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 FACIL: 50-361 San Onofre Nuclear Station, Unit 2, Southern Californ 05000361  
 50-362 San Onofre Nuclear Station, Unit 3, Southern Californ 05000362  
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 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: Monthly operating repts for Mar 1989 for San Onofre Nuclear Station Units 1 & 2. W/890412 ltr.

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*Southern California Edison Company*

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MANAGER OF NUCLEAR LICENSING

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April 12, 1989

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

Subject: Docket Nos. 50-361/50-362  
Monthly Operating Reports for March 1989  
San Onofre Nuclear Generating Station, Units 2 and 3

Enclosed are the Monthly Operating Reports as required by Section 6.9.1.10 of Appendix A, Technical Specifications to Facility Operating Licenses NPF-10 and NPF-15 for San Onofre Nuclear Generating Station, Units 2 and 3, respectively.

Please contact us if we can be of further assistance.

Sincerely,

Enclosures

cc: J. B. Martin (Regional Administrator, USNRC Region V)  
F. R. Huey (USNRC Senior Resident Inspector, Units 1, 2 and 3)  
Institute of Nuclear Power Operations (INPO)

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# NRC MONTHLY OPERATING REPORT

DOCKET NO: 50-361  
UNIT NAME: SONGS - 2  
DATE: April 12, 1989  
COMPLETED BY: E. R. Siacor  
TELEPHONE: (714) 368-6223

## OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 2  
2. Reporting Period: March 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	2,160.00	49,273.00
12. Number Of Hours Reactor Was Critical	744.00	1,449.17	35,289.16
13. Reactor Reserve Shutdown Hours	0.00	0.00	0.00
14. Hours Generator On-Line	744.00	1,432.21	34,617.23
15. Unit Reserve Shutdown Hours	0.00	0.00	0.00
16. Gross Thermal Energy Generated (MWH)	2,471,088.46	4,678,388.02	112,329,375.65
17. Gross Electrical Energy Generated (MWH)	847,204.50	1,584,649.00	38,018,822.00
18. Net Electrical Energy Generated (MWH)	808,179.00	1,494,887.00	36,016,374.35
19. Unit Service Factor	100.00%	66.31%	70.26%
20. Unit Availability Factor	100.00%	66.31%	70.26%
21. Unit Capacity Factor (Using MDC Net)	101.52%	64.68%	68.31%
22. Unit Capacity Factor (Using DER Net)	101.52%	64.68%	68.31%
23. Unit Forced Outage Rate	0.00%	33.69%	5.45%
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  
INITIAL ELECTRICITY  
COMMERCIAL OPERATION

NA	NA
NA	NA
NA	NA

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# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO: 50-361  
UNIT NAME: SONGS - 2  
DATE: April 12, 1989  
COMPLETED BY: E. R. Siacor  
TELEPHONE: (714) 368-6223

MONTH: March 1989

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1	<u>1103.04</u>
2	<u>1104.04</u>
3	<u>1097.13</u>
4	<u>1114.50</u>
5	<u>1115.04</u>
6	<u>1114.08</u>
7	<u>1111.25</u>
8	<u>1097.50</u>
9	<u>1095.96</u>
10	<u>1104.46</u>
11	<u>1108.46</u>
12	<u>1115.08</u>
13	<u>1113.88</u>
14	<u>1112.63</u>
15	<u>1111.54</u>
16	<u>1109.79</u>

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	<u>1098.67</u>
18	<u>802.04</u>
19	<u>801.29</u>
20	<u>1091.08</u>
21	<u>1081.21</u>
22	<u>1111.79</u>
23	<u>1112.25</u>
24	<u>1102.08</u>
25	<u>1103.71</u>
26	<u>1110.71</u>
27	<u>1109.96</u>
28	<u>1110.75</u>
29	<u>1109.42</u>
30	<u>1108.75</u>
31	<u>1092.04</u>

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# UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: MARCH 1989

DOCKET NO: 50-361  
 UNIT NAME: SONGS - 2  
 DATE: April 12, 1989  
 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
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

