

# NRC MONTHLY OPERATING REPORT

DOCKET NO: 50-361  
UNIT NAME: SONGS - 2  
DATE: 1/15/90  
COMPLETED BY: E. R. Siacor  
TELEPHONE: (714) 368-6223

## OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 2
2. Reporting Period: December 1989
3. Licensed Thermal Power (MWt): 3390
4. Nameplate Rating (Gross MWe): 1127
5. Design Electrical Rating (Net MWe): 1070
6. Maximum Dependable Capacity (Gross MWe): 1127
7. Maximum Dependable Capacity (Net MWe): 1070
8. If Changes Occur In Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:

NA

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

	This Month	Yr.-to-Date	Cumulative
11. Hours In Reporting Period	744.00	8,760.00	55,873.00
12. Number Of Hours Reactor Was Critical	590.60	5,226.85	39,066.84
13. Reactor Reserve Shutdown Hours	0.00	0.00	0.00
14. Hours Generator On-Line	437.38	4,958.06	38,143.08
15. Unit Reserve Shutdown Hours	0.00	0.00	0.00
16. Gross Thermal Energy Generated (MWH)	1,318,944.48	16,284,041.69	123,935,029.32
17. Gross Electrical Energy Generated (MWH)	445,912.00	5,540,534.00	41,974,707.00
18. Net Electrical Energy Generated (MWH)	412,398.25	5,221,356.89	39,742,844.24
19. Unit Service Factor	58.79%	56.60%	68.27%
20. Unit Availability Factor	58.79%	56.60%	68.27%
21. Unit Capacity Factor (Using MDC Net)	51.80%	55.71%	66.48%
22. Unit Capacity Factor (Using DER Net)	51.80%	55.71%	66.48%
23. Unit Forced Outage Rate	22.52%	22.84%	6.69%
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: NA
26. Units In Test Status (Prior To Commercial Operation): Forecast NA Achieved NA

INITIAL CRITICALITY  
INITIAL ELECTRICITY  
COMMERCIAL OPERATION

<u>NA</u>	<u>NA</u>
<u>NA</u>	<u>NA</u>
<u>NA</u>	<u>NA</u>

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# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO: 50-361  
UNIT NAME: SONGS - 2  
DATE: 1/15/90  
COMPLETED BY: E. R. Siacor  
TELEPHONE: (714) 368-6223

MONTH: December 1989

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00
11	0.00
12	0.00
13	0.00
14	173.88
15	658.13
16	730.00

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	872.71
18	1026.88
19	1115.00
20	1037.33
21	964.63
22	1095.33
23	1122.33
24	1125.83
25	1124.04
26	1077.29
27	1029.88
28	1121.63
29	1118.13
30	1124.17
31	1117.00

## UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: DECEMBER 1989

DOCKET NO: 50-361

UNIT NAME: SONGS - 2

DATE: 1/15/90

COMPLETED BY: E. R. Siacor

TELEPHONE: (714) 368-6223

No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	LER No.	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause & Corrective Action to Prevent Recurrence
51	890902	S	179.50	C	4	NA	NA	NA	Cycle 5 refueling outage.
52	891208	F	127.12	A	5	NA	SJ	FI	The main turbine was tripped from 18.5% reactor power and power was reduced to ~2% to allow isolation and repair of MFW venturi 2FE-1121 flange leakage. The existing flange gaskets failed and investigation determined the gaskets used for this application per vendor recommendation was not suitable for long term operation. As corrective action, the flange gaskets for 2FE-1121 and the other venturi 2FE-1111 were replaced with the proper gaskets.

<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 & 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 from  
Previous Month  
5-Reduction of 20%  
or greater in the  
past 24 hours  
6-Other (Explain)

<sup>4</sup>IEEE Std 805-1984

<sup>5</sup>IEEE Std 803A-1983

# SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO: 50-361  
UNIT NAME: SONGS - 2  
DATE: 1/15/90  
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<u>Date</u>	<u>Time</u>	<u>Event</u>
December 1	0001	Unit is in Mode 4, day 91 of the Cycle 5 refueling outage.
December 2	1915	Entered Mode 3.
December 7	0828	Entered Mode 2.
	0924	Reactor made critical.
December 8	0250	Entered Mode 1.
	1130	Unit synchronized to the grid.
	2140	Main turbine manually tripped due to Main Feedwater (MFW) flow venturi 2FE-1121 flange leak.
	2153	Entered Mode 2.
	2210	Initiated repairs to 2FE-1121 flange leak.
December 14	0008	Entered Mode 1 following completion of repairs to the MFW flow venturi 2FE-1121.
	0447	Unit synchronized to the grid. Continuing reactor power increase.
December 15	0200	Reactor at 68% power.
December 16	2300	Reactor at 80% power.
December 17	2330	Reactor at 90% power.

# SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

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<u>Date</u>	<u>Time</u>	<u>Event</u>
December 18	1458	Reactor at 95% power.
December 19	2030	Reactor at 100% power.
December 20	1717	Commenced reactor power decrease to 70% to perform repairs on MFW pump P-063 discharge valve 2HV-4011 bonnet plug leak.
	2020	Reactor at 70% power.
December 21	0700	Commenced reactor power increase to 100% following completion of repairs to MFW pump P-063 discharge valve 2HV-4011.
	1530	Reactor at 100% power.
December 26	1900	Commenced reactor power decrease to 80% to perform heat treating operations for the circulating water structure.
	2115	Reactor at 80% power. Commenced heat treating operations.
December 27	0550	Commenced reactor power increase to 100% following completion of heat treating operations.
	1002	Reactor at 100% power.
December 31	2400	Unit is in Mode 1 at 100% reactor power. Turbine load at 1170 MWe gross.

## REFUELING INFORMATION

DOCKET NO:	50-361
UNIT NAME:	SONGS - 2
DATE:	1/15/90
COMPLETED BY:	E. R. Siacor
TELEPHONE:	(714) 368-6223

MONTH: December 1989

1. Scheduled date for next refueling shutdown.  
Forecast for June 1991.
2. Scheduled date for restart following refueling.  
Forecast for September 1991.
3. Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment?  
Not yet specifically determined. Under evaluation.  
What will these be?  
Not yet determined.
4. Scheduled date for submitting proposed licensing action and supporting information.  
Not yet specifically determined. Under evaluation.
5. Important Licensing considerations associated with refueling, e.g., new or different fuel design or supplier, unreviewed design or performance analysis methods, significant changes in fuel design, new operating procedures.  
Not yet specifically determined. Under evaluation.

# REFUELING INFORMATION

DOCKET NO: 50-361  
UNIT NAME: SONGS - 2  
DATE: 1/15/90  
COMPLETED BY: E. R. Siacor  
TELEPHONE: (714) 368-6223

MONTH: December 1989

6. The number of fuel assemblies.

a) In the core. 217

b) In the spent fuel storage pool. 446 (376 Unit 2 Spent Fuel Assemblies and 70 Unit 1 Spent Fuel Assemblies)

7. Licensed spent fuel storage capacity. 800

Intended change in spent fuel storage capacity. 1542, forecast to occur during Cycle 5 (1990)

8. Projected date of last refueling that can be discharged to spent fuel storage pool assuming present capacity.

Approximately 1995 (refueling only)

Approximately 1993 (full off load capability)

# NRC MONTHLY OPERATING REPORT

DOCKET NO:	50-362
UNIT NAME:	SONGS - 3
DATE:	1/15/90
COMPLETED BY:	E. R. Siacor
TELEPHONE:	(714) 368-6223

## OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 3
2. Reporting Period: December 1989
3. Licensed Thermal Power (MWt): 3390
4. Nameplate Rating (Gross MWe): 1127
5. Design Electrical Rating (Net MWe): 1080
6. Maximum Dependable Capacity (Gross MWe): 1127
7. Maximum Dependable Capacity (Net MWe): 1080
8. If Changes Occur In Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:

