VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

February 14, 1991

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

Serial No. 91-068
NO/RPC:vlh
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

Enclosed is the Monthly Operating Report for Surry Power Station Units 1 and 2 for the month of January 1991.

Very truly yours,

RF Saund for
W. L. Stewart
Senior Vice President - Nuclear

Enclosure

cc: U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N. W.
Suite 2900
Atlanta, Georgia 30323

Mr. W. E. Holland
NRC Senior Resident Inspector
Surry Power Station

IE24

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION
MONTHLY OPERATING REPORT
REPORT NO. 91-01

Approved:

Station Manager

2-5-91

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OPERATING DATA REPORT

Docket No.: 50-280
Date: 02-01-91
Completed By: M. A. Negron
Telephone: (804) 357-3184 x452

1. Unit Name:..... Surry Unit 1
2. Reporting Period:..... January 1991
3. Licensed Thermal Power (MWt):..... 2441
4. Nameplate Rating (Gross MWe):..... 847.5
5. Design Electrical Rating (Net MWe):..... 788
6. Maximum Dependable Capacity (Gross MWe):.... 820
7. Maximum Dependable Capacity (Net MWe):..... 781

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	YTD	Cumulative
11.	Hours In Reporting.....	744.0	744.0	158760.0
12.	Number of Hours Reactor Was Critical.....	744.0	744.0	100218.2
13.	Reactor Reserve Shutdown Hours.....	0.0	0.0	3774.5
14.	Hours Generator On-Line.....	744.0	744.0	98224.2
15.	Unit Reserve Shutdown Hours.....	0.0	0.0	3736.2
16.	Gross Thermal Energy Generated (MWH).....	1807474.0	1807474.0	228027384.3
17.	Gross Electrical Energy Generated (MWH)....	612905.0	612905.0	74189728.0
18.	Net Electrical Energy Generated (MWH).....	585097.0	585097.0	70368226.0
19.	Unit Service Factor.....	100.0%	100.0%	61.9%
20.	Unit Availability Factor.....	100.0%	100.0%	64.2%
21.	Unit Capacity Factor (Using MDC Net).....	101.0%	101.0%	57.2%
22.	Unit Capacity Factor (Using DER Net).....	99.8%	99.8%	56.2%
23.	Unit Forced Outage Rate.....	0.0%	0.0%	20.5%

24. Shutdowns Schedule 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: 02-01-91
Completed By: M. A. Negron
Telephone: (804) 357-3184 x452

1. Unit Name:..... Surry Unit 2
2. Reporting Period:..... January 1991
3. Licensed Thermal Power (MWt):..... 2441
4. Nameplate Rating (Gross MWe):..... 847.5
5. Design Electrical Rating (Net MWe):..... 788
6. Maximum Dependable Capacity (Gross MWe):.... 820
7. Maximum Dependable Capacity (Net MWe):..... 781

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): 90% (740 MWe)

10. Reasons For Restrictions, If Any: Inoperable control rod (M-12).

		This Month	YTD	Cumulative
11.	Hours In Reporting.....	744.0	744.0	155640.0
12.	Number of Hours Reactor Was Critical.....	744.0	744.0	99916.3
13.	Reactor Reserve Shutdown Hours.....	0.0	0.0	328.1
14.	Hours Generator On-Line.....	744.0	744.0	98314.6
15.	Unit Reserve Shutdown Hours.....	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH).....	1631563.9	1631563.9	229767032.2
17.	Gross Electrical Energy Generated (MWH)....	547310.0	547310.0	74777424.0
18.	Net Electrical Energy Generated (MWH).....	520191.0	520191.0	70898916.0
19.	Unit Service Factor.....	100.0%	100.0%	63.2%
20.	Unit Availability Factor.....	100.0%	100.0%	63.2%
21.	Unit Capacity Factor (Using MDC Net).....	89.5%	89.5%	58.4%
22.	Unit Capacity Factor (Using DER Net).....	88.7%	88.7%	57.8%
23.	Unit Forced Outage Rate.....	0.0%	0.0%	15.2%

