TENNESSEE VALLEY AUTHORITY

DIVISION OF NUCLEAR POWER

SEQUOYAH NUCLEAR PLANT

MONTHLY OPERATING REPORT

NOVEMBER 1, 1981 - NOVEMBER 30, 1981

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

November 1981

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

Unit 1

Unit 1 was critical for 654.4 hours, produced 629,210 MWH (gross) with 4.5 percent station use, resulting in an average hourly gross load of 600,635 KW during the month. The net heat rate for the month was 10,840 BTU/KWH. There are 202.2 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 July 25, 1982. The capacity factor for the month was 73.9 percent.

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

Unit 2

Unit 2 was critical for 213.5 hours for low power testing. There are 383.0 full power days estimated remaining until the end of cycle 1 fuel.

There were two reactor trips, one manual shutdown and no power reductions.

Significant Operational Events

Unit 1

Date	Time	Event
11/01/81	0001	Reactor in mode 1, 80% reactor power, 828 MWe.
	0041	Performed SI-78 and adjusted the reactor power range to 75% from 80%.
	2310	Holding 90% reactor power to perform SI-137.2.
11/02/81	0400	Reactor at 100% power, 1110 MWe.
11/06/81	1325	Reactor tripped on Lo/Lo steam generator level. MFPT tripped due to loss of suction when the condensate demineralizer bypass valve failed to open in a timely manner.

Significant Operational Events

(Continued)

Unit

Date	Time	Event
11/07/81	0957	Reactor taken critical.
	1035	Reactor in mode 1.
	1047	Rolled turbine.
	1107	Turbine tripped.
	1109	Reactor tripped on a Lo/Lo steam generator level due to a steam flow/feedwater flow mismatch during power ascension.
	1304	Reactor taken critical.
	1515	Reactor in mode 1.
	1551	Rolled turbine.
	1631	Tied generator on line.
11/09/81	0027	Stopped power ascension at 78% reactor power, 840 MWe, to repair a leak on the #3 heater drain tank pump 1A.
11/10/81	1245	Reactor at 100% power, 1110 MWe.
11/21/81	0320	Reduced reactor power to 96%, 1115 MWe due to oscillations in #3 heater drain tank pump flow.
	0940	Turbine dropped to 91% power to compensate for the #3 heater drain tank bypassing to the condenser.
	1007	Reduced reactor power to 74% to compensate for the #3 heater drain tank bypass.
	1107	Load decreased to 50% for maintenance on #3 heater drain tank.
	2340	Reactor power held at 80% for condensate demineralizer regeneration.
11/22/81	0230	Reactor power holding at 95% waiting condensate demineralizer regeneration.

Significant Operational Events

(Continued)

Unit 1

Date	Time	Event
11/22/81	0600	Reactor power at 97%.
	0710	Reactor power reduced to 94% for the main generator slot temperature problems.
	1800	Reactor power at 99%.
11/23/81	0953	Reactor tripped on Lo/Lo steam generator level. Caused by closure of loop 4 MSIV during the performance of a surveillance instruction.
11/24/81	0040	Reactor taken critical and holding at 2% power due to main condenser air inleakage problems.
11/25/81	0024	Generator tied on line.
	2200	Holding at 30% reactor power for improvement in secondary chemistry.
11/26/81	1136	Commenced power ascension.
	1241	Reactor tripped on Lo/Lo steam generator level at 49.5% power when A MFPT tripped while starting B MFPT. B MFPT was not properly reset, causing a low MFPT condenser pressure and trip of A MFPT.
	2140	Reactor taken critical.
	2317	Generator tied on line.
11/28/81	1425	Reactor at 100% power.
11/29/81	2032	Reactor power reduced to 97%, 1094 MWe due to vibration on the turbine #11 bearing.
11/30/81	0825	Water box B-1 taken out of service. Load dropped 50 MWe to 1044 MWe.
	1741	Water box B-1 returned to service.
	2359	Reactor power at 97%, 1094 MWe.

Significant Operational Events

(Continued)

Unit 2

Date	Time	Event
11/01/81	0001	Reactor in mode 4 at 340°F, 800 psi.
11/02/81	1813	Reactor entered mode 3.
11/04/81	0720	Safety injection occurred when a logic card shorted out in the SSPS. ≅ 1100 gpm pumped into RCS from RWST.
11/05/81	2140	Reactor entered mode 2.
	2225	Reactor taken critical.
11/09/81	0732	Reactor tripped for SU-7.7.
	1620	Reactor taken critical.
11/10/81	0957	Reactor tripped for SU-7.7.
	1450	Reactor taken critical.
11/11/81	0800	Reactor power ≅ 3% for SU-8.5.3.
	1335	Reactor power to 0%.
11/12/81	1830	Reactor power 3%.
11/13/81	1949	Turbine tripped due to exciter problems.
11/14/81	1341	Reactor in mode 1 at 5% power.
	1732	Reactor power decreased to 3% for W-10.5.
	2033	Began reactor shutdown to mode 4 to investigate and repair exciter problems.
	2037	Control band B rod F-2 stopped driving in AOI-2E inplemented.
11/15/81	0040	All control rods fully inserted.
	0629	Reactor entered mode 3.
	0828	Reactor tripped.
	0930	Reactor entered mode 4.