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# SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO: 50-361  
UNIT NAME: SONGS - 2  
DATE: April 12, 1989  
COMPLETED BY: E. R. Siacor  
TELEPHONE: (714) 368-6223

<u>Date</u>	<u>Time</u>	<u>Event</u>
March 1	0001	Unit is in Mode 1 at 99.2% reactor power. Turbine load at 1153 MWe gross.
March 3	1130	Commenced reactor power increase to 100%.
	2330	Reactor at 100% power.
March 17	2030	Commenced reactor power reduction to perform heat treating operations for the circulating water tunnels.
March 18	0001	Reactor at 85% power.
	0128	Commenced heat treating operations for the circulating water tunnels.
March 19	2000	Commenced reactor power increase to 100% following completion of heat treating operations.
March 20	0305	Reactor at 100% power.
March 31	2219	Commenced power reduction to 75% reactor power to allow removal from service of circulating water pump P-118 for condenser water box cleaning.
	2400	Unit 2 is in Mode 1 at 90% reactor power. Turbine load at 1040 MWe gross.

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## REFUELING INFORMATION

DOCKET NO: 50-361  
UNIT NAME: SONGS - 2  
DATE: April 12, 1989  
COMPLETED BY: E. R. Siacor  
TELEPHONE: (714) 368-6223

MONTH: March 1989

1. Scheduled date for next refueling shutdown.

September 1989

2. Scheduled date for restart following refueling.

November 1989

3. Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment?

Not yet determined

What will these be?

Not yet determined

4. Scheduled date for submitting proposed licensing action and supporting information.

Not yet determined

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.

As a result of the extended fuel cycle, a change to Technical Specification 3.2.1, "Linear Heat Rate", is needed in order to compensate for a higher end-of-life fuel pin fission gas pressure. This change will become effective when a pre-defined burnup is achieved toward the end of Cycle 5, and only if the "Fuel Rod Maximum Allowable Gas Pressure" Topical Report (CEN-372-P) which was submitted to the NRC by the Combustion Engineering Owner's Group is not approved on the SONGS 2 docket by that time. Approval of this change, however, is not required for return to service.

# REFUELING INFORMATION

DOCKET NO: 50-361  
UNIT NAME: SONGS - 2  
DATE: April 12, 1989  
COMPLETED BY: E. R. Siacor  
TELEPHONE: (714) 368-6223

MONTH: March 1989

6. The number of fuel assemblies.

a) In the core. 217

b) In the spent fuel storage pool. 338 (268 Unit 2, 70 Unit 1)

7. Licensed spent fuel storage capacity. 800

Intended change in spent fuel storage capacity. 1572, forecasted 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)

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# NRC MONTHLY OPERATING REPORT

DOCKET NO: 50-362  
 UNIT NAME: SONGS - 3  
 DATE: April 12, 1989  
 COMPLETED BY: E. R. Siacor  
 TELEPHONE: (714) 368-6223

## OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 3
2. Reporting Period: March 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
11. Hours In Reporting Period	<u>744.00</u>	<u>2,160.00</u>	<u>43,824.00</u>
12. Number Of Hours Reactor Was Critical	<u>744.00</u>	<u>2,109.97</u>	<u>31,788.71</u>
13. Reactor Reserve Shutdown Hours	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
14. Hours Generator On-Line	<u>744.00</u>	<u>2,101.67</u>	<u>30,691.86</u>
15. Unit Reserve Shutdown Hours	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
16. Gross Thermal Energy Generated (MWH)	<u>2,509,434.83</u>	<u>7,048,214.62</u>	<u>95,576,994.97</u>
17. Gross Electrical Energy Generated (MWH)	<u>860,966.00</u>	<u>2,423,376.00</u>	<u>32,391,463.50</u>
18. Net Electrical Energy Generated (MWH)	<u>820,757.00</u>	<u>2,306,203.00</u>	<u>30,507,675.20</u>
19. Unit Service Factor	<u>100.00%</u>	<u>97.30%</u>	<u>70.03%</u>
20. Unit Availability Factor	<u>100.00%</u>	<u>97.30%</u>	<u>70.03%</u>
21. Unit Capacity Factor (Using MDC Net)	<u>102.15%</u>	<u>98.86%</u>	<u>64.46%</u>
22. Unit Capacity Factor (Using DER Net)	<u>102.15%</u>	<u>98.86%</u>	<u>64.46%</u>
23. Unit Forced Outage Rate	<u>0.00%</u>	<u>2.70%</u>	<u>7.79%</u>
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):	<u>NA</u>		