24. Shutdowns Schedule Over Next 6 Months (Type, Date, and Duration of Each):
Refueling - 4-5-91 - 67 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: January 1991

Docket No.: 50-280
Unit Name: Surry Unit 1
Date: 02-01-91
Completed by: M. A. Negron
Telephone: 804-357-3184 x452

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
01-11-91	S	0.0	B	4	N/A	TA	N/A	Ramped to 80% power for Performance of 1-PT-29.1, Turbine Gov. Valve Freedom Test

(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: January 1991

Docket No.: 50-281
Unit Name: Surry Unit 2
Date: 02-01-91
Completed by: M. A. Negron
Telephone: 804-357-3184 x452

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

None During This Reporting Period.

(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)

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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: 02-01-91
Completed by: M. A. Negron
Telephone: 804-357-3184 x452

Month: January 1991

Day	Average Daily Power Level (MWe - Net)	Day	Average Daily Power Level (MWe - Net)
1	786	17	785
2	782	18	787
3	788	19	789
4	789	20	787
5	792	21	788
6	791	22	788
7	789	23	789
8	782	24	789
9	787	25	791
10	787	26	791
11	738	27	792
12	789	28	792
13	790	29	785
14	789	30	786
15	789	31	781
16	785		

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: 02-01-91
Completed by: M. A. Negron
Telephone: 804-357-3184 x452

Month: January 1991

Day	Average Daily Power Level (MWe - Net)	Day	Average Daily Power Level (MWe - Net)
1	698	17	683
2	699	18	694
3	697	19	701
4	700	20	700
5	701	21	700
6	701	22	699
7	700	23	701
8	699	24	698
9	702	25	697
10	700	26	700
11	699	27	701
12	700	28	700
13	700	29	701
14	701	30	701
15	699	31	702
16	701		

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: January 1991

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

UNIT ONE

01-01-91	0000	This reporting period started with the Unit at 100% power and 825 MWe.
01-11-91	1025	Started ramp down from 100% power and 825 MWe to perform 1-PT-29.1.
	1225	Stopped ramp at 80% power and 665 MWe.
	1807	Started ramp from 80% power to 100% power.
	1905	Reactor at 100% power and 825 MWe.
01-31-91	2400	This report ends with the Unit operating at 100% power and 825 MWe.

UNIT TWO

01-01-91	0000	This reporting period started with the Unit operating at 90% power and 740 MWe due to an inoperable control rod (M-12).
01-31-91	2400	This reporting period ended with the Unit operating at 90% power and 740 MWe due to an inoperable control rod (M-12).

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: January 1991

SE 91-001 **Safety Evaluation** 01-08-91

A safety evaluation was performed to evaluate the consequences of station operation with the gas stripper removed from service due to extensive maintenance requirements.

Operation of the boron recovery system without the gas strippers does not create an unreviewed safety question. The activity of noble gases in the boron recovery tanks will not significantly increase because the gases that are not removed in the primary drain tank will vent out of the boron recovery tanks to the process vent. The process vent subsystem is a continuously monitored effluent pathway. The probability of occurrence or the consequences of accidents or malfunctions of equipment important to safety, previously evaluated in the safety analysis report has not increased. Normal radiological monitoring will ensure gaseous releases will be within Technical Specification limits.

TM S1-91-01 **Temporary Modification** 01-10-91
(Safety Evaluation No. 91-002)

This temporary modification lifted a lead to de-energize relay 33XB-V595. The relay should normally be de-energized, but is energized due to a malfunctioning limit switch, 33BC-V1595 on Unit 1, Loop C Cold Leg Stop Valve, 1-RC-MOV-1595. The relay provides input to block header-to-line SI and lo-lo S/G level reactor trip. The relay also provides input to RCP 'C' trip due to both limit switches on MOV-1595 being closed.

The temporary modification will remove the input from the failed limit switch. Operator cognizance will be ensured by use of the Plant Status Log to note that this function will be removed. Current power operation and Technical Specification prohibitions against 2-loop operation makes this a minor concern. However, a malfunction of the other limit switch which provides this input on MOV-1595 could cause RCP 'C' to trip, and thereby a reactor trip. This change will eliminate the reactor trip concern. The temporary modification will be in effect until limit switch repair can be made.

