

TENNESSEE VALLEY AUTHORITY

DIVISION OF NUCLEAR POWER

SEQUOYAH NUCLEAR PLANT

MONTHLY OPERATING REPORT

MARCH 1, 1982 - MARCH 31, 1982

UNIT 1

DOCKET NUMBER 50-327

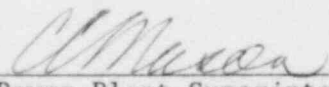
LICENSE NUMBER DPR-77

UNIT 2

DOCKET NUMBER 50-328

LICENSE NUMBER DPR-79

Submitted By:


Power Plant Superintendent

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Operations Summary

March, 1982

The following summary describes the significant operational activities for the month of March. In support of this summary, a chronological log of significant events is included in this report.

Unit 1

Unit 1 was critical for 510.9 hours, produced 552,030 MWH (gross) with 4.14 percent station service use resulting in an average hourly gross load of 1,092,000 KW during the month. The net heat rate for the month was 10,670 BTU/KWH. There are 148.26 full power days estimated remaining until the end of cycle 1 fuel. With a capacity factor of 85 percent the target EOC exposure would be reached September 21, 1982. The capacity factor for the month was 63.8 percent.

There were four reactor scrams, no manual shutdowns, and two power reductions during March.

Unit 2

Unit 2 was critical for 535.76 hours, produced 301,940 MWH (gross) with 7.53 percent station service use, resulting in an average hourly gross load of 597,920 kW during the month. The net heat rate for the month was 11,570 BTU/KWH. There are 361.57 full power days estimated remaining until the end of cycle 1 fuel. With a capacity factor of 85 percent the target EOC exposure would be reached May 30, 1983. The capacity factor for the month was 34.3 percent.

There were six reactor scrams, one manual shutdown, and three power reductions during March.

Significant Operational Events

Unit 1

<u>Date</u>	<u>Time</u>	<u>Event</u>
03/01/82	0001	Reactor in mode 5. Outage continuing for turbine vibration problems and replacement of reactor coolant pump #2 motor.
03/08/82	1452	Reactor entered mode 4.

Significant Operational Events

(Continued)

Unit 1

<u>Date</u>	<u>Time</u>	<u>Event</u>
03/09/82	0200	Reactor entered mode 3.
	1734	Reactor taken critical - mode 2.
03/10/82	0005	Reactor entered mode 1.
	0142	Unit tied on-line.
	0200	While placing a polisher in service the condensate flow was spiked which swang the MFP pressure causing feed-water oscillation. The turbine tripped on high steam generator level #4, the reactor tripped on Lo-Lo steam generator level #2.
	0436	Reactor taken critical - mode 2.
	0526	Reactor entered mode 1.
	0629	Unit tied on line.
	2028	Polishers isolated when a control power fuse blew in the condensate demineralizer plant. MFPT's tripped due to low seal water injection pressure, therefore, the turbine tripped. The reactor tripped due to Lo-Lo steam generator level #3.
03/11/82	0043	Reactor taken critical - mode 2.
	0230	Reactor entered mode 1.
	0325	Unit tied on line.
	0346	Reactor tripped on a Lo-Lo steam generator level #2 due to feedwater flow/steam flow mismatch during power ascension.
	0650	Reactor taken critical - mode 2.
	0750	Reactor entered mode 1.
	0943	Unit tied on line.

Significant Operational Events

(Continued)

Unit 1

<u>Date</u>	<u>Time</u>	<u>Event</u>
03/11/82	1023	Reactor tripped on Lo-Lo steam generator level #1 due to feedwater flow/steam flow mismatch during power ascension.
	1210	Reactor taken critical - mode 2.
	1305	Reactor entered mode 1.
	1347	Unit tied on line.
03/12/82	2200	Reactor power 100%, producing 1130 MWe.
03/31/82	2359	Reactor in mode 1 at 100% power producing 1140 MWe.

Unit 2

03/01/82	0001	Reactor was in mode 3. Investigating control bank D rod M-4 indicator problem.
	2130	Reactor entered mode 4.
03/02/82	0413	Reactor entered mode 5.
	2057	Reactor entered mode 4.
03/03/82	0400	Reactor entered mode 3.
	2200	Reactor critical - mode 2.
	2245	Reactor entered mode 1.
	2357	Unit tied on line.
03/07/82	0951	While investigating ground problems on the MFPT's, both MFPT's tripped, 2A AFWP was started and load reduction initiated. The reactor tripped on steam flow/feedwater flow mismatch.
	1827	Reactor taken critical - mode 2.

