VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

October 11, 1991

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

Serial No. 91-611
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 September 1991.

Very truly yours,

W. L. Stewart
Senior Vice President - Nuclear

Enclosures

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

Mr. M. S. Lesser
NRC Senior Resident Inspector
North Anna Power Station

IE24
1/1

VIRGINIA POWER COMPANY
NORTH ANNA POWER STATION
MONTHLY OPERATING REPORT

MONTH: September YEAR: 1991

Approved:

Station Manager

OPERATING DATA REPORT

DOCKET NO.: 50-338
DATE: October 1, 1991
COMPLETED BY: C. Mladen

OPERATING STATUS

1. Unit Name:.....North Anna 1
2. Reporting Period:.....September 1991
3. Licensed Thermal Power (MWt):..... 2,893
4. Nameplate Rating (Gross MWe):..... 947
5. Design Electrical Rating (Net MWe):..... 907
6. Maximum Dependable Capacity (Gross MWe):.. 959
7. Maximum Dependable Capacity (Net MWe):.... 911

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	720.0	6,551.0	116,363.0
12. Number of Hours Reactor was Critical	720.0	4,682.8	84,673.7
13. Reactor Reserve Shutdown Hours	0.0	108.6	6,712.2
14. Hours Generator On-Line	720.0	4,537.5	81,757.5
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	2,079,564.7	12,150,161.8	217,136,397.8
17. Gross Electrical Energy Generated (MWH)	684,900.0	3,995,929.0	71,337,267.0
18. Net Electrical Energy Generated (MWH)	652,591.0	3,794,061.0	67,522,813.0
19. Unit Service Factor	100.0%	69.3%	70.3%
20. Unit Availability Factor	100.0%	69.3%	70.3%
21. Unit Capacity Factor (using MDC Net)	99.5%	63.6%	64.8%
22. Unit Capacity Factor (using DER Net)	99.9%	63.9%	64.0%
23. Forced Outage Rate	0.0%	12.8%	12.5%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): None

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: October 1, 1991
Completed by: C. Mladen
Phone: (703) 894-2774

MONTH: September 1991

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY LEVEL LEVEL (MWe-Net)
1	906	17	906
2	907	18	907
3	907	19	907
4	908	20	906
5	907	21	905
6	908	22	905
7	907	23	907
8	907	24	907
9	906	25	908
10	907	26	908
11	908	27	908
12	908	28	908
13	888	29	909
14	907	30	910
15	907		
16	906		

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.

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO.: 50-338
UNIT NAME: NA-1
DATE: October 1, 1991
COMPLETED BY: C. Mladen
PHONE: (703) 894-2774

REPORT MONTH: September 1991

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

*No entry this month.

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

UNIT SHUTDOWN AND POWER REDUCTIONS
Explanation Sheet

Docket No.: 50-338

Report Month September Unit Name: NA-1

Year: 1991 Date: October 1, 1991

Completed by: Cathie Mladen

*No entry this month.

NORTH ANNA POWER STATION

UNIT NO.: 1
MONTH: September

SUMMARY OF OPERATING EXPERIENCE

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

Date	Time	Data
September 01, 1991	0000	Began month with unit at 100%, 952MWe.
September 13, 1991	0846	Commenced unit ramp-down to 840MWe for TVFT.
	1006	Unit stable at 840MWe.
	1120	TVFT completed satisfactorily.
	1209	Commenced unit ramp-up to 100% power.
	1500	Unit stable at 100%, 954MWe.
September 30, 1991	2400	Ended month with unit at 100%, 959MWe.

OPERATING DATA REPORT

DOCKET NO.: 50-339
DATE: October 1, 1991
COMPLETED BY: C. Mladen
PHONE: (703) 894-2774

OPERATING STATUS

1. Unit Name:.....North Anna 2
2. Reporting Period:.....September 1991
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: 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	720.0	6,551.0	94,631.0
12. Number of Hours Reactor was Critical	603.5	6,434.5	77,568.8
13. Reactor Reserve Shutdown Hours	65.9	65.9	6,015.5
14. Hours Generator On-Line	551.3	6,382.3	76,616.6
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	1,502,432.1	18,362,877.5	205,611,990.9
17. Gross Electrical Energy Generated (MWH)	484,673.0	6,043,462.0	67,346,048.0
18. Net Electrical Energy Generated (MWH)	459,020.0	5,747,977.0	64,563,457.0
19. Unit Service Factor	76.6%	97.4%	81.0%
20. Unit Availability Factor	76.6%	97.4%	81.0%
21. Unit Capacity Factor (using MDC Net)	70.1%	96.5%	75.8%
22. Unit Capacity Factor (using DER Net)	70.3%	96.7%	75.2%
23. Forced Outage Rate	23.4%	2.6%	6.1%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): None

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.: 50-339
Unit: NA-2
Date: October 1, 1991
Completed by: C. Mladen
Phone: (703) 894-2774

MONTH: September 1991

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY LEVEL LEVEL (MWe-Net)
1	895	17	895
2	896	18	894
3	897	19	895
4	898	20	195
5	896	21	0
6	890	22	0
7	897	23	0
8	896	24	0
9	896	25	0
10	896	26	73
11	896	27	94
12	897	28	246
13	897	29	595
14	896	30	900
15	900		
16	895		

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.

