

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

July 11, 1997

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

Serial No. 97-412
NL/MAE/JDK R0
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

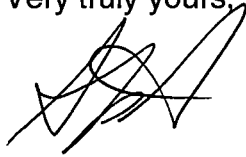
Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
MONTHLY OPERATING REPORT

Enclosed is the Monthly Operating Report for Surry Power Station Units 1 and 2 for the month of June 1997.

If you have any questions or require additional information, please contact us.

Very truly yours,



S. P. Sarver, Acting Manager
Nuclear Licensing and Operations Support

Enclosure

Commitments made by this letter:

1. None.

cc: U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, Georgia 30303

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

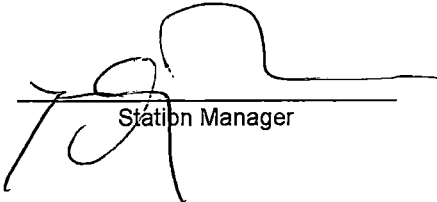
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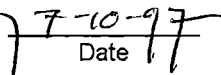
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VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION
MONTHLY OPERATING REPORT
REPORT NO. 97-06

Approved:



Station Manager



Date 7-10-97

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OPERATING DATA REPORT

Docket No.: 50-280
 Date: 07/02/97
 Completed By: D. K. Mason
 Telephone: (804) 365-2459

1. Unit Name:..... Surry Unit 1
2. Reporting Period:..... June, 1997
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>YTD</u>	<u>Cumulative</u>
11. Hours In Reporting Period.....	720.0	4343.0	214967.0
12. Number of Hours Reactor Was Critical.....	720.0	2774.1	149608.8
13. Reactor Reserve Shutdown Hours.....	0.0	0.0	3774.5
14. Hours Generator On-Line.....	720.0	2651.5	147182.5
15. Unit Reserve Shutdown Hours.....	0.0	0.0	3736.2
16. Gross Thermal Energy Generated (MWH).....	1832447.9	6398780.1	345034223.9
17. Gross Electrical Energy Generated (MWH)....	608934.0	2129255.0	113102073.0
18. Net Electrical Energy Generated.....	588104.0	2054184.0	107647933.0
19. Unit Service Factor.....	100.0%	61.1%	68.5%
20. Unit Availability Factor.....	100.0%	61.1%	70.2%
21. Unit Capacity Factor (Using MDC Net).....	102.0%	59.0%	64.4%
22. Unit Capacity Factor (Using DER Net).....	103.7%	60.0%	63.5%
23. Unit Forced Outage Rate.....	0.0%	9.7%	15.1%

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: 07/02/97
 Completed By: D. K. Mason
 Telephone: (804) 365-2459

- 1. Unit Name:..... Surry Unit 2
- 2. Reporting Period:..... June, 1997
- 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>YTD</u>	<u>Cumulative</u>
11. Hours In Reporting Period.....	720.0	4343.0	211847.0
12. Number of Hours Reactor Was Critical.....	720.0	4279.0	147354.6
13. Reactor Reserve Shutdown Hours.....	0.0	0.0	328.1
14. Hours Generator On-Line.....	720.0	4272.1	145369.9
15. Unit Reserve Shutdown Hours.....	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH).....	1830126.0	10803413.6	342277670.4
17. Gross Electrical Energy Generated (MWH)....	603655.0	3611620.0	112062419.0
18. Net Electrical Energy Generated.....	582722.0	3493118.0	106684997.0
19. Unit Service Factor.....	100.0%	98.4%	68.6%
20. Unit Availability Factor.....	100.0%	98.4%	68.6%
21. Unit Capacity Factor (Using MDC Net).....	101.0%	100.4%	64.4%
22. Unit Capacity Factor (Using DER Net).....	102.7%	102.1%	63.9%
23. Unit Forced Outage Rate.....	0.0%	1.6%	12.2%

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

Refueling, October 4, 1997, 30 Days

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	_____	_____

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

REPORT MONTH: June, 1997

Docket No.: 50-280
 Unit Name: Surry Unit 1
 Date: 07-03-97
 Completed by: M. J. Fanguy
 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

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

REPORT MONTH: June, 1997

Docket No.: 50-281
 Unit Name: Surry Unit 2
 Date: 07-03-97
 Completed by: M. J. Fanguy
 Telephone: (804) 365-2155

(1) Date	(1) Type	(2) Duration Hours	(2) Reason	(3) Method of Shutting Down Rx	LER No.	(4) System Code	(5) Component Code	Cause & Corrective Action to Prevent Recurrence
6/5/97	S	NA	B	NA	NA	TA	V	Reduce power for 2-OSP-TM-001.

