____ 1/15/99
Site Vice President Date

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OPERATING DATA REPORT

Docket No.: 50-280
Date: 01/05/99
Completed By: R. Stief
Telephone: (757) 365-2486

1. Unit Name: ..... Surry Unit 1
2. Reporting Period: ..... December 1998
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	8760.0	228144.0
12.	Hours Reactor Was Critical	744.0	7290.7	161316.5
13.	Reactor Reserve Shutdown Hours	0.0	0.0	3774.5
14.	Hours Generator On-Line	744.0	7171.9	158771.4
15.	Unit Reserve Shutdown Hours	0.0	0.0	3736.2
16.	Gross Thermal Energy Generated (MWH)	1886586.2	17945941.9	374190957.5
17.	Gross Electrical Energy Generated (MWH)	630011.0	5954402.0	122770156.0
18.	Net Electrical Energy Generated (MWH)	608849.0	5752383.0	116986604.0
19.	Unit Service Factor	100.0%	81.9%	69.6%
20.	Unit Availability Factor	100.0%	81.9%	71.2%
21.	Unit Capacity Factor (Using MDC Net)	102.2%	82.0%	65.8%
22.	Unit Capacity Factor (Using DER Net)	103.9%	83.3%	65.1%
23.	Unit Forced Outage Rate	0.0%	6.9%	14.4%

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		

OPERATING DATA REPORT

Docket No.: 50-281
Date: 01/05/99
Completed By: R. Stief
Telephone: (757) 365-2486

1. Unit Name: ..... Surry Unit 2
2. Reporting Period: ..... December 1998
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	8760.0	225025.0
12.	Hours Reactor Was Critical	744.0	8760.0	159910.3
13.	Reactor Reserve Shutdown Hours	0.0	0.0	328.1
14.	Hours Generator On-Line	744.0	8760.0	157893.5
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	1891963.2	22262081.7	373795649.0
17.	Gross Electrical Energy Generated (MWH)	635040.0	7422285.0	122547893.0
18.	Net Electrical Energy Generated (MWH)	613951.0	7178876.0	116822027.0
19.	Unit Service Factor	100.0%	100.0%	70.2%
20.	Unit Availability Factor	100.0%	100.0%	70.2%
21.	Unit Capacity Factor (Using MDC Net)	103.0%	102.3%	66.3%
22.	Unit Capacity Factor (Using DER Net)	104.7%	104.0%	65.9%
23.	Unit Forced Outage Rate	0.0%	0.0%	11.4%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
Refueling, April 19, 1999, 35 Days

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: December 1998

Docket No.: 50-280
Unit Name: Surry Unit 1
Date: 01/01/99
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: December 1998

Docket No.: 50-281
Unit Name: Surry Unit 2
Date: 01/04/99
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: 01/07/99
Completed by: J. S. Ashley
Telephone: (757) 365-2161

MONTH: December 1998

Day	Average Daily Power Level (MWe - Net)	Day	Average Daily Power Level (Mwe - Net)
1	807	17	823
2	812	18	822
3	810	19	819
4	813	20	823
5	812	21	823
6	813	22	822
7	813	23	822
8	812	24	822
9	812	25	823
10	812	26	822
11	820	27	822
12	820	28	822
13	820	29	822
14	823	30	822
15	823	31	822
16	819		

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: 01/07/99
Completed by: J. S. Ashley
Telephone: (757) 365-2161

MONTH: December 1998

Day	Average Daily Power Level (Mwe - Net)	Day	Average Daily Power Level (Mwe - Net)
1	826	17	826
2	826	18	828
3	827	19	827
4	827	20	827
5	822	21	826
6	819	22	825
7	825	23	827
8	824	24	826
9	826	25	827
10	799	26	826
11	827	27	827
12	829	28	826
13	829	29	826
14	827	30	826
15	826	31	827
16	826		

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: December 1998

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:

12/01/98	0000	Unit starts the month at 98.5% / 837 MWe.
12/11/98	0240	Commenced ramp up to 100%.
12/11/98	0313	Unit at 100% / 854 MWe.
12/31/98	2400	Unit finishes the month at 100% / 855 MWe.