Significant Operational Events

(Continued)

Unit 2

Date	Time	Event
11/16/81	1000	Reactor entered mode 5.
11/19/81	0020	Reactor entered mode 4.
11/30/81	2359	Reactor in mode 4 at 205°F @ 340 psi. Exciter off site for repairs.

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 November 1981, to the Assistant Director of Nuclear Power (Operations) for reporting to the Nuclear Regulatory Commission.

SQRO-50-327/123	Centrifugal charging pump 1B-B tagged out for test and not released prior to mode 4 entry.
SQRO-50-327/125	Pipe chase on A1 wall at elevation 685 not seismically qualified. Causes ABGTS inoperable.
SQRO-50-327/127	Pressurizer level and pressure transmitters 1-LT-68-320, and -335 and 1-PT-68-323 setpoints found less conservative.
SQRO-50-327/128	Pressurizer power operated relief valve 1-PCV-68-340A leaking to pressurizer relief tank due to improperly adjusted valve stem.
SQRO-50-327/129	Power range channel N-41 of the neutron instrumentation declared inoperable due to failed oscillator.
SQRO-50-327/130	AFW Pump 1B-B failed to start following controlled disagreement signal.
SQRO-50-327/137	Auxiliary building vent rad monitor inoperable due to defective motor.
SQRO-50-327/139	Control rod indication system inoperable due to out of calibration.
SQRO-50-328/122	RWST boron concentration below limits and a portion of heat traced piping below 145°F.

Licensee Events and Special Reports

(Continued)

SQRO-50-328/124	Unit 2 entered mode 4 without analyzing D/G fuel for insolubles.
SQRO-50-328/126	NIS power range channel III (N-43) inoperable due to power fuse being inadvertantly pulled.
SQRO-50-328/131	Centrifugal charging pumps out of service for maintenance on bypass isolation valve 2-63-564.
SQRO-50-328/133	Power operated relief block valve 2-FCV-68-333 inoperable due to broken limit switch.
SQRO-50-328/135	Containment sump level transmitter 2-LT-63-179 inoperable due to high readings.
SQRO-50-328/138	High thrust bearing temperature on reactor coolant pump #3.

Special Reports

There was one special report sent during the month of November.

81-7	Safety injection occurred due to SSPS logic board short circuit - Tech Spec 3.5.3

Offsite Dose Calculation Manual Changes

There were no changes to the Offsite Dose Calculation Manual during the month of November 1981.

OPERATING DATA REPORT

DOCKET NO. 50-327
DATE December 2, 1981
COMPLETED BY Mike Eddings
TELEPHONE 615-842-0295

OPERATING STATUS

1. Unit Name: Sequoyah 1
2. Reporting Period: November 1981
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	720	3697	3697
12. Number of Hours Reactor Was Critical	654.4	2,109.2	2,109.2
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	643.8	2,031.1	2,031.1
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	1,900,801	6,985,833	6,985,833
17. Gross Electrical Energy Generated (MWH)	629,210	2,009,660	2,009,660
18. Net Electrical Energy Generated (MWH)	600,635	1,908,412	1,908,412
19. Unit Service Factor	89.4	55.4	55.4
20. Unit Availability Factor	89.4	55.4	55.4
21. Unit Capacity Factor (Using MDC Net)	73.9	46.2	46.2
22. Unit Capacity Factor (Using DER Net)	73.9	46.2	46.2
23. Unit Forced Outage Rate	10.6	44.6	44.6

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
Tech. Spec. Ice Weighing February '82 27 Days

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

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AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-327
UNIT Sequoyah 1
DATE December 1, 1981
COMPLETED BY M. Eddings
TELEPHONE 615-842-0295

MONTH November

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	818	17	1074
2	1062	18	1097
3	1075	19	1092
4	1073	20	1050
5	1071	21	837
6	590	22	1070
7	49	23	424
8	278	24	0
9	840	25	217
10	1057	26	151
11	1073	27	322
12	1074	28	1079
13	1074	29	1099
14	1079	30	1064
15	1080	31	N/A
16	1075		

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.

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UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-327
UNIT NAME Sequoyah 1
DATE December 1, 1981
COMPLETED BY Mike Eddings
TELEPHONE 615-842-0295

REPORT MONTH November

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
3	81/11/06	F	27.1	B	3				Con D.I. was bypassed due to electrical short. Unit could not recover in time. C.B.P.'s & M.F.P.T.'s tripped.
4	81/11/23	F	38.5	A	3				Lo-Lo level #4 S/G.
5	81/11/26	F	10.6	A	3				Low M.F.P.T. Cond. Vacuum.

