VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

March 13, 1992

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

Serial No. 92-169
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 February 1992.

Very truly yours,

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. M. W. Branch
NRC Senior Resident Inspector
Surry Power Station

IE24

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION
MONTHLY OPERATING REPORT
REPORT NO. 92-02

Approved:

Station Manager

3-15-92
Date

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OPERATING DATA REPORT

Docket No.: 50-280
Date: 03-06-92
Completed By: M. A. Negron
Telephone: (804) 365-2795

1. Unit Name: ..... Surry Unit 1
2. Reporting Period: ..... February 1992
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	696.0	1440.0	168216.0
12.	Number of Hours Reactor Was Critical	694.6	1288.0	109522.2
13.	Reactor Reserve Shutdown Hours	0.0	0.0	3774.5
14.	Hours Generator On-Line	694.1	1271.8	107512.0
15.	Unit Reserve Shutdown Hours	0.0	0.0	3736.2
16.	Gross Thermal Energy Generated (MWH)	1475556.0	2727607.2	249844283.9
17.	Gross Electrical Energy Generated (MWH)	500535.0	919665.0	81434853.0
18.	Net Electrical Energy Generated (MWH)	474146.0	871153.0	77245219.0
19.	Unit Service Factor	99.7%	88.3%	63.9%
20.	Unit Availability Factor	99.7%	88.3%	66.1%
21.	Unit Capacity Factor (Using MDC Net)	87.2%	77.5%	59.3%
22.	Unit Capacity Factor (Using DER Net)	86.5%	76.8%	58.3%
23.	Unit Forced Outage Rate	0.0%	11.6%	19.2%

24. Shutdowns Schedule Over Next 6 Months (Type, Date, and Duration of Each):
Refueling - February 29, 1992, 64 days.

25. If Shut Down at End of Report Period Estimated Date of Start-up: May 3, 1992

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: 03-06-92
Completed By: M. A. Negron
Telephone: (804) 365-2795

1. Unit Name:..... Surry Unit 2
2. Reporting Period:..... February 1992
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.....	696.0	1440.0	165096.0
12.	Number of Hours Reactor Was Critical.....	696.0	1440.0	106648.1
13.	Reactor Reserve Shutdown Hours.....	0.0	0.0	328.1
14.	Hours Generator On-Line.....	696.0	1440.0	104900.9
15.	Unit Reserve Shutdown Hours.....	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH).....	1640351.4	3451123.8	244329805.9
17.	Gross Electrical Energy Generated (MWH)....	548675.0	1155645.0	79589494.0
18.	Net Electrical Energy Generated (MWH).....	521919.0	1099913.0	75463851.0
19.	Unit Service Factor.....	100.0%	100.0%	63.5%
20.	Unit Availability Factor.....	100.0%	100.0%	63.5%
21.	Unit Capacity Factor (Using MDC Net).....	96.0%	97.8%	58.6%
22.	Unit Capacity Factor (Using DER Net).....	95.2%	96.9%	58.0%
23.	Unit Forced Outage Rate.....	0.0%	0.0%	15.2%

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		

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

REPORT MONTH: February 1992

Docket No.: 50-280
Unit Name: Surry Unit 1
Date: 03-06-92
Completed by: M. A. Negron
Telephone: (804) 365-2795

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
92-02-29	S	1.4	C	2	N/A	N/A	N/A	Shutdown for scheduled refueling outage.

(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: February 1992

Docket No.: 50-281
Unit Name: Surry Unit 2
Date: 03-06-92
Completed by: M. A. Negron
Telephone: (804) 365-2795

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
92-02-14	S	0	B	4	N/A	SJ	P	Reduced unit power from 100% to 59.5% to repair "B" Main Feedwater Pump Seals.

