

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

May 11, 1995

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

Serial No. 95-233
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 April 1995.

Very truly yours,



M. L. Bowling, Manager
Nuclear Licensing & Programs

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

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**VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION
MONTHLY OPERATING REPORT
REPORT NO. 95-04**

Approved:



Station Manager

5-9-95

Date

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OPERATING DATA REPORT

Docket No.: 50-280
 Date: 05-01-95
 Completed By: D. Mason
 Telephone: (804) 365-2459

- 1. Unit Name: Surry Unit 1
- 2. Reporting Period: April, 1995
- 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 Period	719.0	2879.0	195959.0
12. Number of Hours Reactor Was Critical	683.8	2699.7	133169.4
13. Reactor Reserve Shutdown Hours	0	0	3774.5
14. Hours Generator On-Line	678.1	2665.2	130906.2
15. Unit Reserve Shutdown Hours.....	0	0	3736.2
16. Gross Thermal Energy Generated (MWH).....	1621917.1	6436291.5	304890030.7
17. Gross Electrical Energy Generated (MWH)....	546160.0	2168705.0	99782538.0
18. Net Electrical Energy Generated (MWH).....	526082.0	2092946.0	94801969.0
19. Unit Service Factor.....	94.3%	92.6%	66.8%
20. Unit Availability Factor.....	94.3%	92.6%	68.7%
21. Unit Capacity Factor (Using MDC Net).....	93.7%	93.1%	62.4%
22. Unit Capacity Factor (Using DER Net).....	92.9%	92.3%	61.4%
23. Unit Forced Outage Rate.....	5.7%	7.4%	16.5%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):

Refueling, August 31, 1995, 37 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	_____	_____

OPERATING DATA REPORT

Docket No.: 50-281
 Date: 05-01-95
 Completed By: D. Mason
 Telephone: (804) 365-2459

- 1. Unit Name:..... Surry Unit 2
- 2. Reporting Period: April, 1995
- 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 Period	719.0	2879.0	192839.0
12. Number of Hours Reactor Was Critical	719.0	1803.3	130140.8
13. Reactor Reserve Shutdown Hours	0	0	328.1
14. Hours Generator On-Line	719.0	1771.3	128238.4
15. Unit Reserve Shutdown Hours.....	0	0	0
16. Gross Thermal Energy Generated (MWH).....	1754903.3	4118826.1	299387290.4
17. Gross Electrical Energy Generated (MWH)....	586980.0	1378390.0	97820684.0
18. Net Electrical Energy Generated (MWH).....	566892.0	1328575.0	92921611.0
19. Unit Service Factor.....	100.0%	61.5%	66.5%
20. Unit Availability Factor.....	100.0%	61.5%	66.5%
21. Unit Capacity Factor (Using MDC Net).....	101.0%	59.1%	61.8%
22. Unit Capacity Factor (Using DER Net).....	100.1%	58.6%	61.1%
23. Unit Forced Outage Rate.....	0%	0%	13.2%

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: April, 1995

Docket No.: 50-280
 Unit Name: Surry Unit 1
 Date: 05-04-95
 Completed by: Craig Olsen
 Telephone: (804) 365-2155

(1) Date	(1) Type	(2) Duration Hours	(2) Reason	(3) Method of Shutting Down Rx	(4) LER No.	(4) System Code	(5) Component Code	(5) Cause & Corrective Action to Prevent Recurrence
950412	F	N/A	A	N/A	N/A	AA	ROD	Control rod J-7 dropped, resulting in unit runback from 100% to 70% power.
950412	F	N/A	A	N/A	N/A	AA	ROD	Flux deviation resulting from dropped control rod J-7. Reduced power to 49%.
950412	F	40.9	A	1	1-95- 003-00	AA	ROD	Increasing delta flux resulting from dropped control rod J-7. Manually tripped reactor.

(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: April, 1995

Docket No.: 50-281
 Unit Name: Surry Unit 2
 Date: 05-04-95
 Completed by: Craig Olsen
 Telephone: (804) 365-2155

(1)	(2)	(3)	(4)	(5)
Date	Type	Duration Hours	Reason	Method of Shutting Down Rx
			LER No.	System Code
			Component Code	Cause & Corrective Action to Prevent Recurrence

None During the 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)

(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: 05-03-95
Completed by: Barry C. Bryant
Telephone: 365-2786

MONTH: April, 1995

<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>	<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>
1	791	17	784
2	795	18	782
3	795	19	782
4	795	20	782
5	795	21	781
6	795	22	782
7	789	23	782
8	792	24	783
9	796	25	781
10	797	26	782
11	796	27	782
12	443	28	735
13	0	29	782
14	308	30	783
15	784		
16	783		