Significant Operational Events

(Continued)

Unit 2

<u>Date</u>	<u>Time</u>	<u>Event</u>
03/07/82	2000	Reactor entered mode 1.
	2058	Unit tied on line.
03/10/82	2028	Polishers isolated when a control power fuse blew in the condensate demineralizer plant. MFPT's tripped due to low seal water injection pressure, therefore, the turbine tripped. The reactor tripped due to Lo-Lo steam generator levels.
03/11/82	0325	Reactor taken critical - mode 2.
	1145	Unit tied on line.
	2258	Turbine tripped due to an oil leak in the EHC system. Reactor power reduced to 9% and holding.
03/12/82	0111	Unit tied on line.
03/15/82	1410	Reactor in mode 1 at 75% power, producing 860 MWe.
03/18/82	0720	Performed 10% load drop test from 75% to 65% reactor power.
	1000	Performed the 50% load drop test.
	1005	Reactor in mode 1 at 25% power, producing 213 MWe. Began reducing power to take the reactor to mode 3.
	1029	Unit off line. Reactor in mode 2.
	2350	Reactor entered mode 3.
03/17/82	0001	Reactor entered mode 4.
	1700	Reactor entered mode 5. Repairs to be made to 2-FCV-3-280A.
03/20/82	1737	Reactor entered mode 4.
03/21/82	0019	Reactor entered mode 3.

Significant Operational Events

(Continued)

Unit 2

<u>Date</u>	<u>Time</u>	<u>Event</u>
03/22/82	0900	Reactor taken critical - mode 2.
	1054	Reactor entered mode 1.
	1210	Unit tied on line.
	1358	A blown fuse in the condensate demineralizer plant isolated the polishers, both MFPT's tripped on low seal water injection pressure. The reactor tripped on Lo-Lo steam generator level #2.
	1757	Reactor taken critical - mode 2.
	2032	Unit tied on line.
	2042	The MFW valve failed to open, reactor tripped on Lo-Lo steam generator level #4.
	2203	Reactor critical - mode 2.
	2354	Reactor entered mode 1.
03/23/82	0049	Unit tied on line.
03/25/82	2355	Reactor in mode 1 at 100% power, producing 1138 MWe. Initial 100% reactor power.
03/27/82	2110	Performed the 10% load injection test.
	2200	Started the 50% load injection test.
	2203	MFPT's tripped due to low seal water injection pressure thus the reactor tripped.
03/23/82	1808	Reactor taken critical - mode 2.
	2118	Unit tied on line.

Significant Operational Events

(Continued)

Unit 2

<u>Date</u>	<u>Time</u>	<u>Event</u>
03/28/82	2127	Reactor tripped on Lo-Lo steam generator level #4 due to feed flow/steam flow mismatch during start-up.
03/29/82	0212	Reactor taken critical - mode 2.
	0443	Unit tied on line.
03/31/82	2359	Reactor in mode 1 at \cong 75% increasing to 100%.

PORV's and Safety Valves Summary

No PORV's or safety valves were challenged during the month.

Licensee Events and Special Reports

The following Licensee Event Reports (LER's) were sent during March 1982, to the Assistant Director of Nuclear Power (Operations) for reporting to the Nuclear Regulatory Commission.

<u>LER</u>	<u>SUBJECT</u>
SQRO-50-327/82-018	Containment lower compartment average air temperature was 124.19°F due to train A cooler temperature control valve set incorrectly.
SQRO-50-327/82-024	Turbine building sump and condensate demineralizer radiation monitors 2-RM-90-212 and -225 inoperable due to crud buildup on flow switches.
SQRO-50-327/82-025	Pressurizer level channel 1-LT-68-335 inoperable due to limiting safety system setpoint has conservative than Tech Spec caused by instrument drift.
SQRO-50-327/82-027	Preparing for SI-566 ERCW Flow Verification Test, containment spray heat exchanger 1A discovered with low ERCW flow due to 15 gallons of clams.