(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: 07-07-97
 Completed by: J. D. Kilmer
 Telephone: (804) 365-2792

MONTH: June, 1997

Day	Average Daily Power Level (MWe - Net)	Day	Average Daily Power Level (MWe - Net)
1	819	17	821
2	800	18	818
3	820	19	817
4	816	20	815
5	812	21	816
6	822	22	814
7	823	23	814
8	822	24	814
9	819	25	814
10	821	26	812
11	821	27	813
12	822	28	813
13	821	29	812
14	821	30	812
15	820		
16	820		

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: 07-07-97
Completed by: John D. Kilmer
Telephone: (804) 365-2792

MONTH: June, 1997

<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>	<u>Day</u>	<u>Average Daily Power Level (MWe - Net)</u>
1	816	17	813
2	819	18	808
3	818	19	807
4	821	20	803
5	795	21	801
6	823	22	800
7	823	23	799
8	822	24	802
9	820	25	800
10	817	26	793
11	816	27	793
12	817	28	797
13	816	29	797
14	816	30	796
15	816		
16	815		

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: June, 1997

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:

06/01/97	0000	Unit 1 begins month at 100% / 850 MWe.
06/02/97	1515	Start power decrease in accordance with 1-OP-TM-005 "Unit Ramping Operations" from 100% / 825 MWe to allow 'B' waterbox cleaning.
	1601	Stop power decrease at 96% / 810 MWe.
	2005	Start power increase slowly increasing power to 100%
	2202	Stop power increase at 100% / 850 MWe.
06/30/97	2400	Unit 1 finishes the month at 100% / 845 MWe.

Unit Two

06/01/97	0000	Unit 2 begins the month at 100% / 850 MWe.
06/05/97	0611	Start power decrease from 100% / 850 MWe in preparation for Turbine Inlet Valve Freedom Test in accordance with 2-OSP-TM-001.
	1030	Stop power decrease at 72% / 620 MWe.
	1043	Start power increase after completion of Turbine Inlet Valve Freedom Test.
	1247	Stop power increase at 100% / 855 MWe.
06/30/97	2400	Unit 2 finishes the month at 100% / 830 MWe.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: June, 1997

TM S1-97-009

Temporary Modification
(Safety Evaluation No. 97-078)

6-5-97

This Temporary Modification (TM) installs new Relief Valves (RVs) in the Condensate Polishing System to prevent 98% sulfuric acid from discharging onto the acid skid which is both a personnel and an equipment concern. The discharge piping will be routed to a floor drain system using stainless steel flex hosing since parts for the existing discharge piping are currently unavailable. The discharge piping of the currently installed RVs will be blanked off.

The Condensate Polishing System is non-safety related system. During the acid injection phase of the resin, if the RVs lift the acid will be directed to a Unit 1 waste neutralization sump. The pH of the sump will change and an annunciator will alarm in the condensate polisher control room. Actions identified in the Annunciator Response Procedure would be performed. Therefore, an unreviewed safety question does not exist.

TM S2-97-011

Temporary Modification
(Safety Evaluation No. 97-077)

6-5-97

This Temporary Modification (TM) involves the removal of two jumpers that provide a ground in the non-protection portion of the First Stage Protection Channels (1-MS-PT-446/447). Troubleshooting has determined that a ground exists in or downstream of the channel selector switch. If more than one ground exists in a current loop, it will not indicate properly. This TM will lift the installed jumpers on each loop (446 and 447) to allow the ground in the selector switch to serve as the loop ground.

Should failure of the activity occur, operation of the plant would be bounded by current accident analyses. Specifically, UFSAR Chapter 14 describes the plant response for a complete loss of external electrical load coincident with failure of the steam dump valves to open. Therefore, an unreviewed safety question does not exist.

SE 97-0021

Safety Evaluation

6-5-97

Safety Evaluation 97-0021 was performed to evaluate a vendor nonconformance report regarding a spent fuel storage cask. Specifically, one of the corner basket rails in TN-32 Cask No. 3 was determined to be below the vendor specified limits for wall thickness of 0.6 inches. The actual wall thickness was 0.597 inches.

