

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

May 12, 1993

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

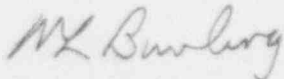
Serial No. 93-293  
NL&P/JMJ:jmj  
Docket Nos. 50-338  
50 339  
License Nos. NPF-4  
NPF-7

Gentlemen:

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

Enclosed is the Monthly Operating Report for North Anna Power Station Units 1 and 2 for the month of April 1993.

Very truly yours,



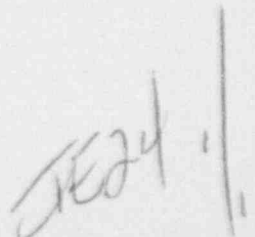
M. L. Bowling, Manager  
Nuclear Licensing and Programs

Enclosure

cc: U.S. Nuclear Regulatory Commission  
101 Marietta Street, NW  
Suite 2900  
Atlanta, GA 30323

Mr. D. R. Taylor  
NRC Resident Inspector  
North Anna Power Station


9305180378 930430  
PDR ADOCK 0500033B  
R PDR



VIRGINIA POWER COMPANY  
NORTH ANNA POWER STATION  
MONTHLY OPERATING REPORT

MONTH: April YEAR: 1993

Approved:

  
Station Manager

# OPERATING DATA REPORT

DOCKET NO.: 50-338  
 DATE: May 3, 1993  
 CONTACT: G. E. Kane  
 PHONE: (703) 894-2101

## OPERATING STATUS

1. Unit Name:.....North Anna 1
2. Reporting Period:.....April 1993
3. Licensed Thermal Power (MWt):.....2,748
4. Nameplate Rating (Gross MWe):.....947
5. Design Electrical Rating (Net MWe):.....907
6. Maximum Dependable Capacity (Gross MWe):..894
7. Maximum Dependable Capacity (Net MWe):....848

8. If changes occur in Capacity Ratings (Items No. 3 thru 7) since last report, give reasons: N/A

9. Power level to which restricted, if any (Net MWe): N/A

10. Reasons for restrictions, if any: N/A

	This Month	Y-t-D	Cumulative
11. Hours in Reporting Period.....	719.0	2,879.0	130,235.0
12. Number of Hours Reactor was Critical.....	509.7	593.9	94,524.7
13. Reactor Reserve Shutdown Hours.....	53.1	68.8	6,826.8
14. Hours Generator On-Line.....	480.2	563.2	91,559.9
15. Unit Reserve Shutdown Hours.....	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH).....	1,175,250.8	1,270,653.3	241,446,840.2
17. Gross Electrical Energy Generated (MWH).....	383,556.0	414,622.0	79,341,527.0
18. Net Electrical Energy Generated (MWH).....	364,311.0	392,134.0	75,106,074.0
19. Unit Service Factor.....	66.8%	19.6%	70.3%
20. Unit Availability Factor.....	66.8%	19.6%	70.3%
21. Unit Capacity Factor (using MDC Net).....	59.8%	16.1%	64.6%
22. Unit Capacity Factor (using DER Net).....	55.9%	15.0%	63.6%
23. Forced Outage Rate.....	0.0%	0.0%	11.3%

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

25. If Shutdown at end of Report Period, estimated time of Startup: N/A

26. Units in Test Status (Prior to Commercial Operation):

	Forecast	Achieved
INITIAL CRITICALITY	_____	_____
INITIAL ELECTRICITY	_____	_____
COMMERCIAL OPERATION	_____	_____

# AVERAGE DAILY UNIT POWER LEVEL

Docket No.: 50-338  
Unit: NA-1  
Date: May 3, 1993  
Contact: G. E. Kane  
Phone: (703) 894-2101

MONTH: April 1993

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>0</u>	17	<u>829</u>
2	<u>0</u>	18	<u>903</u>
3	<u>0</u>	19	<u>904</u>
4	<u>0</u>	20	<u>902</u>
5	<u>0</u>	21	<u>902</u>
6	<u>0</u>	22	<u>904</u>
7	<u>0</u>	23	<u>907</u>
8	<u>0</u>	24	<u>909</u>
9	<u>0</u>	25	<u>909</u>
10	<u>0</u>	26	<u>909</u>
11	<u>220</u>	27	<u>907</u>
12	<u>227</u>	28	<u>906</u>
13	<u>304</u>	29	<u>906</u>
14	<u>480</u>	30	<u>904</u>
15	<u>639</u>		
16	<u>710</u>		

