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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
 AUTH. NAME AUTHOR AFFILIATION
 SIACOR, E.R. Southern California Edison Co.
 MORGAN, H.E. Southern California Edison Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: Monthly operating repts for Feb 1989 for San Onofre Nuclear
 Generating Station Units 2 & 3. W/890313 ltr.

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MR

NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-361
UNIT SONGS - 2
DATE March 13, 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: February 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	<u>672.00</u>	<u>1,416.00</u>	<u>48,529.00</u>
12. Number Of Hours Reactor Was Critical	<u>426.67</u>	<u>705.17</u>	<u>34,545.16</u>
13. Reactor Reserve Shutdown Hours	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
14. Hours Generator On-Line	<u>410.13</u>	<u>688.21</u>	<u>33,873.23</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>1,266,626.08</u>	<u>2,207,299.56</u>	<u>109,858,287.19</u>
17. Gross Electrical Energy Generated (MWH)	<u>422,569.50</u>	<u>737,444.50</u>	<u>37,171,617.50</u>
18. Net Electrical Energy Generated (MWH)	<u>392,630.00</u>	<u>686,708.00</u>	<u>35,208,195.35</u>
19. Unit Service Factor	<u>61.03%</u>	<u>48.60%</u>	<u>69.80%</u>
20. Unit Availability Factor	<u>61.03%</u>	<u>48.60%</u>	<u>69.80%</u>
21. Unit Capacity Factor (Using MDC Net)	<u>54.60%</u>	<u>45.32%</u>	<u>67.80%</u>
22. Unit Capacity Factor (Using DER Net)	<u>54.60%</u>	<u>45.32%</u>	<u>67.80%</u>
23. Unit Forced Outage Rate	<u>38.97%</u>	<u>51.40%</u>	<u>5.57%</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
INITIAL ELECTRICITY
COMMERCIAL OPERATION

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

mor.feb/2

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R PDC

1524
/

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-361
UNIT SONGS - 2
DATE March 13, 1989
COMPLETED BY E. R. Siacor
TELEPHONE (714) 368-6223

MONTH February 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	420.42
13	779.21
14	926.38
15	944.71
16	1016.33

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	1018.83
18	1032.88
19	1089.04
20	1099.38
21	1102.67
22	1107.04
23	1058.88
24	793.29
25	969.63
26	1105.17
27	1104.88
28	1104.29
29	NA
30	NA
31	NA

mor. feb/3

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH FEBRUARY 1989

DOCKET NO. 50-361

UNIT NAME SONGS - 2

DATE March 13, 1989

COMPLETED BY E. R. Siacor

TELEPHONE (714) 368-6223

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	LER No.	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
47	890112	F	261.87	A	4	89-001	BA	MO	Outage continued from previous month.
48	890224	F	0.00	B	5	NA	KE	P	Power reduction of greater than 20% to allow removal from service of circulating water pumps (CWP) 2P-117 and 2P-115, one at a time, for corrective maintenance. During a planned thermography inspection of CWP motor leads, an overheating condition was discovered on a single phase lead to each of the two pumps. This was attributed to deficient terminations. The terminations have been repaired.

¹F-Forced
S-Scheduled

²Reason:
 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)

³Method:
 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)

⁴IEEE Std 805-1984⁵IEEE Std 803A-1983

mor.feb/4

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO.	50-361
UNIT	SONGS - 2
DATE	March 13, 1989
COMPLETED BY	E. R. Siacor
TELEPHONE	(714) 368-6223

<u>Date</u>	<u>Time</u>	<u>Event</u>
February 1	0001	Unit is in Mode 5. Repairs to Auxiliary Feedwater Pump 2P-141 in progress.
February 5	0502	Entered Mode 4 following completion of repairs to Auxiliary Feedwater Pump 2P-141.
February 7	1850	Entered Mode 3.
February 9	0315	Commenced reactor startup.
	0405	Entered Mode 2.
	0445	Reactor made critical.
	0505	Commenced shutdown to Mode 3 due to Core Protection Calculator (CPC) operability concerns.
	0509	Reactor automatically tripped while shutting down due to CPC generated penalty factors during insertion of Group 4 Control Element Assemblies. The Unit is in Mode 3.
February 11	0420	Commenced reactor startup following resolution of CPC operability concerns and returning the CPCs to service.
	0451	Entered Mode 2.
	0540	Reactor made critical.
	1830	Entered Mode 1.
	2152	Synchronized turbine generator to the grid.
February 12	0135	Commenced reactor power increase at 5% per hour following synchronization to the grid.

mor.feb/5

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-361
UNIT SONGS - 2
DATE March 13, 1989
COMPLETED BY E. R. Siacor
TELEPHONE (714) 368-6223