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  | <u>NA</u> | <u>NA</u> |
| INITIAL ELECTRICITY  | <u>NA</u> | <u>NA</u> |
| COMMERCIAL OPERATION | <u>NA</u> | <u>NA</u> |

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# AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO: 50-362  
UNIT NAME: SONGS - 3  
DATE: April 12, 1989  
COMPLETED BY: E. R. Siacor  
TELEPHONE: (714) 368-6223

MONTH: March 1989

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1	<u>1052.08</u>
2	<u>1051.33</u>
3	<u>1048.25</u>
4	<u>1049.67</u>
5	<u>1070.00</u>
6	<u>1120.13</u>
7	<u>1111.83</u>
8	<u>1106.79</u>
9	<u>1116.46</u>
10	<u>1114.42</u>
11	<u>1117.83</u>
12	<u>1104.17</u>
13	<u>1110.50</u>
14	<u>1120.17</u>
15	<u>1118.63</u>
16	<u>1118.92</u>

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	<u>1112.54</u>
18	<u>1111.50</u>
19	<u>1115.63</u>
20	<u>1115.54</u>
21	<u>1114.96</u>
22	<u>1114.46</u>
23	<u>1113.50</u>
24	<u>1104.21</u>
25	<u>1112.17</u>
26	<u>1105.88</u>
27	<u>1112.17</u>
28	<u>1111.17</u>
29	<u>1108.88</u>
30	<u>1109.54</u>
31	<u>1104.92</u>

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## UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: MARCH 1989

DOCKET NO: 50-362  
UNIT NAME: SONGS - 3  
DATE: April 12, 1989  
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
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

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## REFUELING INFORMATION

DOCKET NO: 50-362  
UNIT NAME: SONGS - 3  
DATE: April 12, 1989  
COMPLETED BY: E. R. Siacor  
TELEPHONE: (714) 368-6223  
MONTH: March 1989

1. Scheduled date for next refueling shutdown.  
Not yet determined.
2. Scheduled date for restart following refueling.  
Not yet determined.
3. Will refueling or resumption of operation thereafter require a Technical Specification change or other license amendment?  
Not yet determined.  
What will these be?  
Not yet determined.
4. Scheduled date for submitting proposed licensing action and supporting information.  
Not yet determined.
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 determined.
6. The number of fuel assemblies.
  - a) In the core. 217
  - b) In the spent fuel storage pool. 337 (268 Unit 3, 69 Unit 1)
7. Licensed spent fuel storage capacity. 800  
Intended change in spent fuel storage capacity. 1572, forecasted 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)

mor.mor/12

# SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO: 50-362  
UNIT NAME: SONGS - 3  
DATE: April 12, 1989  
COMPLETED BY: E. R. Siacor  
TELEPHONE: (714) 368-6223

<u>Date</u>	<u>Time</u>	<u>Event</u>
March 1	0001	Unit is in Mode 1 at 99.2% reactor power. Turbine load at 1096 MWe gross.
March 11	2240	Commenced reactor power reduction to evaluate speed oscillations on main feedwater pump turbine K-005.
March 12	0215	Reactor at 92% power. K-005 speed oscillations decreased and stabilized.
	0300	Commenced reactor power increase.
	0505	Reactor at 99.5% power.
March 21	1625	Commenced reactor power increase to 100%.
	2330	Reactor at 100% power.
March 31	2400	Unit is in Mode 1 at 100% reactor power. Turbine load at 1155 MWe gross.

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