## 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.

# NORTH ANNA POWER STATION

UNIT NO.: 1  
MONTH: April

## SUMMARY OF OPERATING EXPERIENCE

Page 1 of 1

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

<u>Date</u>	<u>Time</u>	<u>Data</u>
April 01, 1993	0000	Began month with unit in Mode 5.
April 07, 1993	1310	Unit entered Mode 4.
April 08, 1993	0418	Unit entered Mode 3.
April 09, 1993	1816	Unit entered Mode 2.
April 10, 1993	2114	Unit entered Mode 1.
	2346	Main generator placed on-line.
April 11, 1993	0210	Unit stable at 30% power, 267 MWe for Chemistry hold.
April 13, 1993	1250	Commenced unit ramp to 50% power.
	1555	Unit stable at approximately 50% power, 632 MWe.
April 14, 1993	1200	Commenced unit ramp to 75% power.
	1618	Unit stable at approximately 600 MWe for Chemistry hold.
April 15, 1993	0545	Commenced unit ramp to 75% power.
	0852	Unit stable at approximately 75% power, 708 MWe.
April 16, 1993	1530	Commenced unit ramp to 100% power.
April 17, 1993	2030	Unit stable at 100% power, 942 MWe.
April 30, 1993	2400	Ended month with unit at 100% power, 950 MWe.

UNIT SHUTDOWN AND POWER REDUCTIONS  
Explanation Sheet

Docket No.: 50-338

Report Month April Unit Name: NA-1

Year: 1993 Date: May 3, 1993

Contact: G. E. Kane

#93-01

January 4, 1993

Main generator taken off line at 1100 hours for a refueling and steam generator replacement outage. Unit entered Mode 3 at 1213 hours. Unit entered Mode 4 at 2246 hours.

January 5, 1993

Unit entered Mode 5 at 0356 hours.

January 13, 1993

Unit entered Mode 6 at 1018 hours.

January 20, 1993

Unit was defueled at 0032 hours.

March 16, 1993

Unit entered Mode 6 at 1314 hours.

March 18, 1993

Core on-load completed at 1600 hours.

March 22, 1993

Unit entered Mode 5 at 2348 hours.

April 7, 1993

Unit entered Mode 4 at 1310 hours.

April 8, 1993

Unit entered Mode 3 at 0418 hours.

April 9, 1993

Unit entered Mode 2 at 1816 hours.

April 10, 1993

Unit entered Mode 1 at 2114 hours. Main generator placed on-line at 2346 hours.

## UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: April 1993

DOCKET NO.: 50-338  
 UNIT NAME: NA-1  
 DATE: May 3, 1993  
 CONTACT: G. E. Kane  
 PHONE: (703) 894-2101

No.	Date	1 Type	Duration (hrs)	2 Reason	3 Method of Shutting Down Reactor	Licensee Event Report #	4 System Code	5 Component Code	Cause & Corrective Action to Prevent Recurrence
93-01	930104	S	238.8	C/H	1	N/A	N/A	N/A	Shutdown for refueling and replacement of Steam Generators.

1: Type	2: Reason	3: Method	4:
F=Forced	A=Equipment Failure (explain)	1=Manual	Exhibit F - Instructions
S=Scheduled	B=Maintenance or Test	2=Manual Scram	for preparation of Data
	C=Refueling	3=Automatic Scram	Entry Sheets for Licensee
	D=Regulatory Restriction	4=Continuations	Event Report (LER) File
	E=Operator Training & License Examination	5=Load Reduction	(NUREG-0161)
	F=Administrative	9=Other	
	G=Operational Error		5:
	H=Other (explain)		Exhibit H - Same Source