UNIT TWO:

12/01/98	0000	Unit starts the month at 100% / 855 MWe.
12/31/98	2400	Unit finishes the month at 100% / 855 MWe.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: December 1998

DCP 91-003 **Design Change Package** 12/16/98
(Safety Evaluation 91-035)

Design Change Package 91-003, "Chemical Injection of Service Water 48" Headers", allows for the injection of sodium hypochlorite (chlorine) into the standby 48" Service Water (SW) headers to eliminate biofouling.

DCP 93-089 **Design Change Package** 12/07/98
(Safety Evaluation 94-160)

Design Change Package 93-089, "High Level Intake Structure Seal Plate Modifications", installs casters on the corners of the seal plates located at the High Level Intake Structure making the seal plates less prone to binding during High Level isolation.

DCP 96-009 **Design Change Package** 12/16/98
(Safety Evaluation 96-030)

Design Change Package 96-009, "Emergency Service Water Pump Modification", replaces Emergency Service Water (ESW) pump 1-SW-P-1A with a spare pump that will require several modifications to accommodate differences in drive shaft diameter, angle drive lube oil cooler, and motor drive.

DCP 97-003 **Design Change Package** 12/16/98
(Safety Evaluation 97-033)

Design Change Package 97-003, "RCP Motor Upper Bearing Oil Level Alarm Modifications", modifies reactor coolant pump (RCP) motor (serial number 2S-76P049) bearing oil system to help prevent erroneous oil level indications in the oil sightglass and from the oil level alarm assemblies.

FS 98-046 **UFSAR Change Request** 12/03/98
(Safety Evaluation 98-127)

UFSAR Change Request FS 98-046 revises section 14.4.2.1 and table 9.1-6 to reflect the new volume control tank (VCT) rupture radiological analysis. The UFSAR VCT rupture radiological analysis assumed a letdown flow rate of 60 gallons per minute with delay of 5 minutes before the VCT is assumed to be isolated. The VCT rupture was re-evaluated using an assumed letdown flow rate of 160 gallons per minute with a delay of 25 minutes. The new analysis is consistent with actual plant operation.

FS 98-050 **UFSAR Change Request** 12/08/98
(Safety Evaluation 98-128)

UFSAR Change Request FS 98-050 changes the test frequency for the Intercept and Reheat Stop Valves from quarterly to every 18 months to eliminate part of the transient placed on the unit when performing the turbine inlet valve freedom test. The changing of the test interval from three months to eighteen months is based on a report provided by Westinghouse dated December 1998 (Evaluation of Turbine Missile Ejection Probability Resulting From Extending The Test Interval of Interceptor and Reheat Stop Valves at Surry Units 1 & 2).

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: December 1998

TM S1-98-026 **Temporary Modification** 12/09/98
(Safety Evaluation 98-129)

Temporary Modification S1-98-026 was used to remove the isolation valve manifold for the "A" Steam Generator Channel IV Main Steam Transmitter, 1-MS-FT-1475, and install a temporary equalizing valve in place of the isolation valve manifold.

TM S1-98-026 **Temporary Modification** 12/10/98
(Safety Evaluation 98-129, Rev. 1)

Temporary Modification S1-98-026 was used to remove the isolation valve manifold for the "A" Steam Generator Channel IV Main Steam Transmitter, 1-MS-FT-1475, and install a temporary equalizing valve in place of the isolation valve manifold. The new temporary valve was to be relabeled with a new mark number. Revision 1 of Safety Evaluation 98-129 eliminated the change to station labeling.

FS 98-026 **UFSAR Change Request** 12/10/98
(Safety Evaluation 98-130)

UFSAR Change Request FS 98-026 corrects the description of initial testing performed to verify the performance of the Recirculation Spray (RS) system. UFSAR Section 6.3.1.5.2 currently states that "the initial test for the recirculation spray subsystem is identical to that for the containment spray subsystem". Based on the results of the RS system integration review performed as part of the Integrated Configuration Management project, the pre-operational testing of the RS system was determined not to be identical to the description of the Containment Spray system. This UFSAR change reflects the actual initial start-up testing performed for the RS system.

