



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

April 15, 1991

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

Gentlemen:

In the Matter of )  
Tennessee Valley Authority )

Docket Nos. 50-327  
50-328

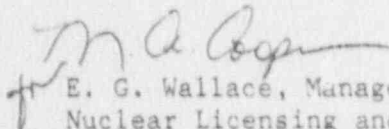
SEQUOYAH NUCLEAR PLANT (SQN) - MARCH 1991 MONTHLY OPERATING REPORT

Enclosed is the March 1991 Monthly Operating Report as required by SQN  
Technical Specification 6.9.1.10.

If you have any questions concerning this matter, please call  
M. A. Cooper at (615) 843-8422.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

  
for E. G. Wallace, Manager  
Nuclear Licensing and  
Regulatory Affairs

Enclosure  
cc: See page 2

9104220288 910331  
PDR ADUCK 05000327  
R PDR

IE24  
11

U.S. Nuclear Regulatory Commission  
April 15, 1991

cc (Enclosure):

Mr. D. E. LaBarge, Project Manager  
U.S. Nuclear Regulatory Commission  
One White Flint, North  
11555 Rockville Pike  
Rockville, Maryland 20852

INPO Records Center  
Institute of Nuclear Power Operations  
1100 Circle 75 Parkway, Suite 1500  
Atlanta, Georgia 30389

Mr. Ted Marston, Director  
Electric Power Research Institute  
P.O. Box 10412  
Palo Alto, California 94304

NRC Resident Inspector  
Sequoyah Nuclear Plant  
2600 Igou Ferry Road  
Soddy-Daisy, Tennessee 37379

Regional Administration  
U.S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Mr. B. A. Wilson, Project Chief  
U.S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Mr. Fred Yost, Director, Research Services  
Utility Data Institute  
1700 K Street, NW, Suite 400  
Washington, D.C. 20006

TENNESSEE VALLEY AUTHORITY

NUCLEAR POWER GROUP  
SEQUOYAH NUCLEAR PLANT

MONTHLY OPERATING REPORT  
TO THE  
NUCLEAR REGULATORY COMMISSION  
MARCH 1991

UNIT 1

DOCKET NUMBER 50-327  
LICENSE NUMBER DPR-77

UNIT 2

DOCKET NUMBER 50-328  
LICENSE NUMBER DPR-79

OPERATIONAL SUMMARY  
MARCH 1991

UNIT 1

Unit 1 generated 854,260 MWh (gross) electrical power during March, with a capacity factor of 98.8 percent. Unit 1 was operating at approximately 99 percent reactor thermal power at the beginning of the month with a loss of efficiency resulting from the loss of No. 1 preferred inverter that caused the moisture separator reheater (MSR) valves to close. On March 1, 1991, at 0005 Eastern standard time (EST), the MSRs were manually placed back in service. Unit 1 was at 100 percent reactor power level at 0746 EST on March 1, 1991.

On March 26, 1991, at 1326 EST, with Unit 1 operating at 100 percent reactor power, the No. 1 reactor coolant pump (RCP) oil reservoir high/low alarm came in. Operations began monitoring the thrust bearing temperature and upper radial bearing temperature. Westinghouse Electric Corporation was contacted and recommended that the pump be shut down if either the thrust bearing temperature or upper radial bearing temperature increased 5 degrees. On March 28, 1991, at 1017 EST, a load decrease was initiated for the inspection of the No. 1 RCP oil leak. Unit 1 reactor power was decreased to approximately 24 percent to facilitate as low as reasonably achievable (ALARA) for the containment entry. Two containment entries were made. The first entry found that the oil level was approximately one inch below normal and that a small quantity of visible oil was primarily in the vicinity of the bearing lift system, which is used only during plant RCP startup and RCP shutdown. The second entry was made to add oil and clean noted standing oil to the extent possible taking into consideration ALARA.

On March 28, 1991, at 2320 EST, Unit 1 power increase was initiated. Unit 1 reached 99 percent reactor power on March 29, 1991, at 1555 EST. At 2145 EST, a power reduction was initiated to allow Operations to remove the No. 3 heater drain tank (HDT) pump from service so that the 3C auxiliary oil pump could be manually stopped. Reduction in power to 80 percent ensured that a balance-of-plant runback did not occur when the No. 3 HDT pump was removed from service. Unit 1 was returned to 100 percent reactor power on March 30, 1991, at 0543 EST, and continued to operate at 100 percent through the end of the month.

UNIT 2

Unit 2 generated 866,260 MWh (gross) electrical power during March, with a capacity factor of 100.2 percent. Unit 2 was operating at approximately 100 percent reactor power on March 3, 1991, at 0143 EST, when the load dispatch requested a reduction of 100 MWe. At 0245 EST, the load dispatch requested a further reduction of 100 MWe. At 0313 EST, load dispatch requested another reduction of 100 MWe, reducing power on Unit 2 to 876 MWe. At 0437 EST, Unit 2 was operating at approximately 73 percent reactor power, producing 880 MWe. At 0544 EST, the load dispatch notified Operations to begin load increase to 100 percent reactor power. At 1055 EST, Unit 2 was again operating at 100 percent reactor power.