# OPERATING DATA REPORT

DOCKET NO.: 50-339  
 DATE: May 3, 1993  
 CONTACT: G. E. Kane  
 PHONE: (703) 894-2101

## OPERATING STATUS

1. Unit Name:.....North Anna 2  
 2. Reporting Period:.....April 1993  
 3. Licensed Thermal Power (Mwt):.....2893  
 4. Nameplate Rating (Gross MWe):.....947  
 5. Design Electrical Rating (Net MWe):.....907  
 6. Maximum Dependable Capacity (Gross MWe):..957  
 7. Maximum Dependable Capacity (Net MWe):....909

8. If changes occur in Capacity Ratings (Items No. 3 thru 7) since last report, give reasons: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

9. Power level to which restricted, if any (Net MWe): \_\_\_\_\_  
 10. Reasons for restrictions, if any: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

	This Month	Y-t-D	Cumulative
11. Hours in Reporting Period.....	719.0	2,879.0	108,503.0
12. Number of Hours Reactor was Critical.....	487.5	2,647.5	89,691.7
13. Reactor Reserve Shutdown Hours.....	120.8	120.8	6,365.2
14. Hours Generator On-Line.....	477.4	2,637.4	88,650.5
15. Unit Reserve Shutdown Hours.....	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH) .....	1,190,729.8	7,436,991.3	239,561,755.8
17. Gross Electrical Energy Generated (MWH).....	386,138.0	2,433,445.0	78,470,161.0
18. Net Electrical Energy Generated (MWH).....	365,059.0	2,314,327.0	75,138,808.0
19. Unit Service Factor.....	66.4%	91.6%	81.7%
20. Unit Availability Factor.....	66.4%	91.6%	81.7%
21. Unit Capacity Factor (using MDC Net).....	55.9%	88.4%	76.9%
22. Unit Capacity Factor (using DER Net).....	56.0%	88.6%	76.4%
23. Forced Outage Rate.....	33.6%	8.4%	5.7%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):Refueling outage, September 4, 1993, 60 days. \_\_\_\_\_  
 \_\_\_\_\_

25. If Shutdown at end of Report Period, estimated time of Startup: \_\_\_\_\_  
 \_\_\_\_\_

26. Units in Test Status (Prior to Commercial Operation):

	Forecast	Achieved
INITIAL CRITICALITY	_____	_____
INITIAL ELECTRICITY	_____	_____
COMMERCIAL OPERATION	_____	_____



# AVERAGE DAILY UNIT POWER LEVEL

Docket No.: 50-339  
 Unit: NA-2  
 Date: May 3, 1993  
 Contact: G. E. Kane  
 Phone: (703) 894-2101

MONTH: April 1993

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>901</u>
2	<u>901</u>
3	<u>901</u>
4	<u>902</u>
5	<u>901</u>
6	<u>901</u>
7	<u>901</u>
8	<u>901</u>
9	<u>901</u>
10	<u>902</u>
11	<u>905</u>
12	<u>905</u>
13	<u>906</u>
14	<u>908</u>
15	<u>909</u>
16	<u>277</u>

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	<u>0</u>
18	<u>0</u>
19	<u>0</u>
20	<u>0</u>
21	<u>135</u>
22	<u>274</u>
23	<u>387</u>
24	<u>127</u>
25	<u>0</u>
26	<u>0</u>
27	<u>0</u>
28	<u>0</u>
29	<u>136</u>
30	<u>368</u>

## 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.

# NORTH ANNA POWER STATION

UNIT NO.: 2

MONTH: April

## SUMMARY OF OPERATING EXPERIENCE

Page 1 of 2

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

<u>Date</u>	<u>Time</u>	<u>Data</u>
April 01, 1993	0000	Began month with unit at 100% power, 944 MWe.
April 16, 1993	0717	Automatic reactor trip due to malfunction of Main generator voltage regulator.
	1747	Unit entered Mode 4.
April 17, 1993	0606	Unit entered Mode 5 for maintenance.
April 18, 1993	2155	Unit entered Mode 4 after completion of maintenance.
April 19, 1993	0454	Unit entered Mode 3.
April 21, 1993	0211	Unit entered Mode 2.
	0558	Unit entered Mode 1.
	0746	Main generator placed on-line.
	0822	Unit stable at approximately 30% power, 218 MWe for Chemistry hold.
April 22, 1993	1355	Commenced unit ramp to 90% power.
	1554	Secured ramp at approximately 49% power, 422 MWe due to QPTR greater than 1.02.
April 24, 1993	0558	Commenced unit ramp to 100% power.
	0255	Secured ramp at approximately 71% power, 677 MWe due to intermittent Power Range Upper Detector Deviation alarms.
	0530	Manual reactor trip due to excessive vibrations and oscillations in the Feedwater System.
	0602	"Alert" declared.