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: 05-04-95
Completed by: Barry C. Bryant
Telephone: 365-2786

MONTH: April, 1995

<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>	<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>
1	791	17	789
2	793	18	789
3	790	19	787
4	790	20	787
5	791	21	787
6	790	22	785
7	791	23	787
8	790	24	788
9	790	25	788
10	789	26	788
11	787	27	787
12	788	28	787
13	788	29	786
14	788	30	786
15	789		
16	788		

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: April, 1995

The following 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:

04/01/95	0000	The reporting period began with the unit operating at 100% power, 825 MWe.
04/12/95	0818	Control rod J-7 dropped, resulting in a unit runback from 100%.
	0833	Unit runback stopped at 70% power, 575 MWe.
	1254	Started power reduction due to flux deviation resulting from dropped control rod J-7.
	1259	Stopped power reduction at 49% power, 401 MWe.
	1756	Manually tripped reactor due to increasing delta flux resulting from dropped control rod J-7. This conservative decision was made to ensure that the unit response would remain bounded by existing accident analyses in the event an additional transient was to occur.
04/14/95	0509	Reactor critical.
	1051	Generator on line. Started power increase.
	2349	Stopped power increase at 99% due to high steam flow on steam generator "C."
04/30/95	2400	The reporting period ended with the unit operating at 99% power, 810 MWe.

UNIT Two:

04/01/95	0000	The reporting period began with the unit operating at 100% power, 825 MWe.
04/30/95	2400	The reporting period ended with the unit operating at 100% power, 820 MWe.

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

MONTH/YEAR: April, 1995

DCP 92-077-3 **Design Change Package** 3-04-95
(Safety Evaluation No. 93-077)

Design Change Package 92-077-3 removed main steam trip valve bypass line check valves 1[2]-MS-85, 1[2]-MS-117, and 1[2]-MS-156. Piping was installed in place of the valves.

The subject valves, which were required in the original plant design, do not have a design basis function and are no longer required due to subsequent piping modifications. The replacement piping meets the design standards of the Main Steam System. Therefore, an unreviewed safety question does not exist.

DCP 93-054-3 **Design Change Package** 3-05-95
(Safety Evaluation No. 93-203)

Design Change Package 93-054-3 implemented various outage related modifications to correct control room design deficiencies identified by the Control Room Design Review Reassessment Report including: 1) engraving and grouping some annunciator windows, 2) rescaling charging line flow indicators, 3) separating safety injection "A" and "B" alarms, 4) relocating annunciator pushbutton controls away from reactor trip pushbuttons, 5) installing digital auxiliary feedwater flow indicators, 6) adding engineering units to indicator scales, 7) changing the scale on the chemical addition tank level indicator, and 8) labeling emergency diesel generator No. 3 watts and Vars indicators.

These modifications, which enhance operator response capability, affect indication and annunciator control only. The operation of safety-related equipment or availability of safety-related power sources is not affected. Therefore, an unreviewed safety question does not exist.

DCP 89-010-3 **Design Change Package** 3-31-95
(Safety Evaluation No. 90-006)

Design Change Package 89-010-3 installed additional fire detectors in the Cable Vaults and Tunnels, Main Steam Valve House Basements, and Computer Rooms.

This nonsafety-related modification was implemented to comply with the requirements of NFPA-72E, as required by Generic Letter 86-10. The change did not impact the operation of safety-related equipment and did not affect the Technical Specifications margin of safety. Therefore, an unreviewed safety question does not exist.

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

MONTH/YEAR: April, 1995

DCP 94-008-3

Design Change Package
(Safety Evaluation No. 94-052)

4-06-95

Design Change Package 94-008-3 replaced the Radiation Monitoring System recorders in the Control Room.

The modification enhances radiological monitoring capabilities by providing increased recorder reliability and visual resolution. Compensatory measures were instituted while each recorder was being replaced and the automatic control functions that impact potential release paths to the environment remained in service. Therefore, an unreviewed safety question does not exist.

FS 95-11

Updated Final Safety Analysis Report Change
(Safety Evaluation No. 95-048)

4-13-95

UFSAR Change 95-11 revised Section 9.10.4.18, "[Fire Protection Evaluation of] Turbine Building," to clarify 1) that the carbon dioxide fire suppression systems which protect the turbine generator bearings can be manually initiated by local controls only, and 2) that the main and station service transformers are separated from each other by concrete fire walls and from the Turbine Building by a spatial distance of 35 feet (not by a concrete wall).