The undersized condition of the corner basket rail does not affect the function of the rail, which is to provide lateral support for the fuel basket in the event of a tip-over accident. The area of maximum stress is in a different location of the rail and the calculated stress in the below minimum thickness area is not impacted and remains less than allowable. The cask will perform as designed. Therefore, an unreviewed safety question does not exist.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: June, 1997

TM S2-97-004 **Temporary Modification** 6-7-97
(Safety Evaluation No. 97-078A)

This Temporary Modification (TM) installs a jumper which prevents the opening of 02-CP-MOV-200 (Condensate Polisher Bypass) during the replacement of pressure switch 2-CP-PS-217. While the jumper is installed, the condensate polisher can not be automatically bypassed in the event of a loss of turbine load. Automatic bypass of the condensate polisher will be manually controlled. Annunciator Response Procedure 2CP-D2 directs manual operation of 2-CP-MOV-200 if the system differential pressure continues to increase.

Should failure of the activity occur, operation of the plant would be bounded by current accident analyses. Thus, this activity is acceptable and an unreviewed safety question does not exist.

TM S1-97-009 **Temporary Modification** 6-12-97
(Safety Evaluation No. 97-078 Rev. 1)

This Temporary Modification (TM) installs new Relief Valves (RVs) in the Condensate Polishing System to prevent 98% sulfuric acid from discharging onto the acid skid which is both a personnel and an equipment concern. The discharge piping will be routed to a floor drain system or routed to 1-CP-TK-14 using stainless steel flex hosing since parts for the existing discharge piping are currently unavailable. The discharge piping of the currently installed RVs will be blanked off.

The Condensate Polishing System is non-safety related system. During the acid injection phase of the resin, if the RVs lift the acid will be directed to a Unit 1 waste neutralization sump. The pH of the sump will change and an annunciator will alarm in the condensate polisher control room. Actions identified in the Annunciator Response Procedure would be performed. Therefore, an unreviewed safety question does not exist.

SE 97-079 **Safety Evaluation** 6-16-97

This Safety Evaluation assesses a Circulating Water Pump being out of service for greater than 30 days. Circulating Water Pumps provide water required to condense turbine exhaust steam and supply water to the Service Water System.

This condition meets the requirements of Technical Specifications and adequate intake level is maintained by the remaining operable Circulating Water Pumps. Therefore, an unreviewed safety question does not exist.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: June, 1997

FS 96-042 **Updated Final Safety Analysis Report Change** 6-19-97
(Safety Evaluation 97-082)

Updated Final Safety Analysis Report Change FS 96-42 corrects a documentation error in Section 9.10.2.2.9.4.c and Table 17.2.0 of the Topical Report. The Surry Training Center records vault is no longer used to store quality assurance records and therefore is no longer required to comply with Regulatory Guide 1.88 or ANSI N45.2.9-1974.

This revision incorporates changes to the UFSAR including the Topical Report to reflect the current records storage facilities at Surry. These changes do not reduce commitments in the QA Topical Report. There is no significant change in the consequences of a fire since records will continue to be stored in accordance with the requirements of ANSI Standard N45.2.9, Chapter 3 of NFPA 232, and Reg. Guide 1.88. Therefore, an unreviewed safety question does not exist.

SE 97-0031 **Safety Evaluation** 6-19-97

Transnuclear TN-32 Cask Topical Safety Analysis Report (TSAR) is being revised to clarify Section 3.1.1 concerning ASME Code section reference for nondestructive weld examination. Section 3.1.1 states that "Other structural and structural attachment welds are examined by the liquid penetrant or the magnetic particle method in accordance with Section III, Subsection NF, Paragraph NF-5350." Paragraph NF-5350 provides acceptance standards for magnetic particle inspection. Paragraph NF-5040 provides acceptance standards for liquid penetrant inspection.

This revision is an editorial change only to correct the omission of a reference to ASME Section III, Subsection NF, Paragraph NF-5340. Therefore, an unreviewed safety question does not exist.

TM S1-97-012 **Temporary Modification** 6-19-97
(Safety Evaluation No. 97-080)

The differential expansion alarm (J-D-5) for Turbine Rotor in the Control Room has been intermittently actuating. There are no indications that the alarm is valid. This change installs a temporary recorder on the outputs from the differential expansion pickup transducers at the Turbine Supervisory Panel to investigate the source of the spurious alarms.