Unit 2 continued to operate at approximately 100 percent reactor power level through the end of March.



POWER OPERATED RELIEF VALVES (PORV) AND SAFETY VALVES SUMMARY

There were no challenges to PORVs or safety valves in March.

OFFSITE DOSE CALCULATION MANUAL (ODCM) CHANGES

There were no changes to the ODCM during March.

# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-327 UNIT No. One DATE: 04-09-91  
 COMPLETED BY: T. J. Hollomon TELEPHONE: (615) 843-7528  
 MONTH: MARCH 1991

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	1136
2	1137
3	1136
4	1136
5	1135
6	1135
7	1135
8	1135
9	1135
10	1136
11	1129
12	1136
13	1136
14	1113
15	1134
16	1135

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	1135
18	1136
19	1135
20	1134
21	1135
22	1137
23	1137
24	1136
25	1137
26	1137
27	1138
28	770
29	749
30	1107
31	1140

# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-328 UNIT No. Two DATE: 04-09-91  
 COMPLETED BY: T. J. Hollomon TELEPHONE: (615) 843-7528  
 MONTH: MARCH 1991

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	1132	17	1130
2	1133	18	1130
3	1050	19	1129
4	1114	20	1129
5	1122	21	1129
6	1126	22	1129
7	1127	23	1129
8	1126	24	1128
9	1128	25	1127
10	1127	26	1129
11	1128	27	1128
12	1131	28	1128
13	1132	29	1128
14	1129	30	1128
15	1130	31	1129
16	1131		

# OPERATING DATA REPORT

DOCKET NO. 50-327  
 DATE Apr. 9, 1991  
 COMPLETED BY T. J. Holloman  
 TELEPHONE (615) 843-7528

## OPERATING STATUS

1. Unit Name: Sequoyah Unit One
2. Reporting Period: March 1991
3. Licensed Thermal Power (MWt): 3411.0
4. Nameplate Rating (Gross MWe): 1220.6
5. Design Electrical Rating (Net MWe): 1148.0
6. Maximum Dependable Capacity (Gross MWe): 1162.0
7. Maximum Dependable Capacity (Net MWe): 1122.0
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:

Notes

9. Power Level To Which Restricted, If Any (Net MWe): N/A
10. Reasons For Restrictions, If Any: N/A

	This Month	Yr-to-Date	Cumulative
11. Hours in Reporting Period	<u>744</u>	<u>2,160</u>	<u>85,465</u>
12. Number of Hours Reactor Was Critical	<u>744.00</u>	<u>2,029.3</u>	<u>42,101</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
14. Hours Generator On-Line	<u>744.0</u>	<u>2,010.3</u>	<u>41,106.3</u>
15. Unit Reserve Shutdown Hours	<u>0.0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>2,504,521.5</u>	<u>6,758,362.6</u>	<u>134,044,430</u>
17. Gross Electrical Energy Generated (MWH)	<u>854,260</u>	<u>2,311,390</u>	<u>45,431,976</u>
18. Net Electrical Energy Generated (MWH)	<u>825,887</u>	<u>2,228,943</u>	<u>43,525,819</u>
19. Unit Service Factor	<u>100.0</u>	<u>93.1</u>	<u>48.1</u>
20. Unit Availability Factor	<u>100.0</u>	<u>93.1</u>	<u>48.1</u>
21. Unit Capacity Factor (Using MOC Net)	<u>98.8</u>	<u>92.0</u>	<u>45.4</u>
22. Unit Capacity Factor (Using DER Net)	<u>96.7</u>	<u>89.9</u>	<u>44.4</u>
23. Unit Forced Outage Rate	<u>0.0</u>	<u>6.9</u>	<u>44.2</u>
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 Startup: N/A



# OPERATING DATA REPORT

DOCKET NO. 50-328  
DATE Apr. 2, 1991  
COMPLETED BY T. J. Holloman  
TELEPHONE (615) 843-7528

## OPERATING STATUS

1. Unit Name: Sequoyah Unit Two
2. Reporting Period: March 1991
3. Licensed Thermal Power (Mwt): 3411.0
4. Nameplate Rating (Gross MWe): 1220.6
5. Design Electrical Rating (Net MWe): 1148.0
6. Maximum Dependable Capacity (Gross MWe): 1162.0
7. Maximum Dependable Capacity (Net MWe): 1122.0
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7; Since Last Report, Give Reasons:

Notes

9. Power Level To Which Restricted, If Any (Net MWe): N/A
10. Reasons For Restrictions, If Any: N/A

	This Month	Yr-to-Date	Cumulative
11. Hours in Reporting Period	<u>744</u>	<u>2,160</u>	<u>77,425</u>
12. Number of Hours Reactor Was Critical	<u>744.0</u>	<u>2,160.0</u>	<u>42,631</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
14. Hours Generator On-Line	<u>744.0</u>	<u>2,123.0</u>	<u>41,683.4</u>
15. Unit Reserve Shutdown Hours	<u>0.0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>2,525,808.9</u>	<u>7,129,999.3</u>	<u>129,404,450</u>
17. Gross Electrical Energy Generated (MWH)	<u>866,260</u>	<u>2,441,480</u>	<u>43,929,696</u>
18. Net Electrical Energy Generated (MWH)	<u>836,594</u>	<u>2,355,456</u>	<u>41,981,534</u>
19. Unit Service Factor	<u>100.0</u>	<u>98.3</u>	<u>53.8</u>
20. Unit Availability Factor	<u>100.0</u>	<u>98.3</u>	<u>53.8</u>
21. Unit Capacity Factor (Using MDC Net)	<u>100.2</u>	<u>97.2</u>	<u>48.3</u>
22. Unit Capacity Factor (Using DER Net)	<u>97.9</u>	<u>95.0</u>	<u>47.2</u>
23. Unit Forced Outage Rate	<u>0.0</u>	<u>1.7</u>	<u>33.2</u>
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 Startup: N/A

## UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: March 1991DOCKET NO.: 50-327UNIT NAME: OneDATE: 04/09/91COMPLETED BY: I. J. HollomanTELEPHONE: (615) 843-7528

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	Licensee Event Report No.	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause and Corrective Action to Prevent Recurrence
3	910328	F		B	5		AB	P	At 1017 EST, a load decrease was initiated for inspection and repair of the No. 1 RCP which had an oil reservoir high/low alarm come in. Unit 1 reactor power level was decreased approximately 24 percent to facilitate ALARA for the containment entry. Two containment entries were made. The first entry identified that the oil level was approximately one inch below normal. The second entry was made to add oil. At 2320 EST, Unit 1 power increase was initiated. Power was held at 45 percent for approximately four hours while repairs were completed on the 1B MFP 1B1 main oil pump relay 86B1. Unit 1 reached 99 percent reactor power level on March 29, 1991, at 1555 EST.
4	910329	F		F	5				At 2145 EST, a power reduction was initiated to allow Operations to remove the No. 3 HDT pump from service so that the 3C auxiliary oil pump could be manually stopped. Reduction in power to 80 percent ensured that a balance-of-plant runback did not occur when the No. 3 HDT pump was removed from service. Unit 1 was returned to 100 percent reactor power on March 30, 1991, at 0543 EST, and continued to operate at 100 percent through the end of the month.

<sup>1</sup>F: Forced  
S: Scheduled

<sup>2</sup>Reason:  
A-Equipment failure (Explain)  
B-Maintenance or Test  
C-Refueling  
D-Regulatory Restriction  
E-Operator Training and License Examination  
F-Administrative  
G-Operational Error (Explain)  
H-Other (Explain)

<sup>3</sup>Method:  
1-Manual  
2-Manual Scram  
3-Automatic Scram  
4-Continuation of Existing Outage  
5-Reduction  
9-Other

<sup>4</sup>Exhibit G-Instructions for Preparation of Data Entry sheets for licensee Event Report (LER) File (NUREG-1022)

<sup>5</sup>Exhibit I-Same Source

## UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: March 1991

DOCKET NO: 50-328

UNIT NAME: Iwq

DATE: 04/09/91

COMPLETED BY: I. J. Hollomon

TELEPHONE: (615) 843-7528

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	Licensee Event Report No.	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause and Corrective Action to Prevent Recurrence
2	910303	F		F	5				At 0143 EST, the load dispatch requested a reduction of 100 MWe. At 0245 EST, the load dispatch requested a further reduction of 100 MWe. At 0313 EST, the load dispatch requested another reduction of 100 MWe, reducing power on Unit 2 to 876 MWe. At 0437 EST, Unit 2 was operating at approximately 73 percent reactor power level, producing 880 MWe. At 0544 EST, the load dispatch notified Operations to begin load increase to 100 percent reactor power. At 1055 EST, Unit 2 was again operating at 100 percent power.

<sup>1</sup>F: Forced  
S: Scheduled

<sup>2</sup>Reasons:  
A-Equipment failure (Explain)  
B-Maintenance or Test  
C-Refueling  
D-Regulatory Restriction  
E-Operator Training and License Examination  
F-Administrative  
G-Operational Error (Explain)  
H-Other (Explain)

<sup>3</sup>Method:  
1-Manual  
2-Manual Scram  
3-Automatic Scram  
4-Continuation of Existing Outage  
5-Reduction  
9-Other

<sup>4</sup>Exhibit G-Instructions for Preparation of Data Entry sheets for Licensee Event Report (LER) File (NUREG-1022)

<sup>5</sup>Exhibit I-Same Source