(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: 03-06-92
Completed by: M. A. Negron
Telephone: (804) 365-2795

Month: February 1992

Day	Average Daily Power Level (MWe - Net)	Day	Average Daily Power Level (MWe - Net)
1	762	17	687
2	756	18	681
3	751	19	677
4	744	20	673
5	741	21	666
6	738	22	663
7	736	23	659
8	735	24	653
9	728	25	651
10	723	26	642
11	717	27	611
12	711	28	561
13	712	29	282
14	707	30	
15	698	31	
16	691		

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: 03-06-92
Completed by: M. A. Negron
Telephone: (804) 365-2795

Month: February 1992

Day	Average Daily Power Level (MWe - Net)	Day	Average Daily Power Level (MWe - Net)
1	777	17	683
2	778	18	684
3	778	19	683
4	777	20	703
5	777	21	779
6	777	22	778
7	776	23	777
8	778	24	780
9	779	25	777
10	779	26	778
11	780	27	779
12	779	28	779
13	779	29	779
14	776	30	
15	458	31	
16	641		

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: February 1992

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

02-01-92	0000	This reporting period started with the Unit coasting down due to fuel depletion; 96.5% power, 800 MWe.
02-27-92	1756	Started ramp down for scheduled Refueling Outage and performance of ST-300 (Feedwater Flow Measurement Testing); 81% power, 670 MWe.
02-29-92	2204	Unit off line.
	2235	This reporting period ended with the Reactor manually tripped; Unit at Hot Shutdown.

UNIT TWO

02-01-92	0000	This reporting period started with the Unit operating at 100% power, 815 MWe.
02-14-92	2252	Started ramp down to repair "B" Main Feedwater Pump and to repair tube leaks on First Point Feedwater Heaters; 100% power, 815 MWe.
02-15-92	0913	Stopped ramp; 59.5% power, 480 MWe.
02-16-92	0230	Started ramp up after Feedwater Pump repairs were completed; 58% power, 470 MWe.
	1218	Stopped ramp at 90% power, 730 MWe to continue with First Point Feedwater Heater repairs.
02-20-92	1933	Started ramp up after returning First Point Feedwater Heaters to service; 90% power, 740 MWe.
	2020	Stopped ramp; 100% power, 820 MWe.
02-29-92	2400	This reporting period ended with the Unit operating at 100% power, 815 MWe.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: February 1992

DR S-92-0191 — **Deviation Report** — 02-07-92
(Safety Evaluation No. 92-021)

This Deviation Report addresses a degraded flow condition between the Unit 2 charging pump 2-CH-P-1A and the charging pump seal coolers 2-CH-E-7A and 2-CH-E-7B resulting from a flow restriction caused by a deposit of a foreign substance in the cooler shell and the inlet and outlet lines.

An evaluation of this condition concluded that the charging pump seal design limits will not be exceeded provided that the interruption of component cooling water to the normal letdown heat exchanger would not go undetected and prompt corrective action would be taken. Since the volume control tank high temperature annunciation provides early detection capability and the applicable response procedures ensure corrective actions are taken, the degraded flow condition is considered to have no adverse effect on the performance and reliability of the charging pumps. Therefore, an unreviewed safety question is not created.

JCO C-92-001 — **Justification For Continued Operation** — 02-13-92
(Safety Evaluation No. 92-023)

This Justification For Continued Operation (JCO) assessed Appendix "R" compliance relative to nonfunctional fire barrier walls located between the Unit 1 and 2 cable vaults and the auxiliary building and the wall separating the service building from the auxiliary building.

The JCO implemented compensatory measures in accordance with the Technical Specifications by posting a fire watch. In the event of a fire, this action ensures early detection and initiation of additional fire suppression efforts to supplement the automatic suppression and detection systems in these areas. Therefore, an unreviewed safety question is not created.

FS 90-45 — **UFSAR Change** — 02-20-92
(Safety Evaluation 92-026)

The Updated Final Safety Analysis Report (UFSAR) Section 1.2.4, "Reactor And Station Controls," was revised to be consistent with the automatic control system setpoint value specified in WCAP-7649, "Setpoint Study for Virginia Electric and Power Company Surry Units 1 and 2."

This change was editorial in nature. No physical changes to the station were made. Therefore, an unreviewed safety question was not created.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: February 1992

[continued]

FS 90-39 **UFSAR Change** 02-20-92
(Safety Evaluation 92-027)

The Updated Final Safety Analysis Report (UFSAR) Section 1.2.3, "Nuclear Steam Supply System," was revised to reflect the change from an "out-in" to a low leakage type of fuel management.