<u>Date</u>	<u>Time</u>	<u>Event</u>
February 13	0001	Reactor at 77% power. Holding power at less than 80% for Main Feedwater Pump (MFWP) testing.
	2245	Commenced reactor power increase following satisfactory MFWP testing.
February 15	2245	Reactor at 99% power.
February 21	2330	Reactor at 99.5% power and being maintained approximately at this power level to perform secondary calorimetric power calculations.
February 23	1915	Commenced reactor power reduction to 75% to allow removal from service of Circulating Water Pumps 2P-117 and 2P-115 for corrective maintenance.
	2200	Reactor at 75% power.
February 25	0710	Commenced power increase following completion of corrective maintenance on 2P-117 and 2P-115.
	2330	Reactor power at 99.5%.
February 28	2400	Unit is in Mode 1 at 99.2% reactor power. Turbine load at 1153 MWe gross.

mor.feb/6

REFUELING INFORMATION

MONTH: February 1989

DOCKET NO.	50-361
UNIT	SONGS - 2
DATE	March 13, 1989
COMPLETED BY	E. R. Siacor
TELEPHONE	(714) 368-6223

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.

mor. feb/7

REFUELING INFORMATION

MONTH: February 1989

DOCKET NO.	50-361
UNIT	SONGS - 2
DATE	March 13, 1989
COMPLETED BY	E. R. Siacor
TELEPHONE	(714) 368-6223

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)

mor.feb/8

NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-362
 UNIT SONGS - 3
 DATE March 13, 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: February 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	672.00	1,416.00	43,080.00
12. Number Of Hours Reactor Was Critical	672.00	1,365.97	31,044.71
13. Reactor Reserve Shutdown Hours	0.00	0.00	0.00
14. Hours Generator On-Line	672.00	1,357.67	29,947.86
15. Unit Reserve Shutdown Hours	0.00	0.00	0.00
16. Gross Thermal Energy Generated (MWH)	2,238,355.92	4,538,779.79	93,067,560.14
17. Gross Electrical Energy Generated (MWH)	771,327.50	1,562,410.00	31,530,497.50
18. Net Electrical Energy Generated (MWH)	734,830.00	1,485,446.00	29,686,918.20
19. Unit Service Factor	100.00%	95.88%	69.52%
20. Unit Availability Factor	100.00%	95.88%	69.52%
21. Unit Capacity Factor (Using MDC Net)	101.25%	97.13%	63.81%
22. Unit Capacity Factor (Using DER Net)	101.25%	97.13%	63.81%
23. Unit Forced Outage Rate	0.00%	4.12%	7.97%
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> |

mor.feb/9

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-362
 UNIT SONGS - 3
 DATE March 13, 1989
 COMPLETED BY E. R. Siacor
 TELEPHONE (714) 368-6223

MONTH February 1989

DAY AVERAGE DAILY POWER LEVEL
 (MWe-Net)

1	1113.46
2	1111.33
3	1102.96
4	1109.83
5	1111.13
6	1110.00
7	1111.04
8	1112.04
9	1112.38
10	1096.04
11	1100.21
12	1112.00
13	1112.00
14	1115.75
15	1122.04
16	1123.00

DAY AVERAGE DAILY POWER LEVEL
 (MWe-Net)

17	1112.04
18	1124.17
19	1123.50
20	1120.46
21	1122.67
22	1120.71
23	1123.71
24	1121.38
25	852.33
26	831.00
27	1116.88
28	1073.88
29	NA
30	NA
31	NA

mor. feb/10

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH FEBRUARY 1989

DOCKET NO. 50-362
UNIT NAME SONGS - 3
DATE March 13, 1989
COMPLETED BY E. R. Siacor
TELEPHONE (714) 368-6223

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	LER No.	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
46	890225	S	0.00	B	5	NA	NN	NA	Power reduction of 20% or greater to perform heat treating operations for the circulating water tunnels.

¹F-Forced
S-Scheduled

²Reason:
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)

³Method:
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)

⁴IEEE Std 805-1984

⁵IEEE Std 803A-1983

mor.feb/11

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-362
 UNIT SONGS - 3
 DATE March 13, 1989
 COMPLETED BY E. R. Siacor
 TELEPHONE (714) 368-6223

<u>Date</u>	<u>Time</u>	<u>Event</u>
February 1	0001	Unit is in Mode 1 at 100% reactor power. Turbine load at 1165 MWe gross.
February 25	0200	Commenced power reduction to 80% reactor power to perform heat treating operations for the circulating water tunnels.
	0357	Reactor at 80% power. Commenced heat treating operations.
February 26	2003	Commenced reactor power increase following completion of heat treating operations.
February 27	0206	Reactor at 100% power.
February 28	1730	Commenced reactor power reduction to 99.5% to perform secondary calorimetric power calculations.
	2400	Unit is in Mode 1 at 99.2% reactor power. Turbine load at 1096 MWe gross.

mor.feb/12

REFUELING INFORMATION

DOCKET NO. 50-362
UNIT SONGS - 3
DATE March 13, 1989
COMPLETED BY E. R. Siacor
TELEPHONE (714) 368-6223

MONTH: February 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.feb/13



Southern California Edison Company

SAN ONOFRE NUCLEAR GENERATING STATION

P. O. BOX 128

SAN CLEMENTE, CALIFORNIA 92672

H. E. MORGAN
STATION MANAGER

TELEPHONE
(714) 368-6241

March 13, 1989

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

Subject: Docket Nos. 50-361/50-362
Monthly Operating Reports for February 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,

HEMog

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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