The equipment involved is non-safety related and has no interface with any control or protection circuits. Therefore, an unreviewed safety question does not exist.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: June, 1997

JCO S2-97-001, Rev. 2 **Justification For Continued Operation** 6-27-97
(Safety Evaluation No. 97-002 Rev. 2)

This revision to the Justification for Continued Operation (JCO) discusses the Unit 2 letdown weld leak which developed on June 24, 1997 and was located on the downstream weld of the 'C' letdown HCV. The letdown line was removed from service; the weld flaw was excavated and repaired. Visual exams were performed on the other letdown lines with no indications of flaws existing. During the review of the failure, it was identified that the valve weights previously used in the analyses were incorrect and non-conservative. The seismic pipe stress analysis and representative vibration analysis was performed with the revised valve weights. As documented by Engineering Transmittal, the piping stress was within code allowables, with a valve support exceeding allowables. Modifications have been made to the valve support to satisfy ASME III Appendix F criteria to allow continued operation until the next refueling outage in accordance with NRC Generic Letter 91-18.

This degraded and non-conforming condition has been reviewed and analyzed. The previous letdown operational restrictions and support modifications made provide reasonable assurance that the letdown piping system and supports meet the structural integrity requirements outlined in Generic Letter 91-18 Section 6.13. Therefore, an unreviewed safety question does not exist.

TM S2-97-05 **Temporary Modification** 6-29-97
(Safety Evaluation No. 97-083)

The annunciator for Charging Pump to Regen HX Hi-Lo Flow (2D-E-5) is alarming frequently as a result of reduced charging flow conditions because of actions to operate with only one letdown orifice in service.

The charging flow setpoint is being reduced by the Temporary Modification but the high flow alarm capabilities will be maintained at the normal setpoint. Additionally, the annunciator for Regen HX Ltdn Line Hi Temp (2D-F-3) will provide an alternate indication for low charging flow. This condition does not affect accidents previously evaluated and does not create the potential for an accident not previously identified. Therefore, an unreviewed safety question does not exist.

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

MONTH/YEAR: June, 1997

Plastocor 3.1

Vendor Procedure
(Safety Evaluation 97-076)

6-2-97

Vendor Procedure Plastocor 3.1, "Procedure for the Installation of the Plastocor Epoxy Cladding System for Tubesheets with Down Tube Coating Using P-400U/P-2000U" provides instructions for coating the MER 5 chillers. This is done to protect the chiller condenser tubes from flow induced corrosion during normal operation and will be applied to the two spare chiller condensers located in the warehouse.

Application of Plastocor will increase the reliability and service life of the MER 5 chillers. It will not adversely affect the ability of the chillers to perform their design function. Return to service of the coated MER 5 chiller will include the performance of O-MPM-0210-01 for evaluating chiller performance. Therefore, an unreviewed safety question does not exist.

TESTS AND EXPERIMENTS THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: June, 1997

None During the Reporting Period

CHEMISTRY REPORT

MONTH/YEAR: June, 1997

Primary Coolant Analysis	Unit No. 1			Unit No. 2		
	Max.	Min.	Avg.	Max.	Min.	Avg.
Gross Radioactivity, $\mu\text{Ci/ml}$	3.07E-1	1.61E-1	2.36E-1	2.73E-1	1.59E-1	2.00E-1
Suspended Solids, ppm	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01
Gross Tritium, $\mu\text{Ci/ml}$	4.40E-1	2.42E-1	3.44E-1	4.47E-1	3.19E-1	4.11E-1
^{131}I , $\mu\text{Ci/ml}$	2.46E-4	1.38E-4	2.16E-4	2.22E-4	3.82E-5	8.08E-5
$^{131}\text{I}/^{133}\text{I}$	0.09	0.06	0.07	0.11	0.05	0.08
Hydrogen, cc/kg	32.6	27.0	29.2	31.6	17.2	25.3
Lithium, ppm	2.45	2.17	2.32	2.32	1.56	2.14
Boron - 10, ppm*	258.1	249.5	254.1	113.3	86.8	103.3
Oxygen, (DO), ppm	≤ 0.005	≤ 0.005	≤ 0.005	≤ 0.005	≤ 0.005	≤ 0.005
Chloride, ppm	0.006	0.002	0.004	0.005	≤ 0.001	0.003
pH at 25 degree Celsius	6.15	5.84	6.00	6.78	6.59	6.68

* Boron - 10 = Total Boron x 0.196

Comments:

None

**FUEL HANDLING
UNITS 1 & 2**

MONTH/YEAR: June, 1997

<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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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: JUNE, 1997

None During the Reporting Period