An evaluation of this change was performed and it was determined that the reload design meets the criteria and limits for the accidents in the UFSAR. Therefore, an unreviewed safety question was not created.

TSR 92-011 **Temporary Shielding Request** 02-20-92
(Safety Evaluation 92-028)

This Temporary Shielding Request installs temporary lead shielding on the aerated drains system and reactor purification system lines in the Unit 1 containment basement to reduce the radiation dose received by personnel while performing work in the area during a refueling outage.

Installation of the shielding while the subject lines remain operable was determined to be acceptable through the performance of a seismic piping analysis. The shielding will not adversely affect the design functions of the affected systems and will be removed prior to leaving cold shutdown. Therefore, an unreviewed safety question is not created.

EWR 90-148 **Engineering Work Request** 02-24-92
(Safety Evaluation No. 90-182)

This Engineering Work Request added a power supply interlock between radiation monitor sample pump VG-109 and the health physics (HP) accountability sample pump for the Victoreen normal range radiation monitors 1-RM-VG-109 and 1-RM-VG-110.

The interlock will ensure that the HP sample pump will stop whenever sample pump VG-109 stops, thereby ensuring an isokinetic effluent sample at the alternate Kaman radiation monitors, 1-RM-VG-131-1 and 1-RM-VG-131-2. This nonsafety-related modification enhances the availability of radiation monitoring during normal and accident conditions. Safety-related systems are not affected. Therefore, an unreviewed safety question is not created.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: February 1992

[continued]

TSR 92-029
TSR 92-030
TSR 92-031

Temporary Shielding Request 02-25-92
(Safety Evaluation 92-031)

These Temporary Shielding Requests install temporary lead shielding on the Unit 1 reactor coolant loop piping and valves (including the loop stop valve by-pass line and valve) to reduce the radiation dose received by personnel while removing the resistance temperature device by-pass lines and performing other work in the area.

Installation of the shielding while the subject lines remain "operable" was determined to be acceptable through the performance of a seismic piping analysis, provided the pressure and temperature do not exceed 385 psi and 140° F. The shielding will not adversely affect the design functions of the affected systems and will be removed prior to unit heat-up. Therefore, an unreviewed safety question is not created.

TM S1-92-07

Temporary Modification 02-26-92
(Safety Evaluation No. 92-032)

This Temporary Modification (TM) provides an auxiliary security diesel generator to supply back-up security lighting while the the normal security diesel generator is removed from service for periodic maintenance.

The auxiliary diesel generator will be tested prior to being placed in service and fuel supply provisions will be made. The normal security diesel generator will also be tested prior to returning it to service. Therefore, an unreviewed safety question is not created.

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

MONTH/YEAR: February 1992

0/1/2-OPT-EG-002
0/1/2-OPT-EG-004
0/1/2-OPT-EG-6.3

Operations Periodic Test Procedures 12-02-91
(Safety Evaluation No. 91-254)

Operations Periodic Test Procedures 0/1/2-OPT-EG-002, "Emergency Diesel Generator Monthly Fast Start Exercise Test," 0/1/2-OPT-EG-004, "Emergency Diesel Generator Quarterly Fast Start Exercise Test," and 0/1/2-OPT-EG-6.3, "Emergency Diesel Generator Starting Sequence Test," were revised to install temporary electrical jumpers to enable the initiation/simulation of automatic start signals to the emergency diesel generators (EDG).

The jumpers will be installed only long enough to initiate a manual fast start of the EDG, as required by the Technical Specifications. The EDG will be considered inoperable upon initiation of the "jacking over" sequence and appropriate TS limiting conditions for operation will be entered. Once started, the EDG can be loaded to the bus, as required. Therefore, an unreviewed safety question is not created.

1-PT-18.1

Operations Periodic Test Procedure 02-25-92
(Safety Evaluation No. 92-029)

Unit 1 Operations Periodic Test Procedure 1-PT-18.1, "Low Head Safety Injection Pump Test," was revised (temporary change) to permit the use of temporary transmitters to enable the measurement of low head safety injection pump pressure during the few seconds following pump start.