Licensee Events and Special Reports

(Continued)

<u>LER</u>	<u>SUBJECT</u>
SQRO-50-327/82-028	Number 4 cold leg accumulator inoperable due to low boron concentration caused by leak through in flow control valve.
SQRO-50-327/82-029	Glycol containment isolation valve 1-FCV-61-194 would not reopen after stroke test due to conductor G1B1 that controls solenoid not terminated.
SQRO-50-327/82-033	Containment process radiation monitors 1-RM-90-106 and -112 inoperable due to closed isolation valves caused by work without proper authorization.
SQRO-50-327/82-034	During SI-566 ERCW flow verification test containment spray heat exchanger 1B outlet flow balancing valve 1-HCV-67-537B found closed and tagged under a released hold order.
SQRO-50-327/82-035	During SI-566 ERCW flow verification test, the auxiliary control air compressor found tripped on high temperature due to stuck solenoid valve.
SQRO-50-328/82-019	Turbine driven AFW pump inoperable due to out-board seal packing blowing out caused by normal wear and deterioration.
SQRO-50-328/82-020	EGTS room cooler B inoperable due to blown fuses caused by short in solenoid coil of 2-FSV-67-338.
SQRO-50-328/82-021	Shutdown rods in bank A in excess of + or - 12 steps of rod position indicators caused by misinterpretation of tech specs.
SQRO-50-328/82-022	During SI-159.2 lower containment airlock was found inoperable due to braces over tightened during SI-159.1 giving a bad seal.
SQRO-50-328/82-023	Loop 4 main steam header remote shutdown pressure channel 2-PT-1-26C inoperable due to amplifier card failing caused by heat from steam leak.
SQRO-50-328/82-026	Containment sump level indicator 2-LT-65-176 inoperable due to bellow leakage.
SQRO-50-328/82-030	AFW automatic control valve level controller 2-LIC-3-173 inoperable due to failing low caused by loose connection.

Licensee Events and Special Reports

(Continued)

<u>LER</u>	<u>SUBJECT</u>
SQRO-50-328/82-031	RWST level transmitter 2-LT-63-50 inoperable due to low readings caused by dirty potentiometer from normal dust accumulation.
SQRO-50-328/82-032	Rod position indicator on control bank D inoperable due to indication of 0 caused by a defective connector.

Special Reports

There were no special reports sent during the month of March.

Offsite Dose Calculation Manual Changes

There were no changes to the Sequoyah Nuclear Plant ODCM during the month of March.

OPERATING DATA REPORT

DOCKET NO. 50-327

DATE March 5, 1982

COMPLETED BY M. Eddings

TELEPHONE 615/751-0343

OPERATING STATUS

1. Unit Name: Sequoyah One
2. Reporting Period: March 1982
3. Licensed Thermal Power (MWt): 3411
4. Nameplate Rating (Gross MWe): 1220.58
5. Design Electrical Rating (Net MWe): 1128
6. Maximum Dependable Capacity (Gross MWe): 1163
7. Maximum Dependable Capacity (Net MWe): 1128
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):

10. Reasons For Restrictions, If Any:

	This Month	Yr-to-Date	Cumulative
11. Hours in Reporting Period	744	2,160	6,577
12. Number of Hours Reactor Was Critical	510.9	892.6	3,693.9
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	505.5	850.4	3,540.8
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	1,648,397	2,504,134	10,569,088
17. Gross Electrical Energy Generated (MWH)	552,030	846,190	3,492,140
18. Net Electrical Energy Generated (MWH)	529,137	795,885	3,322,910
19. Unit Service Factor	67.9	39.3	53.8
20. Unit Availability Factor	67.9	39.3	53.8
21. Unit Capacity Factor (Using MDC Net)	63.1	32.7	44.8
22. Unit Capacity Factor (Using DER Net)	63.1	32.7	44.8
23. Unit Forced Outage Rate	32.1	49.4	29.1

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

REFUELING/MODIFICATION OUTAGE--SEPTEMBER 21 (scheduled) 6 months.