NA

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

	This Month	Yr.-to-Date	Cumulative
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11. Hours In Reporting Period	744.00	8,760.00	50,424.00
12. Number Of Hours Reactor Was Critical	744.00	8,251.54	37,930.28
13. Reactor Reserve Shutdown Hours	0.00	0.00	0.00
14. Hours Generator On-Line	744.00	8,225.89	36,816.08
15. Unit Reserve Shutdown Hours	0.00	0.00	0.00
16. Gross Thermal Energy Generated (MWH)	2,492,573.85	27,338,976.20	115,867,756.55
17. Gross Electrical Energy Generated (MWH)	852,986.00	9,316,624.00	39,284,711.50
18. Net Electrical Energy Generated (MWH)	809,535.00	8,840,639.00	37,042,111.20
19. Unit Service Factor	100.00%	93.90%	73.01%
20. Unit Availability Factor	100.00%	93.90%	73.01%
21. Unit Capacity Factor (Using MDC Net)	100.75%	93.44%	68.02%
22. Unit Capacity Factor (Using DER Net)	100.75%	93.44%	68.02%
23. Unit Forced Outage Rate	0.00%	6.10%	7.69%
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):	NA		

25. If Shut Down At End Of Report Period, Estimated Date of Startup: NA
26. Units In Test Status (Prior To Commercial Operation): Forecast Achieved

INITIAL CRITICALITY	NA	NA
INITIAL ELECTRICITY	NA	NA
COMMERCIAL OPERATION	NA	NA

# AVERAGE DAILY UNIT POWER LEVEL

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MONTH: December 1989

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1	1083.08
2	1091.21
3	1092.50
4	1091.42
5	1089.38
6	1089.96
7	1091.04
8	1084.33
9	1091.50
10	1081.92
11	1066.63
12	1104.46
13	1103.42
14	1101.88
15	1094.67
16	913.17

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	1095.17
18	1096.25
19	1098.33
20	1097.25
21	1098.79
22	1097.29
23	1089.46
24	1100.83
25	1098.79
26	1099.71
27	1098.63
28	1098.88
29	1099.08
30	1093.08
31	1098.54

## UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: DECEMBER 1989

DOCKET NO: 50-362  
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DATE: 1/15/90  
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No.	Date	Type <sup>1</sup>	Duration (Hours)	Reason <sup>2</sup>	Method of Shutting Down Reactor <sup>3</sup>	LER No.	System Code <sup>4</sup>	Component Code <sup>5</sup>	Cause & Corrective Action to Prevent Recurrence
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

<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 & 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 from  
Previous Month  
5-Reduction of 20%  
or greater in the  
past 24 hours  
6-Other (Explain)

<sup>4</sup>IEEE Std 805-1984

<sup>5</sup>IEEE Std 803A-1983

# SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO:	50-362
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COMPLETED BY:	E. R. Siacor
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<u>Date</u>	<u>Time</u>	<u>Event</u>
December 1	0001	Unit is in Mode 1 at 100% reactor power. Turbine load at 1148 MWe gross.
December 16	0430	Commenced reactor power decrease to 80% to perform heat treating operations for the circulating water structure.
	1530	Reactor at 80% power. Commenced heat treating operations.
	2215	Commenced reactor power increase to 100% following completion of heat treating operations.
December 17	0220	Reactor at 100% power.
December 31	2400	Unit is in Mode 1 at 100% reactor power. Turbine load at 1148 MWe gross.

## REFUELING INFORMATION

DOCKET NO:	50-362
UNIT NAME:	SONGS - 3
DATE:	1/15/90
COMPLETED BY:	E. R. Siacor
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MONTH: December 1989

1. Scheduled date for next refueling shutdown.  
Forecast for April 1, 1990.
2. Scheduled date for restart following refueling.  
Forecast for June 15, 1990.
3. Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment?  
No required changes have been identified at this time.  
What will these be?  
N/A
4. Scheduled date for submitting proposed licensing action and supporting information.  
N/A
5. Important Licensing considerations associated with refueling, e.g., new or different fuel design or supplier, unreviewed design or performance analysis methods, significant changes in fuel design, new operating procedures.  
None have been identified at this time.

# REFUELING INFORMATION

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MONTH: December 1989

6. The number of fuel assemblies.

a) In the core. 217

b) In the spent fuel storage pool. 337 (268 Unit 3 Spent Fuel  
Assemblies and 69 Unit 1  
Spent Fuel Assemblies)

7. Licensed spent fuel storage capacity. 800

Intended change in spent fuel storage capacity. 1542, forecast to occur  
during Cycle 5 (1991)

8. Projected date of last refueling that can be discharged to spent fuel storage pool assuming present capacity.

Approximately 1996 (refueling only)

Approximately 1994 (full off load capability)