This change was made to clearly reflect the original plant design. The change did not involve any physical modifications to the plant and did not affect continued compliance with the Technical Specifications or Appendix R requirements. Therefore, an unreviewed safety question does not exist.

WO 315357

Work Order
(Safety Evaluation No. 95-050)

4-18-95

Work Order 315357 removed breaker 2-EP-BKR-24B1-5 from service to perform corrective maintenance on the breaker while Unit 2 was at power. This activity de-energized the 480 volt motor control center (MCC) 2B1-2, which de-energized the "B" incore flux detector, the motor operator for the "B" main steam (MS) non-return valve (NRV), and containment dome cooling fan 2-VS-F-101.

The activity was evaluated to determine its effect on the main steam line break (MSLB) and steam generator tube rupture (SGTR) accident analyses. The evaluation concluded that de-energizing the "B" MS NRV will not increase the consequences or probability of occurrence of a MSLB or a SGTR. The Incore Flux Detector System and the containment dome cooling fan are not considered in these two accident analyses. Furthermore, the loads associated with MCC 2B1-2 are nonsafety-related and do not affect the station's ability to achieve and maintain safe shutdown. Therefore, an unreviewed safety question does not exist.

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

MONTH/YEAR: April, 1995

DCP 93-005-3

Design Change Package
(Safety Evaluation No. 93-186)

4-25-95

Design Change Package 93-005-3 replaced the Unit 1 and 2 pressurizer pressure transmitters and changed the safety injection (SI) low-low trip setpoint from 1715 psig to 1775 psig.

The replacement transmitters are similar in design to the existing transmitters and are better able to resist post design basis event environmental conditions. The change in the SI trip setpoint provides additional conservatism to ensure the function will occur above the current Technical Specification limit of 1700 psig. Therefore, an unreviewed safety question does not exist.

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

MONTH/YEAR: April, 1995

VPAP-2104

Station Administrative Procedure
(Safety Evaluation No. 95-047)

4-04-95

Station Administrative Procedure VPAP-2104, "Radioactive Waste Process Control Program (PCP)," was revised to reflect a change in the bitumen solidification operation.

This change to the PCP involves the addition of an increased quantity of a different type of surfactant to the process waste stream to improve the processing of boric acid and sodium sulfate concentrates. The change does not modify Radwaste Facility operation as described in the UFSAR and does not affect the margin of safety as described in the Technical Specifications. Therefore, an unreviewed safety question does not exist.

TESTS AND EXPERIMENTS THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: April, 1995

None During the Reporting Period

CHEMISTRY REPORT

MONTH/YEAR: April, 1995

Primary Coolant Analysis	Unit No. 1			Unit No. 2		
	Max.	Min.	Avg.	Max.	Min.	Avg.
Gross Radioactivity, $\mu\text{Ci/ml}$	4.07E-1	2.55E-2	3.40E-1	2.20E-1	1.50E-1	1.84E-1
Suspended Solids, ppm	≤ 0.010	≤ 0.010	≤ 0.010	≤ 0.010	≤ 0.010	≤ 0.010
Gross Tritium, $\mu\text{Ci/ml}$	2.08E-1	7.82E-2	1.49E-1	2.75E-1	1.35E-1	2.20E-1
^{131}I , $\mu\text{Ci/ml}$	2.24E-3	2.46E-4	7.49E-4	1.60E-4	8.94E-5	1.17E-4
$^{131}\text{I}/^{133}\text{I}$	0.10	0.06	0.07	0.10	0.05	0.08
Hydrogen, cc/kg	40.9	30.2	35.8	42.3	25.5	33.9
Lithium, ppm	2.40	2.00	2.20	2.58	2.06	2.23
Boron - 10, ppm*	161.1	58.8	83.9	210.3	203.1	206.0
Oxygen, (DO), ppm	≤ 0.005	≤ 0.005	≤ 0.005	≤ 0.005	≤ 0.005	≤ 0.005
Chloride, ppm	≤ 0.050	≤ 0.001	0.005	≤ 0.050	≤ 0.001	0.007
pH at 25 degree Celsius	7.34	6.74	7.24	6.71	6.50	6.62

* Boron - 10 = Total Boron x 0.196

Comments:

None

**FUEL HANDLING
UNITS 1 & 2**

MONTH/YEAR: April, 1995

<u>New or Spent Fuel Shipment Number</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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No Fuel Received or Stored During the Reporting Period

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

MONTH/YEAR: April, 1995

None During the Reporting Period