

NRC MONTHLY OPERATING REPORT

DOCKET NO: 50-361
 UNIT NAME: SONGS - 2
 DATE: May 10, 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: April 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	719.00	2,879.00	49,992.00
12. Number Of Hours Reactor Was Critical	719.00	2,168.17	36,008.16
13. Reactor Reserve Shutdown Hours	0.00	0.00	0.00
14. Hours Generator On-Line	719.00	2,151.21	35,336.23
15. Unit Reserve Shutdown Hours	0.00	0.00	0.00
16. Gross Thermal Energy Generated (MWH)	2,409,250.22	7,087,638.24	114,738,625.87
17. Gross Electrical Energy Generated (MWH)	824,362.00	2,409,011.00	38,843,184.00
18. Net Electrical Energy Generated (MWH)	786,325.00	2,281,212.00	36,802,699.35
19. Unit Service Factor	100.00%	74.72%	70.68%
20. Unit Availability Factor	100.00%	74.72%	70.68%
21. Unit Capacity Factor (Using MDC Net)	102.21%	74.05%	68.80%
22. Unit Capacity Factor (Using DER Net)	102.21%	74.05%	68.80%
23. Unit Forced Outage Rate	0.00%	25.28%	5.35%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):

Cycle 5 refueling outage scheduled to commence on September 8, 1989.

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

NA

26. Units In Test Status (Prior To Commercial Operation):

INITIAL CRITICALITY
 INITIAL ELECTRICITY
 COMMERCIAL OPERATION

Forecast	Achieved
<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: May 10, 1989
 COMPLETED BY: E. R. Siacor
 TELEPHONE: (714) 368-6223

MONTH: April 1989

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	<u>1006.63</u>
2	<u>1159.00</u>
3	<u>1110.25</u>
4	<u>1109.75</u>
5	<u>1109.38</u>
6	<u>1107.54</u>
7	<u>1093.42</u>
8	<u>1105.00</u>
9	<u>1101.88</u>
10	<u>1100.17</u>
11	<u>1100.54</u>
12	<u>1100.00</u>
13	<u>1099.33</u>
14	<u>1078.88</u>
15	<u>902.29</u>
16	<u>1101.79</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	<u>1102.73</u>
18	<u>1103.83</u>
19	<u>1108.04</u>
20	<u>1107.58</u>
21	<u>1091.63</u>
22	<u>1106.29</u>
23	<u>1107.67</u>
24	<u>1109.50</u>
25	<u>1109.88</u>
26	<u>1107.96</u>
27	<u>1108.54</u>
28	<u>1098.17</u>
29	<u>1105.67</u>
30	<u>1058.42</u>
31	<u>NA</u>

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UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: APRIL 1989

DOCKET NO: 50-361

UNIT NAME: SONGS - 2

DATE: May 10, 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
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

¹F-Forced
S-Scheduled²Reason:
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

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SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO: 50-361
UNIT NAME: SONGS - 2
DATE: May 10, 1989
COMPLETED BY: E. R. Stacor
TELEPHONE: (714) 368-6223

<u>Date</u>	<u>Time</u>	<u>Event</u>
April 1	0001	Unit is in Mode 1 at 90% reactor power. Turbine load at 1040 MWe gross. Continuing reactor power decrease for condenser water box cleaning.
	0105	Reactor at 75% power. Stopped Circulating Water Pump 2P118 and commenced condenser water box cleaning.
	0536	Commenced reactor power increase following completion of condenser water box cleaning.
	1025	Reactor at 100% power.
April 7	1308	An Unusual Event was declared due to seismic activity.
	1530	Unusual Event due to seismic activity terminated.
April 14	2115	Commenced reactor power reduction for condenser water box cleaning.
April 15	0215	Reactor at 75% power. Commenced condenser water box cleaning.
	0932	Commenced reactor power increase following completion of condenser water box cleaning.
April 16	0105	Reactor at 100% power.
April 30	2400	Unit is in Mode 1 at 100% reactor power. Turbine load at 1152 MWe gross.

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REFUELING INFORMATION

DOCKET NO:	<u>50-361</u>
UNIT NAME:	<u>SONGS - 2</u>
DATE:	<u>May 10, 1989</u>
COMPLETED BY:	<u>E. R. Siacor</u>
TELEPHONE:	<u>(714) 368-6223</u>

MONTH: April 1989

1. Scheduled date for next refueling shutdown.

September 9, 1989.

2. Scheduled date for restart following refueling.

November 12, 1989.

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 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", may be needed in order to compensate for a higher end-of-life fuel pin fission gas pressure. However, this change is not required for return to service. This change will only be necessary 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 at the time that the pre-determined burnup is achieved.

