

ENCLOSURE 1
TENNESSEE VALLEY AUTHORITY

NUCLEAR POWER GROUP
SEQUOYAH NUCLEAR PLANT

MONTHLY OPERATING REPORT
TO THE
NUCLEAR REGULATORY COMMISSION
DECEMBER 1993

UNIT 1

DOCKET NUMBER 50-327
LICENSE NUMBER DPR-77

UNIT 2

DOCKET NUMBER 50-328
LICENSE NUMBER DPR-79

OPERATIONAL SUMMARY
DECEMBER 1993

UNIT 1

The Unit 1 Cycle 6 refueling outage continued. Unit 1 remained in Mode 5 at the end of December.

UNIT 2

Unit 2 generated 419,362 megawatthours (MWh) (gross) electrical power during December with a capacity factor of 50.13 percent. Unit 2 was operating at approximately 100 percent reactor power at the beginning of December.

On December 3 at 1056 EST, Unit 2 experienced a turbine trip and a subsequent reactor trip. Operations personnel observed erratic indications associated with the generator excitation system. Subsequently, a generator stator cooling failure alarm actuated, resulting in a turbine/generator trip and a subsequent reactor trip. The cause of the event was the overexcitation of the generator. The overexcitation was determined to have been caused by multiple grounds in the generator exciter. The Unit 2 exciter was replaced, and the unit was taken critical on December 14 at 1319 EST and tied to the grid at 0617 EST on December 15.

On December 16 at 0241 EST, the Unit 2 turbine was manually tripped because of turbine vibrations; reactor power was maintained at approximately 20 percent. Turbine balance adjustments were made, and the generator was tied to the grid at 0221 EST on December 17. Reactor power was increased to approximately 30 percent while additional vibration data was taken. The Unit 2 generator was taken offline at 2139 EST on December 17 for additional balancing; reactor power was maintained at approximately 20 percent. Unit 2 was returned to service on December 18 at 1234 EST.

At 1503 EST on December 18, with reactor power at approximately 24 percent, a load decrease was initiated, resulting in the isolation of two heater strings. Unit 2 was manually removed from the grid at 1525 EST to aid in stabilizing the plant. Unit 2 was returned to service at 2241 EST that day.

Unit 2 reached 100 percent reactor power level on December 21 at 0305 EST and remained at approximately 100 percent through the end of December.

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-327 UNIT No. One DATE: 01-05-94
 COMPLETED BY: T. J. Hollomon TELEPHONE: (615) 843-7528
 MONTH: DECEMBER 1993

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

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-328 UNIT No. Two DATE: 01-05-94
 COMPLETED BY: T. J. Hollomon TELEPHONE: (615) 843-7528
 MONTH: DECEMBER 1993

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>1140</u>	17	<u>200</u>
2	<u>1135</u>	18	<u>11</u>
3	<u>514</u>	19	<u>356</u>
4	<u>-2</u>	20	<u>920</u>
5	<u>-5</u>	21	<u>1130</u>
6	<u>-2</u>	22	<u>1134</u>
7	<u>-5</u>	23	<u>1135</u>
8	<u>-2</u>	24	<u>1135</u>
9	<u>-2</u>	25	<u>1137</u>
10	<u>-5</u>	26	<u>1136</u>
11	<u>-2</u>	27	<u>1135</u>
12	<u>-2</u>	28	<u>1137</u>
13	<u>-5</u>	29	<u>1134</u>
14	<u>-5</u>	30	<u>1133</u>
15	<u>135</u>	31	<u>1137</u>
16	<u>10</u>		

OPERATING DATA REPORT

DOCKET NO. 50-327
DATE 01/04/94
COMPLETED BY T. J. Holloman
TELEPHONE (615) 843-7528

OPERATING STATUS

1. Unit Name: Sequoyah Unit One
2. Reporting Period: December 1993
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 (Item Numbers 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>8,760</u>	<u>109,609</u>
12. Number of Hours Reactor Was Critical	<u>0</u>	<u>1,281.3</u>	<u>56,029</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
14. Hours Generator On-Line	<u>0</u>	<u>1,220.6</u>	<u>54,828.5</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MTH)	<u>0</u>	<u>3,915,909.5</u>	<u>178,893,754</u>
17. Gross Electrical Energy Generated (MWH)	<u>0</u>	<u>1,358,540</u>	<u>60,702,654</u>
18. Net Electrical Energy Generated (MWH)	<u>-6,972</u>	<u>1,241,815</u>	<u>58,164,037</u>
19. Unit Service Factor	<u>0</u>	<u>13.9</u>	<u>50.0</u>
20. Unit Availability Factor	<u>0</u>	<u>13.9</u>	<u>50.0</u>
21. Unit Capacity Factor (Using MDC Net)	<u>-0.8</u>	<u>12.6</u>	<u>47.3</u>
22. Unit Capacity Factor (Using DER Net)	<u>-0.8</u>	<u>12.3</u>	<u>46.2</u>
23. Unit Forced Outage Rate	<u>0</u>	<u>47.5</u>	<u>38.7</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: February 17, 1994