# NORTH ANNA POWER STATION

UNIT NO.: 2

MONTH: April

## SUMMARY OF OPERATING EXPERIENCE

Page 2 of 2

<u>Date</u>	<u>Time</u>	<u>Data</u>
	0816	Event downgraded to a "Notification of Unusual Event."
	1045	Terminated "Notification of Unusual Event."
	1253	Unit entered Mode 4.
	1735	Unit entered Mode 5.
April 27, 1993	1659	Unit entered Mode 4 after Feedwater System inspections.
April 28, 1993	0850	Unit entered Mode 3.
April 29, 1993	0235	Unit entered Mode 2.
	0446	Unit entered Mode 1.
	0636	Main generator placed on-line.
	0700	Unit stable at approximately 30% power, 207 MWe for Chemistry hold.
April 30, 1993	1103	Commenced unit ramp to 100% power.
	2400	Ended month with unit at approximately 64% power, 595 MWe and ramping to 100% power.

UNIT SHUTDOWN AND POWER REDUCTIONS  
Explanation Sheet

Docket No.: 50-339

Report Month April Unit Name: NA-2

Year: 1993 Date: May 3, 1993

Contact: G. E. Kane

#93-02

April 16, 1993

Automatic reactor trip at 0717 hours due to malfunction of Main generator voltage regulator. Unit entered Mode 4 at 1747 hours.

April 17, 1993

Unit entered Mode 5 at 0606 hours.

April 18, 1993

Unit entered Mode 4 at 2155 hours.

April 19, 1993

Unit entered Mode 3 at 0454 hours.

April 21, 1993

Unit entered Mode 2 at 0211 hours. Unit entered Mode 1 at 0558 hours. Main generator placed on-line at 0746 hours.

#93-03

April 24, 1993

Manual reactor trip at 0530 hours due to excessive vibrations and oscillations in the Feedwater System. Unit entered Mode 4 at 1253 hours. Unit entered Mode 5 at 1735 hours.

April 27, 1993

Unit entered Mode 4 at 1659 hours.

April 28, 1993

Unit entered Mode 3 at 0850 hours.

April 29, 1993

Unit entered Mode 2 at 0235 hours. Unit entered Mode 1 at 0446 hours. Main generator placed on-line at 0636 hours.

## UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: April 1993

DOCKET NO.: 50-339  
 UNIT NAME: NA-2  
 DATE: May 3, 1993  
 CONTACT: G. E. Kane  
 PHONE: (703) 894-2101

No.	Date	1 Type	Duration (hrs)	2 Reason	3 Method of Shutting Down Reactor	Licensee Event Report #	4 System Code	5 Component Code	Cause & Corrective Action to Prevent Recurrence
93-02	930416	F	120.5		3	N2-93-002	TB	RG	Malfunction of Main generator voltage regulator
93-03	930424	F	121.1		2	N2-93-003	SJ	FCV	Excessive vibrations/oscillations in Feedwater System

1: Type  
 F=Forced  
 S=Scheduled

2: Reason  
 A=Equipment Failure (explain)  
 B=Maintenance or Test  
 C=Refueling  
 D=Regulatory Restriction  
 E=Operator Training & License Examination  
 F=Administrative  
 G=Operational Error  
 H=Other (explain)

3: Method  
 1=Manual  
 2=Manual Scram  
 3=Automatic Scram  
 4=Continuations  
 5=Load Reduction  
 9=Other

4:  
 Exhibit F - Instructions for preparation of Data Entry Sheets for Licensee Event Report (LER) File (NUREG-0161)

5:  
 Exhibit H - Same Source