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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OPERATING DATA REPORT

DOCKET NO. 50-328
DATE December 2, 1981
COMPLETED BY David Dupree
TELEPHONE (615) 842-0295

OPERATING STATUS

1. Unit Name: Sequoyah Two
2. Reporting Period: November, 1981
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): 1185
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	720	720	720
12.	Number of Hours Reactor Was Critical	213.5	213.5	213.5
13.	Reactor Reserve Shutdown Hours	0	0	0
14.	Hours Generator On-Line	0	0	0
15.	Unit Reserve Shutdown Hours	0	0	0
16.	Gross Thermal Energy Generated (MWH)	3200.9	3200.9	3200.9
17.	Gross Electrical Energy Generated (MWH)	0	0	0
18.	Net Electrical Energy Generated (MWH)	0	0	0
19.	Unit Service Factor	0	0	0
20.	Unit Availability Factor	0	0	0
21.	Unit Capacity Factor (Using MDC Net)	0	0	0
22.	Unit Capacity Factor (Using DER Net)	0	0	0
23.	Unit Forced Outage Rate	0	0	0

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
Ice Weighing (5-5-82) Requirement Per Technical Specifications

25. If Shut Down At End Of Report Period, Estimated Date of Startup: 12-27-81
26. Units In Test Status (Prior to Commercial Operation):

	Forecast	Achieved
INITIAL CRITICALITY	11-5-81	11-5-81
INITIAL ELECTRICITY	12-31-81	NA
COMMERCIAL OPERATION	3-1-82	NA

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AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-328
UNIT Sequoyah Two
DATE December 2, 1981
COMPLETED BY David Dupree
TELEPHONE (615) 842-0295

MONTH November 1981

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	0	17	0
2	0	18	0
3	0	19	0
4	0	20	0
5	0	21	0
6	0	22	0
7	0	23	0
8	0	24	0
9	0	25	0
10	0	26	0
11	0	27	0
12	0	28	0
13	0	29	0
14	0	30	0
15	0	31	NA
16	0		

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)

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-328
UNIT NAME Sequoyah Two
DATE December 2, 1981
COMPLETED BY David Dupree
TELEPHONE (615) 842-0295

REPORT MONTH November

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
	81/10/01	S	720	A	1				Initial Criticality Testing and Maintenance (Maintenance on the Exciter)

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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Plant Maintenance Summary

The following significant maintenance items were completed during the month of November 1981:

Mechanical Maintenance

1. Repaired the 1A2 diesel generator starting air compressors.
2. Replaced the mechanical seals on all four boric acid transfer pumps.
3. Repaired a steam leak on 2B main feed pump turbine.
4. Repaired a leaking weld joint on a 1" line between the positive displacement pump relief valve 62-518 and a 4" line to the volume control tank.
5. Began work on the Unit 2 steam dump modifications.
6. Repaired pressure control valves 1-PCV-3-122 and 2-PCV-3-122.
7. Repairs started on the Unit 2 main exciter.

Electrical Maintenance

1. Installed new bearings in the 2A-A auxiliary feedwater pump motor.
2. Initiated repairs on the Unit 2 generator exciter.
3. Repaired Unit 2 hydrogen igniters.

Instrument Maintenance

None reportable.

Field Services Maintenance

Unit 1

1. A reactor vessel head venting system is being installed per TMI Lessons Learned LL-2.1.13.
2. Prefabrication of the new pressurizer instrumentation condensate pots has begun.
3. Work continues on the installation of a post accident sampling system which will add the capability of obtaining designated liquid and gas samples during and after postulated event.

Unit 1

4. Modiciations to suction damper 30-4A and the power supply for purge air supply fan B is complete.

5. The installation of an air flow rate limiting device in line with the discharge of fire pump 1B air release valve is complete.

Unit 2

1. A reactor coolant sampling system to determine crud levels has been installed.

2. The carbon steel ERCW supply and lines to the incore instrument room chiller 2B is being replaced with stainless steel.

Unit 0 or Items Affecting Both Units

1. Cables in junction boxes that contain the control switches for interim ABSCE dampers that were blocked open are being removed.

2. Environmentally qualified solenoids are being installed on various dampers.

3. Hanger modifications are continuing.

4. The replacement of the 4-inch piping to HVAC equipment serving the electric board rooms and main control room continues with the fabrication and installation of hangers and piping on the train B return line.

5. Door A-183 is being replaced to achieve positive access accountability.

6. Coating all exposed cables with Flamastic in areas outside primary containment containing one or both safety related divisions continues.

7. A 3' x 3' opening in the A1 line wall in the auxiliary building is being closed with a 3-hour rated fire barrier.