OPERATING DATA REPORT

DOCKET NO. 50-328
 DATE 01/04/94
 COMPLETED BY T. J. Hollomon
 TELEPHONE (615) 843-7528

OPERATING STATUS

- | | Notes |
|---|-------|
| 1. Unit Name: <u>Sequoyah Unit Two</u> | |
| 2. Reporting Period: <u>December 1993</u> | |
| 3. Licensed Thermal Power (MWt): <u>3411.0</u> | |
| 4. Nameplate Rating (Gross MWe): <u>1220.6</u> | |
| 5. Design Electrical Rating (Net MWe): <u>1148.0</u> | |
| 6. Maximum Dependable Capacity (Gross MWe): <u>1162.0</u> | |
| 7. Maximum Dependable Capacity (Net MWe): <u>1122.0</u> | |
| 8. If Changes Occur in Capacity Ratings (Item Numbers 3 Through 7) Since Last Report, Give Reasons: | |

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>8,760</u>	<u>101,569</u>
12. Number of Hours Reactor Was Critical	<u>477.6</u>	<u>2,545.9</u>	<u>58,759</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
14. Hours Generator On-Line	<u>414.8</u>	<u>2,216.1</u>	<u>57,293.5</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>1,268,193.4</u>	<u>6,581,173.4</u>	<u>179,762,952</u>
17. Gross Electrical Energy Generated (MWH)	<u>419,362</u>	<u>2,204,825</u>	<u>60,927,944</u>
18. Net Electrical Energy Generated (MWH)	<u>401,384</u>	<u>2,063,011</u>	<u>58,278,286</u>
19. Unit Service Factor	<u>55.8</u>	<u>25.3</u>	<u>56.4</u>
20. Unit Availability Factor	<u>55.8</u>	<u>25.3</u>	<u>56.4</u>
21. Unit Capacity Factor (Using MDC Net)	<u>48.1</u>	<u>21.0</u>	<u>51.1</u>
22. Unit Capacity Factor (Using DER Net)	<u>47.0</u>	<u>20.5</u>	<u>50.0</u>
23. Unit Forced Outage Rate	<u>44.2</u>	<u>74.7</u>	<u>37.1</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):	<u>Unit 2 Cycle 6 refueling outage, April 1, 1994, 65 days</u>		

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

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: December 1993DOCKET NO: 50-327UNIT NAME: OneDATE: 01/08/94COMPLETED BY: T. J. HollomonTELEPHONE: (615) 843-7528

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Recurrence
4	931201	S	744	C	4	N/A	N/A	N/A	The Unit 1 Cycle 6 refueling outage continued.

¹F: Forced
S: Scheduled

²Reason:
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)

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

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

⁵Exhibit I-Same Source

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: December 1993DOCKET NO: 50-328UNIT NAME: TwoDATE: 01/08/94COMPLETED BY: T. J. HollomonTELEPHONE: (615) 843-7528

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Recurrence
8	931203	F	283.35	A	3	328/93006 dated 1/6/94	TL TJ	EXC TS	On December 3 at 1056 EST, Unit 2 experienced a turbine trip and a subsequent reactor trip. Operations personnel observed erratic indications associated with the generator excitation system. Subsequently, a generator stator cooling failure alarm actuated, causing the turbine/generator trip and subsequent reactor trip. The root cause of the event was the overexcitation of the generator. The overexcitation was determined to have been caused by multiple grounds in the generator exciter. The Unit 2 exciter was replaced, and the unit was taken critical on December 14 at 1319 EST and returned to service at 0617 EST on December 15.

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² Reason:
A-Equipment Failure (Explain)
B-Maintenance or Test
C-Refueling
D-Regulatory Restriction
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G-Operational Error (Explain)
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UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: December 1993DOCKET NO: 50-328UNIT NAME: TwoDATE: 01/08/94COMPLETED BY: T. J. HollomonTELEPHONE: (615) 843-7528

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report No.	System Code ⁴	Component Code ⁵	Cause and Corrective Action to Prevent Recurrence
9	931216	F	38.59	A	3	N/A	N/A	N/A	On December 16 at 0241 EST, the Unit 2 turbine was manually tripped as a result of turbine vibration. Balancing of the turbine was performed. The generator was tied to the grid at 0221 EST on December 17, and reactor power was increased to approximately 30 percent while additional vibration data was taken. The Unit 2 generator was taken offline at 2139 EST on December 17 for balancing. Unit 2 was returned to service on December 18 at 1234 EST.
10	931218	F	7.3	H	5	N/A	N/A	N/A	At 1503 EST on December 18, with reactor power at approximately 24 percent, a load decrease was initiated, causing an isolation of two heater strings. The Unit 2 turbine was manually removed from the grid at 1525 EST to help stabilize the plant. The cause of the heater string isolation is design related in that reductions in power can cause heater level perturbations. A design change currently scheduled for the Cycle 7 outage will provide a bypass to the condensate and provide better heater level control. Unit 2 was returned to service at 2241 EST that day.

¹F: Forced
S: Scheduled

²Reason:
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)

³Method:
1-Manual
2-Manual Scram
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4-Continuation of Existing Outage
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