The temporary transmitters are safety-related and will not affect the operation of the subject pump. Therefore, an unreviewed safety question is not created.

2-PT-18.1

Operations Periodic Test Procedure 02-25-92
(Safety Evaluation No. 92-030)

Unit 2 Operations Periodic Test Procedure 2-PT-18.1, "Low Head Safety Injection Pump Test," was revised (temporary change) to permit the use of temporary transmitters to enable the measurement of low head safety injection pump pressure during the few seconds following pump start.

The temporary transmitters are safety-related and will not affect the operation of the subject pump. Therefore, an unreviewed safety question is not created.

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

MONTH/YEAR: February 1992

[continued]

1-OPT-ZZ-001
1-OPT-ZZ-002

Operations Periodic Test Procedures 02-27-92
(Safety Evaluation No. 92-033)

Unit 1 Operations Periodic Test Procedures 1-OPT-ZZ-001, "ESF Actuation With Delayed Undervoltage 1H Bus," and 1-OPT-ZZ-002, "ESF Actuation With Delayed Undervoltage 1J Bus," were revised to temporarily lift electrical leads to allow verification of safety injection (SI) and trip breaker signals that trip the turbine and to allow testing of the SI signals which initiate feedwater isolation.

The unit will be at cold shutdown during the performance of this testing. The temporary modifications will be controlled by the subject procedures (which require double verification for installation and removal) and do not affect the operation of the residual heat removal system. Therefore, an unreviewed safety question is not created.

GMP-M-161

General Maintenance Procedure 02-28-92
(Safety Evaluation No. 92-035)

General Maintenance Procedure GMP-M-161, "Installation Of Recirculation Spray Heat Exchanger Service Water Flow Test Equipment," was developed to provide instructions for installing temporary flow venturis and loop manifold root valves on the service water system to support the performance of special test 1-ST-299, "Recirculation Spray Heat Exchanger Service Water Flow Test."

The temporary test equipment will be installed while the unit is in a condition during which service flow to the recirculation spray heat exchangers is not required and will be removed prior to unit startup. This change will not adversely affect the piping and the pressure boundary integrity and will be verified prior to conducting the test. Therefore, an unreviewed safety question is not created.

TESTS AND EXPERIMENTS THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: February 1992

None During This Reporting Period.

CHEMISTRY REPORT

MONTH/YEAR: February 1992

Primary Coolant Analysis	Unit No. 1			Unit No. 2		
	Max.	Min.	Avg.	Max.	Min.	Avg.
Gross Radioact., μCi/ml	1.04E+0	4.20E-1	7.02E-1	2.87E-1	1.06E-1	1.88E-1
Suspended Solids, ppm	0.0	0.0	0.0	0.0	0.0	0.0
Gross Tritium, μCi/ml	1.24E-1	9.84E-2	1.08E-1	4.16E-1	3.49E-1	3.84E-1
I^{131}, μCi/ml	2.90E-3	1.53E-3	2.18E-3	4.93E-4	1.90E-4	3.20E-4
I^{131}/I^{133}	0.16	0.07	0.10	0.18	0.06	0.10
Hydrogen, cc/kg	34.7	21.7	26.9	41.4	25.3	30.9
Lithium, ppm	1.28	0.61	0.78	2.35	2.05	2.20
Boron - 10, ppm*	10.8	0.2	0.8	218.7	190.1	199.8
Oxygen, (DO), ppm	≤0.005	≤0.005	≤0.005	≤0.005	≤0.005	≤0.005
Chloride, ppm	0.004	≤0.001	0.001	0.003	≤0.001	0.002
pH at 25 degrees Celsius	9.70	8.37	9.22	6.58	6.43	6.51

* Boron - 10 = Total Boron x 0.196

No Comments.

FUEL HANDLING
UNITS 1 & 2

MONTH/YEAR: February 1992

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

No Fuel Stored or Received in February, 1992

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

MONTH/YEAR: February 1992

None During This Reporting Period.