FS 98-027 **UFSAR Change Request** 12/10/98
(Safety Evaluation 98-131)

UFSAR Change Request FS 98-027 contains corrections and clarifications to the UFSAR sections that discuss Surry's Containment Spray (CS) system as a result of the Integrated Configuration Management project review of the CS system. These changes are to enhance accuracy and do not affect any CS system or structure, or any of its component's operation or performance.

SE 98-132 **Safety Evaluation** 12/17/98

Safety Evaluation 98-132 evaluates the approximately 200 irradiated fuel assembly insert components (burnable poison rod assemblies, thimble plug assemblies and rod control cluster assemblies) being consolidated and placed in 2 disposable cask liners. Each liner will then be placed in a TN-RAM shipping container and prepared for shipment to Barnwell, S. C. for burial.

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

MONTH/YEAR: December 1998

1-IPT-CC-MS-F-475 — **Instrument Periodic Test Procedure** — 12/03/98
(Safety Evaluation 98-126)

Instrument Periodic Test Procedure, 1-IPT-CC-MS-F-475, "Steam Line Flow Protection Loop F-1-475 Channel Calibration", was changed to contain steps for installation and removal of a Temporary Modification (TM) to bypass inoperable Channel 4 Steam Flow to allow surveillance testing to be performed on channels 1,2,3 and 4 of Unit 1. Technical Specifications compliance will be maintained during this evolution.

0-MOP-BS-001 — **Maintenance Operating Procedure** — 12/21/98
(Safety Evaluation 98-133)

Maintenance Operating Procedure, 0-MOP-BS-001, "Establishing Administrative Control of the Control Room Pressure Boundary", ensures administrative control will be established when Control Room Pressure Boundary doors are open for maintenance or inspection.

1-OP-CN-013 — **Operating Procedure** — 12/22/98
(Safety Evaluation 98-134)

Operating Procedure, 1-OP-CN-013, "Manual Regeneration of Condensate Polishing Resin", was revised for installation of a Temporary Modification (TM) to close valve 1-CP-AOV-141 which will allow the anion resin to be transferred from the anion tank to the cation tank to be regenerated with sulfuric acid to remove chloride impurities which were loaded onto the resin during the recent Unit 1 startup.

0-IPM-RM-G-004&005
CAL-817 — **Instrument Preventive Maintenance Procedures**
Calibration Procedure — 12/22/98
(Safety Evaluation 98-135)

Procedures, 0-IPM-RM-G-004, "Laundry Radiation Monitor RIC-4 Channel Calibration" and 0-IPM-RM-G-005, "Laundry Radiation Monitor RIC-3 Ratemeter Calibration", were developed and procedure Cal-817, "Model 942 Log Ratemeter Scintillation Detector Source Calibration", was revised to install a Temporary Modification (TM) to allow for the calibration, repair and testing of the digital ratemeters without causing their control function to occur.

TESTS AND EXPERIMENTS THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: December 1998

None during the Reporting Period

CHEMISTRY REPORT

MONTH/YEAR: December 1998

Primary Coolant Analysis	Unit No. 1			Unit No. 2		
	Max.	Min.	Avg.	Max.	Min.	Avg.
Gross Radioactivity, µCi/ml	3.50E-1	1.46E-1	2.60E-1	1.69E-1	1.07E-1	1.29E-1
Suspended Solids, ppm	0.010	0.010	0.010	0.010	0.010	0.010
Gross Tritium, µCi/ml	3.13E-1	8.33E-2	2.15E-1	3.78E-1	3.21E-1	3.49E-1
$_{I}131$, µCi/ml	4.42E-4	2.40E-4	3.03E-4	1.07E-4	5.69E-5	8.13E-5
$_{I}131/_{I}133$	0.09	0.04	0.06	0.14	0.07	0.10
Hydrogen, cc/kg	37.1	31.4	34.2	39.5	36.6	37.5
Lithium, ppm	2.54	2.17	2.37	1.96	1.49	1.77
Boron - 10, ppm*	268.5	249.7	257.6	58.0	37.2	47.4
Oxygen, (DO), ppm	≤ 0.005	≤ 0.005	≤ 0.005	≤ 0.005	≤ 0.005	≤ 0.005
Chloride, ppm	0.025	0.012	0.019	0.002	≤ 0.001	0.001
pH @ 25 degree Celsius	6.47	6.05	6.35	7.39	6.90	7.22