25. If Shut Down At End Of Report Period, Estimated Date of Startup:

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

	Forecast	Achieved
INITIAL CRITICALITY	7-4-80	7-5-80
INITIAL ELECTRICITY	8-21-80	7-22-80
COMMERCIAL OPERATION	7-1-81	7-1-81

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-327

UNIT NAME Sequoyah One

DATE

COMPLETED BY M. Eddings

TELEPHONE 615/751-0343

REPORT MONTH March 1982

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
2	820209	F	217.7	A	4				Turbine #11 bearing excessive vibration #2 reactor coolant pump replacement due to electrical problems.
8	820310	F	4.5	A	3				Lo-lo steam generator level #2 S/G due to swings in levels during startup.
9	820310	F	7.0	A	3				Blown fuse at condensate system caused loss of suction to main feed pumps resulting in Rx trip.
10	820311	F	5.9	A	3				Reactor trip on lo-lo level steam generator #2 due to swings in levels during startup.
11	820311	F	3.4	A	3				Lo-lo S/G level #1 steam generator hard to control swings in levels during startup.

1
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 (Explain)
H-Other (Explain)

3
Method:
1-Manual
2-Manual Scram.
3-Automatic Scram.
4-Cont. of Existing
Outage
5-Reduction
9-Other

4
Exhibit G-Instructions
for Preparation of Data
Entry Sheets for Licensee
Event Report (LER) File (NUREG-
0161)

5
Exhibit I-Same Source

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AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-327
 UNIT One
 DATE March 2, 1982
 COMPLETED BY M. Eddings
 TELEPHONE 615/751-0343

MONTH MARCH

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	<u>0</u>
2	<u>0</u>
3	<u>0</u>
4	<u>0</u>
5	<u>0</u>
6	<u>0</u>
7	<u>0</u>
8	<u>0</u>
9	<u>0</u>
10	<u>157</u>
11	<u>153</u>
12	<u>947</u>
13	<u>1101</u>
14	<u>1101</u>
15	<u>1101</u>
16	<u>1102</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	<u>1107</u>
18	<u>1100</u>
19	<u>1106</u>
20	<u>1106</u>
21	<u>1109</u>
22	<u>1104</u>
23	<u>1112</u>
24	<u>1100</u>
25	<u>1106</u>
26	<u>1108</u>
27	<u>1106</u>
28	<u>1102</u>
29	<u>1076</u>
30	<u>1102</u>
31	<u>1104</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.

(9/77)

OPERATING DATA REPORT

DOCKET NO. 50-328
 DATE April 6, 1982
 COMPLETED BY David Dupree
 TELEPHONE 615/751-0343

OPERATING STATUS

1. Unit Name: Sequoyah Two
2. Reporting Period: March 1982
3. Licensed Thermal Power (MWt): 3411
4. Nameplate Rating (Gross MWe): 1220.5
5. Design Electrical Rating (Net MWe): 1148
6. Maximum Dependable Capacity (Gross MWe): 1183
7. Maximum Dependable Capacity (Net MWe): 1148
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):
10. Reasons For Restrictions, If Any:

	This Month	Yr-to-Date	Cumulative
11. Hours in Reporting Period	744	2,160	3,624
12. Number of Hours Reactor Was Critical	535.8	1,287.7	1,544.9
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	505	1,166.4	1,180
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	942,115.5	1,741,353.3	1,757,267.3
17. Gross Electrical Energy Generated (MWH)	301,940	537,400	539,304
18. Net Electrical Energy Generated (MWH)	279,190	475,470	475,420
19. Unit Service Factor	67.9	54.0	32.6
20. Unit Availability Factor	67.9	54.0	32.6
21. Unit Capacity Factor (Using MDC Net)	32.7	19.2	11.4
22. Unit Capacity Factor (Using DER Net)	32.7	19.2	11.4
23. Unit Forced Outage Rate	32.1	46.0	67.4
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):			
ICE WEIGHING PER TECH SPECS--May 5, 1982			

25. If Shut Down At End Of Report Period, Estimated Date of Startup: March 10, 1982
26. Units In Test Status (Prior to Commercial Operation):

	Forecast	Achieved
INITIAL CRITICALITY	<u>11-5-81</u>	<u>11-5-81</u>
INITIAL ELECTRICITY	<u>12-31-81</u>	<u>12-31-81</u>
COMMERCIAL OPERATION	<u>6-1-82</u>	<u>N/A</u>