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REFUELING INFORMATION

DOCKET NO: 50-361
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DATE: May 10, 1989
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TELEPHONE: (714) 368-6223

MONTH: April 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)

c) In Dry Storage. 72 New Fuel

7. Licensed spent fuel storage capacity. 800

Intended change in spent fuel storage capacity. 1542, 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: May 10, 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: April 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>719.00</u>	<u>2,879.00</u>	<u>44,543.00</u>
12. Number Of Hours Reactor Was Critical	<u>489.07</u>	<u>2,599.04</u>	<u>32,277.78</u>
13. Reactor Reserve Shutdown Hours	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
14. Hours Generator On-Line	<u>480.15</u>	<u>2,581.82</u>	<u>31,172.01</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>1,454,279.72</u>	<u>8,502,494.34</u>	<u>97,031,274.68</u>
17. Gross Electrical Energy Generated (MWH)	<u>495,042.00</u>	<u>2,918,418.00</u>	<u>32,886,505.50</u>
18. Net Electrical Energy Generated (MWH)	<u>460,422.00</u>	<u>2,766,625.00</u>	<u>30,968,097.20</u>
19. Unit Service Factor	<u>66.78%</u>	<u>89.68%</u>	<u>69.98%</u>
20. Unit Availability Factor	<u>66.78%</u>	<u>89.68%</u>	<u>69.98%</u>
21. Unit Capacity Factor (Using MDC Net)	<u>59.29%</u>	<u>88.98%</u>	<u>64.37%</u>
22. Unit Capacity Factor (Using DER Net)	<u>59.29%</u>	<u>88.98%</u>	<u>64.37%</u>
23. Unit Forced Outage Rate	<u>33.22%</u>	<u>10.32%</u>	<u>8.33%</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):

INITIAL CRITICALITY

INITIAL ELECTRICITY

COMMERCIAL OPERATION

Forecast

Achieved

NA

NA

NA

NA

NA

NA

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AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO: 50-362
UNIT NAME: SONGS - 3
DATE: May 10, 1989
COMPLETED BY: E. R. Siacor
TELEPHONE: (714) 368-6223

MONTH: April 1989

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	<u>1109.88</u>
2	<u>1110.08</u>
3	<u>1108.42</u>
4	<u>1109.46</u>
5	<u>1109.38</u>
6	<u>1109.54</u>
7	<u>192.04</u>
8	<u>0.00</u>
9	<u>0.00</u>
10	<u>0.00</u>
11	<u>0.00</u>
12	<u>0.00</u>
13	<u>0.00</u>
14	<u>0.00</u>
15	<u>0.00</u>
16	<u>0.00</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	<u>0.00</u>
18	<u>656.63</u>
19	<u>812.29</u>
20	<u>849.46</u>
21	<u>717.04</u>
22	<u>1019.33</u>
23	<u>1102.29</u>
24	<u>1103.83</u>
25	<u>1103.04</u>
26	<u>1108.50</u>
27	<u>1109.46</u>
28	<u>1059.71</u>
29	<u>975.96</u>
30	<u>1061.83</u>
31	<u>NA</u>

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UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: APRIL 1989

DOCKET NO: 50-362
 UNIT NAME: SONGS - 3
 DATE: May 10, 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	890407	F	238.85	A	3	89-006	AA	27	The reactor tripped from 100% power on Loss of Load following a turbine trip. A decrease in voltage in the Control Element Drive Mechanism Control System (CEDMCS) bus reached the trip setpoint of the CEDMCS undervoltage relays (UV) causing the relays to deenergize resulting in the turbine trip. The UV relay setpoint, which were determined to have been excessively conservative, was reset to the lower end of supplier specified setpoint band.

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

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SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO: 50-362
 UNIT NAME: SONGS - 3
 DATE: May 10, 1989
 COMPLETED BY: E. R. Siacor
 TELEPHONE: (714) 368-6223

<u>Date</u>	<u>Time</u>	<u>Event</u>
April 1	0001	Unit is in Mode 1 at 100% reactor power. Turbine load at 1155 MWe gross.
April 7	0555	The reactor tripped from 100% power on Loss of Load due to a turbine trip caused by momentary deenergization of the Control Element Drive Mechanism Control System undervoltage relays. Entered Mode 3.
	1308	An Unusual Event was declared due to seismic activity.
	1530	Unusual Event due to seismic activity terminated.
April 9	1640	Entered Mode 4 to facilitate repair of a RCS leakage.
April 15	1205	Entered Mode 3 following completion of repairs to RCS leakage.
April 17	1103	Commenced reactor startup.
	1200	Entered Mode 2.
	1236	Reactor made critical.
	1818	Entered Mode 1.
	2131	Unit synchronized to the grid. Continuing reactor power increase.
April 19	1530	Reactor at 80% power.