* Boron - 10 = Total Boron x 0.196

Comments:

None

FUEL HANDLING
UNITS 1 & 2

MONTH/YEAR: December 1998

New Fuel Shipment or Cask No.	Date Stored or Received	Number of Assemblies per Shipment	Assembly Number	ANSI Number	Initial Enrichment	New or Spent Fuel Shipping Cask Activity
Unit 2 Batch 18 Shipment #1	12/01/98	12	17N	LM170E	4.0939	15.80 Ci
			39N	LM1712	4.2600	
			14N	LM170B	4.0999	
			21N	LM170J	4.1056	
			47N	LM171A	4.2591	
			49N	LM171C	4.2688	
			16N	LM170D	4.0967	
			19N	LM170G	4.1087	
			57N	LM171L	4.2497	
			56N	LM171K	4.2463	
			13N	LM170A	4.1015	
			55N	LM171J	4.2448	
Unit 2 Batch 18 Shipment #2	12/03/98	12	32N	LM170V	4.2632	15.76 Ci
			50N	LM171D	4.2663	
			30N	LM170T	4.2614	
			26N	LM170P	4.1196	
			18N	LM170F	4.1089	

FUEL HANDLING
UNITS 1 & 2

MONTH/YEAR: December 1998

New Fuel Shipment or Cask No.	Date Stored or Received	Number of Assemblies per Shipment	Assembly Number	ANSI Number	Initial Enrichment	New or Spent Fuel Shipping Cask Activity
			12N	LM1709	4.0918	
			25N	LM170N	4.1154	
			22N	LM170K	4.1086	
			44N	LM1717	4.2600	
			04N	LM1701	4.0977	
			34N	LM170X	4.2494	
			11N	LM1708	4.1039	
Unit 2 Batch 18 Shipment #3	12/08/98	12	38N	LM1711	4.2582	15.83 Ci
			08N	LM1705	4.0939	
			24N	LM170M	4.1019	
			36N	LM170Z	4.2498	
			48N	LM171B	4.2583	
			53N	LM171G	4.2421	
			51N	LM171E	4.2600	
			52N	LM171F	4.2684	
			31N	LM170U	4.2636	
			28N	LM170R	4.1012	

FUEL HANDLING
UNITS 1 & 2

MONTH/YEAR: December 1998

New Fuel Shipment or Cask No.	Date Stored or Received	Number of Assemblies per Shipment	Assembly Number	ANSI Number	Initial Enrichment	New or Spent Fuel Shipping Cask Activity
			23N	LM170L	4.1012	
			06N	LM1703	4.1019	
Unit 2 Batch 18 Shipment #4	12/10/98	12	27N	LM170Q	4.1169	15.79 Ci
			15N	LM170C	4.0993	
			40N	LM1713	4.2494	
			29N	LM170S	4.0935	
			05N	LM1702	4.1020	
			10N	LM1707	4.0922	
			37N	LM1710	4.2510	
			02N	LM16ZZ	4.0978	
			33N	LM170W	4.2498	
			54N	LM171H	4.2413	
			45N	LM1718	4.2603	
			43N	LM1716	4.2576	
Unit 2 Batch 18 Shipment #5	12/15/98	9	07N	LM1704	4.1004	11.73 Ci
			03N	LM1700	4.0987	

FUEL HANDLING
UNITS 1 & 2

MONTH/YEAR: December 1998

New Fuel Shipment or Cask No.	Date Stored or Received	Number of Assemblies per Shipment	Assembly Number	ANSI Number	Initial Enrichment	New or Spent Fuel Shipping Cask Activity
			35N	LM170Y	4.2506	
			46N	LM1719	4.2600	
			09N	LM17006	4.0942	
			41N	LM1714	4.2590	
			01N	LM16ZY	3.8272	
			20N	LM170H	4.0939	
			42N	LM1715	4.2601	

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

MONTH/YEAR: December 1998

None during the Reporting Period