DOCKET NO.: 50-339
UNIT NAME: NA-2
DATE: October 1, 1991
COMPLETED BY: C. Mladen
PHONE: (703) 894-2774

REPORT MONTH: September 1991

No.	Date	1 Type	Duration (hrs)	2 Reason	3 Method of Shutting Down Reactor	Licensee Event Report #	4 System Code	Component Code	5 Cause & Corrective Action to Prevent Recurrence
91-07	910920	F	152.6	A	3	N2-91-009	SJ	FCV	Reactor Trip due to closure of "B" Main Feed Regulating Valve. Safety Injection due to Steam Dump System malfunction. Corrective maintenance completed on malfunctioning equipment.
91-08	910927	F	16.1	A	1	N/A	TB	XFMR	Corrective maintenance required on "A" Station Service Transformer

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
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Exhibit H - Same Source

UNIT SHUTDOWN AND POWER REDUCTIONS
Explanation Sheet

Docket No.: 50-339

Report Month September **Unit Name:** NA-2

Year: 1991 **Date:** October 1, 1991

Completed by: Cathie Mladen

#91-07 September 20, 1991
Reactor trip as a result of "B" Main Feedwater Regulating Valve closure and Automatic Safety Injection as a result of malfunctioning Steam Dump System at 0513 hours.

September 21, 1991
Unit entered Mode 2 at 0922 hours.

September 22, 1991
Commenced unit shutdown due to required corrective maintenance on Reactor Coolant System valve at 0122 hours. Unit entered Mode 3 at 0136 hours. Unit entered Mode 4 at 0845 hours. Unit entered Mode 5 at 1345 hours.

September 24, 1991
Unit entered Mode 4 at 1622 hours.

September 25, 1991
Unit entered Mode 3 at 0125 hours. Unit entered Mode 2 at 1755 hours.

September 26, 1991
Unit entered Mode 1 at 1306 hours. Unit stable at 12% power at 1343 hours. Main Generator on-line at 1349 hours. Unit stable at 30% power for Chemistry hold at 1435 hours.

#91-08 September 27, 1991
Commenced unit ramp-down to 7% power due to required corrective maintenance on "A" Station Service Transformer at 1203 hours. Main Generator off-line at 1310 hours.

September 28, 1991
Main Generator on-line at 0514 hours. Unit stable at 30% power for Chemistry hold at 0630 hours. Commenced unit ramp-up to 45% for QPTR at 0827 hours. Unit stable at 45% power at 0827 hours.

UNIT SHUTDOWN AND POWER REDUCTIONS
Explanation Sheet

Docket No.: 50-339

Report Month September **Unit Name:** NA-2

Year: 1991 **Date:** October 1, 1991

Completed by: Cathie Mladen

September 29, 1991
Commenced unit ramp-up at 0600 hours. Unit ramp-up secured at 51% power due to "C" Main Feedwater Pump high vibrations at 0615 hours. Commenced unit ramp-down to 45% power to secure "C" Main Feedwater Pump at 1009 hours. Unit stable at 45% power at 1022 hours. Commenced unit ramp-up at 1140 hours. Unit stable at 85% power for calorimetric at 1330 hours. Commenced unit ramp-up to 100% power at 1407 hours. Unit stable at 100% power at 1832 hours.

NORTH ANNA POWER STATION

UNIT NO.: 2
MONTH: September

SUMMARY OF OPERATING EXPERIENCE

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.

Date	Time	Data
September 01, 1991	0000	Began month with unit at 100% power, 944MWe.
September 06, 1991	0800	Commenced unit ramp-down to 880MWe for TVFT.
	0830	Unit stable at 880MWe.
	1010	TVFT completed satisfactorily.
	1020	Commenced unit ramp-up to 100% power.
	1108	Unit stable at 100% power, 940MWe.
September 20, 1991	0513	Reactor trip as a result of "B" Main Feedwater Regulating Valve closure and subsequent "B" steam generator low level coincident with a steam flow greater than feed flow mismatch. Automatic Safety Injection occurred as a result of malfunctioning Steam Dump System and subsequent high steam flow coincident with low Reactor Coolant System (RCS) average temperature.
September 21, 1991	0922	Unit entered Mode 2.
September 22, 1991	0122	Commenced unit shutdown due to required corrective maintenance on RCS valve (2-RC-83).
	0136	Unit entered Mode 3.
	0845	Unit entered Mode 4.
	1345	Unit entered Mode 5.

NORTH ANNA POWER STATION

UNIT NO.: 2
MONTH: September

SUMMARY OF OPERATING EXPERIENCE

September 24, 1991	1622	Unit entered Mode 4.
September 25, 1991	0125	Unit entered Mode 3.
	1755	Unit entered Mode 2.
September 26, 1991	1306	Unit entered Mode 1.
	1343	Unit stable at 12% power.
	1349	Main Generator on-line.
	1435	Unit stable at 30% power for Chemistry hold.
September 27, 1	1203	Commenced unit ramp-down to 7% power due to required corrective maintenance on "A" Station Service Transformer.
	1310	Main Generator off-line.
September 28, 1991	0514	Main Generator on-line.
	0630	Unit stable at 30% power for Chemistry hold.
	0721	Commenced unit ramp-up to 45% power for QPTR.
	0827	Unit stable at 45% power.
September 29, 1991	0600	Commenced unit ramp-up.
	0615	Unit ramp-up secured at 51% power due to "C" Main Feedwater Pump high vibrations.
	1009	Commenced unit ramp-down to 45% power to secure "C" Main Feedwater Pump.
	1022	Unit stable at 45% power.

NORTH ANNA POWER STATION

UNIT NO.: 2
MONTH: September

SUMMARY OF OPERATING EXPERIENCE

	1140	Commenced unit ramp-up.
	1330	Unit stable at 85% power for calorimetric.
	1407	Calorimetric completed satisfactorily, commenced unit ramp-up to 100% power.
	1832	Unit stable at 100% power, 940MWe.
September 30, 1991	2400	Ended month with unit at 100% power, 951MWe.