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-328

UNIT NAME Sequoyah Two

DATE April 6, 1982

COMPLETED BY David Dupree

TELEPHONE 615/751-0343

REPORT MONTH MARCH 1982

page 1 of 2

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
8	82-3-1	F	71.9	A	4				Unit tripped while attempting to perform SU-9.3 (50% load reduction).
9	82-3-7	F	11.1	A	3				Ground on "B" MFPT caused turbine trip, steam flow/feed flow mismatch causing Rx trip.
10	82-3-10	F	15.3	A	3				Blown fuse at Cond. DI cause low seal insertion pressure causing a turbine trip, Rx trip.
11	82-3-11	F	2.2	A	5				Low EHC fluid pressure caused a turbine trip only Rx dropped to 9% power.
1	82-3-18	S	.3	B	5				50% load rejection test (startup test 9.3).
12	82-3-18	S	97.6	B	1				Repair leaking feedwater valve on #1 S/G.
13	82-3-22	F	6.5	A	3				Blown fuse at Cond. DI, power supply cabinet caused the polishers to isolate, causing a turbine trip, Rx trip.

1

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 (Explain)
H-Other (Explain)

3

Method:
1-Manual
2-Manual Scram.
3-Automatic Scram.
4-Cont. of Existing Outage
5-Reduction
9-Other

4

Exhibit G-Instructions
for Preparation of Data
Entry Sheets for Licensee
Event Report (LER) File (NUREG-0161)

5

Exhibit I-Same Source

(9/77)

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-328

UNIT NAME Sequoyah Two

DATE April 5, 1982

COMPLETED BY David Dupree

TELEPHONE 615/751-0343

REPORT MONTH MARCH 1982

page 2 of 2

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
14	82-3-22	F	4.1	A	3				Rx trip caused by MFW isolation valve failed to open when level dropped in #4 S/G.
15	82-3-27	F	23.2	A	3				Loss of hotwell level causing low suction causing turbine to trip, Rx trip.
16	82-3-28	F	7.2	G	3				Hi-hi S/G level cause turbine trip Lo-lo S/G level cause Rx trip.

1

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 (Explain)
H-Other (Explain)

3

Method:
1-Manual
2-Manual Scram.
3-Automatic Scram.
4-Cont. of Existing
Outage
5-Reduction
9-Other

4

Exhibit G-Instructions
for Preparation of Data
Entry Sheets for Licensee
Event Report (LER) File (NUREG-
0161)

5

Exhibit I-Same Source

(9/77)

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-328
 UNIT Two
 DATE April 1982
 COMPLETED BY David Dupree
 TELEPHONE 615/751-0343

MONTH MARCH 1982

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>0</u>
2	<u>0</u>
3	<u>0</u>
4	<u>285</u>
5	<u>363</u>
6	<u>429</u>
7	<u>204</u>
8	<u>309</u>
9	<u>347</u>
10	<u>409</u>
11	<u>107</u>
12	<u>271</u>
13	<u>410</u>
14	<u>596</u>
15	<u>726</u>
16	<u>831</u>

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	<u>832</u>
18	<u>355</u>
19	<u>0</u>
20	<u>0</u>
21	<u>0</u>
22	<u>14</u>
23	<u>396</u>
24	<u>874</u>
25	<u>1008</u>
26	<u>1108</u>
27	<u>1018</u>
28	<u>0</u>
29	<u>200</u>
30	<u>300</u>
31	<u>700</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.

(9/77)

Plant Maintenance Summary

The following significant maintenance items were completed during the month of March 1982:

Mechanical Maintenance

No maintenance reported on CSSC equipment this month.

Electrical Maintenance

1. Repairs were completed on Unit 1 and 2 reactor coolant pump motor.

Instrument Maintenance

None reportable.

Field Services Maintenance

Work continues on the following items:

1. A reactor head venting system is being installed on both units. The base plates for the power cabinets have been fabricated and they will be installed within the next few weeks.
2. Conduit is being installed to facilitate high range area radiation monitors for the residual heat removal lines and containment spray heat exchanger room 1A.
3. Conduit work is complete and cable pulling is approximately 50% complete to provide lights and telephones to the personnel airlocks on both units.
4. Exposed cables in areas outside primary containment containing one or both safety related divisions are being coated with Flamastic.
5. The flow switches on radiation monitor 1-RE-90-170 are being replaced.
6. A post-accident sample system for Unit 1 is being installed to obtain designated liquid and gas samples during and after a postulated event.

The following work was completed during the month.

1. Yard security lighting located behind the diesel generator building is complete.