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SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

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COMPLETED BY: E. R. Siacor
TELEPHONE: (714) 368-6223

<u>Date</u>	<u>Time</u>	<u>Event</u>
April 21	1225	Commenced reactor power reduction to 50% to permit returning to service main feed water pump 3P063.
	1530	Reactor at 50% power.
	2022	Commenced reactor power increase following the return to service of 3P063.
April 22	1248	Reactor at 100% power.
April 28	1833	Commenced reactor power reduction for circulating water tunnel heat treating operations.
April 29	0001	Reactor at 80% power. Commenced heat treating operations.
	1035	Commenced reactor power increase following completion of heat treating operations.
	1437	Reactor at 100% power.
April 30	2400	Unit is in Mode 1 at 100% reactor power. Turbine load at 1155 MWe gross.

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REFUELING INFORMATION

DOCKET NO: 50-362
UNIT NAME: SONGS - 3
DATE: May 10, 1989
COMPLETED BY: E. R. Siacor
TELEPHONE: (714) 368-6223
MONTH: April 1989

1. Scheduled date for next refueling shutdown.
Forecasted for April 1, 1990.
2. Scheduled date for restart following refueling.
Forecasted for June 10, 1990.
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 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 specifically determined. Under evaluation.
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. 1542, 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)

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ATTACHMENT

SUBJECT: Revision 20 to Offsite Dose Calculation Manual (ODCM)
 San Onofre Nuclear Generating Station, Units 2 and 3

Revision 20 to the Units 2 and 3 ODCM was adopted March 1, 1989 after preparation and reviews pursuant to Technical Specification (TS) 6.5.2.9. This report is submitted to satisfy TS 6.9.1.10 in the format required by TS 6.14.2. This revision was occasioned by the 1988 Land Use Census which contained several minor changes in receptor locations and land uses. Pursuant to TS 6.14.2.b a determination has been made that all changes to the Units 2 and 3 ODCM associated with Revision 20 do not reduce the accuracy or reliability of the dose calculations and setpoint determinations. Documentation of the fact that these changes have been reviewed and found acceptable pursuant to TS 6.5.2 is by inclusion of a letter dated March 1, 1989, signed by the Station Manager.

Effected pages are attached with the explanations following:

Page

- | | |
|-------------------------|---|
| 1-18 | Several monitor calibration constants revised due to new calibrations. |
| 2-15 | Several monitor calibration constants revised due to new calibrations. |
| 2-27 | Controlling location factors for several isotopes revised. These reflect changes in Dose Parameter R_i tables that follow which change as a result of the new Land Use Census. |
| 2-28
through
2-67 | Entire Dose Parameter R_i table section reprinted due to several receptor changes. Receptors that change due to the Land Use Census were:

<ul style="list-style-type: none">(1) deletion of Enlisted Beach Campground Check-in Sector P(2) addition of San Onofre Mobile Homes Sector Q, p. 2-30(3) addition of Enlisted Beach Check-in Sector Q, p. 2-33(4) deletion of Infant pathway and Child and Teen inhalation pathways on S.C. Res. W. Garden, Sector Q, p. 2-35(5) revision of the distance, X/Q and D/Q for San Onofre Mobile Homes, Sector R, p. 2-38 |

- (6) revision of Adult Inhalation, Food & Ground Pathways values for Sanitary Landfill, Sector B, p.2-48
- (7) revision of Adult Inhalation & Food & Ground Pathways values for Border Patrol Check pt., Sector F, p. 2-61.
- (8) revision of distance, X/Q, D/Q and Child, Teen, and Adult factors for Sheep (Meat), Sector F, p.2-62
- (9) revision of distance, X/Q & D/Q values for Deer Consumer, Sector F, p. 2-63

5-2 Footnote added for locations 11, 12, 13, 15, and 16 to indicate that these are not required by Technical Specifications.

5-4 Locations #68 (Range 210C (MCB, Camp Pendleton)) and #99 (Transit Dose) added. Footnote added indicating locations #55 through #59 are not required by the Technical Specifications.

March 1, 1989

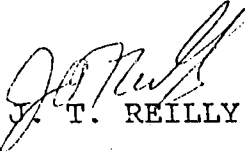
MR. H. E. MORGAN

SUBJECT: Revision 20 to the Units 2/3 Offsite Dose Calculation Manual (ODCM)

In accordance with Technical Specification 6.5.2.9 and 6.14.2, Revision 20 to the Units 2/3 ODCM has been prepared and reviewed for adoption on March 1, 1989. This revision incorporates the newest dose parameter tables occasioned by the latest Land Use Census, as well as a changes to the Radiological Environmental Monitoring Section clarifying sampling locations. Your approval of this change is requested.

Copies of this letter are being forwarded to the Site Manager Vice President, and the Nuclear Safety Group as required by Technical Specification 6.5.2.10 (Units 2/3).

If there are any questions, please don't hesitate to call.


J. T. REILLY

Approved by:


H. E. MORGAN
Station Manager

450KH:cas

cc: C. B. McCarthy
P. Penseyres
W. W. Strom
K. Helm
R. Plappert
E. S. Medling
Chem File
CDM