An unreviewed safety question does not exist because UFSAR accident assumptions and analyses encompass any safety concerns raised by this change.

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

MONTH/YEAR: January 1991

ENG-43 — **Engineering Procedure** — 01-14-91
(Safety Evaluation No. 91-004)

The fouling rate of the Emergency Diesel Generators (EDGs) fuel filters has increased. This safety analysis addresses the concern that the EDGs may not be able to satisfy the 168 hour run time specified in Technical Specification 3.16. In order to satisfy Technical Specifications and to maintain the operability of the EDGs, replacement of fuel filters will occur, as required, with the engine running during any event requiring the use of the EDGs.

The ability to change the fuel oil filters with the engine running is a design feature and will not affect the operation of the EDGs. Fuel oil filter changeout has been demonstrated at full load. Failure of an EDG is bounded by the availability of the redundant diesel and Station Procedures.

Because of the capability to change filters with the EDGs running (and loaded), an unreviewed safety question will not be created .

1-TPT-81
2-TPT-81 — **Periodic Test Procedures** — 01-24-91
(Safety Evaluation No. 91-013)

1-TPT-81 and 2-TPT-81 provided instructions for determining Excore Power Range detector calibration constants with three flux maps. This procedure change reduces the number of flux maps required to calibrate Excore Power Range detectors to one.

A new methodology has been employed to determine constants for each of the Surry units based on the geometry of each unit's core and detectors.

Since the new methodology will result in calibrations equivalent to or better than multiple - point calibrations the detectors will continue to function as designed. Therefore, no unreviewed safety question is created.

1/2-EWR-88-385 — **Engineering Work Request** — 06-23-89

This Engineering Work Request (EWR) was issued to install Westinghouse type NBFDG5NR relays as replacements for BFD relays. The BFD relays have a high failure rate due to insufficient heat dissipation. The new type utilizes a dual coil design that reduces heating under continuous operation and provides identical performance.

Since the design function is fulfilled with a relay of higher reliability, this change does not constitute an unreviewed safety question.

TESTS AND EXPERIMENTS THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: January 1991

None During This Reporting Period.

CHEMISTRY REPORT

MONTH/YEAR: January 1991

Primary Coolant Analysis	Unit No. 1			Unit No. 2		
	Max.	Min.	Avg.	Max.	Min.	Avg.
Gross Radioact., µCi/ml	5.73E-1	2.85E-1	4.33E-1	2.30E-1	1.00E-1	1.43E-1
Suspended Solids, ppm	0.0	0.0	0.0	0.0	0.0	0.0
Gross Tritium, µCi/ml	3.07E-1	4.86E-2	1.98E-1	1.14E-1	7.62E-2	9.21E-2
I^{131}, µCi/ml	3.08E-3	1.25E-3	1.80E-3	7.55E-4	3.42E-4	5.12E-4
I^{131}, I^{133}	0.12	0.06	0.09	0.14	0.06	0.09
Hydrogen, cc/kg	47.2	27.5	39.5	46.1	27.4	38.5
Lithium, ppm	2.34	2.06	2.16	1.53	1.02	1.28
Boron - 10, ppm*	179.3	166.6	172.4	31.0	13.7	22.5
Oxygen, (DO), ppm	≤0.005	≤0.005	≤0.005	≤0.005	≤0.005	≤0.005
Chloride, ppm	0.005	≤0.001	0.003	0.004	≤0.001	0.002
pH at 25 degree Celsius	6.56	6.42	6.51	7.43	7.18	7.34

* Boron - 10 = Total Boron x 0.196

Remarks: No Comments.

FUEL HANDLING
UNITS 1 & 2

MONTH/YEAR: January 1991

New or Spent Fuel Shipment Number	Date Shipped or Received	Number for Assemblies per Shipment	Assembly Number	ANSI Number	Initial Enrichment	New or Spent Fuel Shipping Cask Activity

None During this Reporting Period.

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

MONTH/YEAR: January 1991

None During This Reporting Period.