

NRC MONTHLY OPERATING REPORT

DOCKET NO: 50-361
 UNIT NAME: SONGS - 2
 DATE: 6-13-91
 COMPLETED BY: M. M. Farr
 TELEPHONE: (714) 368-9787

OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 2
2. Reporting Period: May 1991
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	3,623.00	68,256.00
12. Number Of Hours Reactor Was Critical	497.63	2,831.88	49,591.44
13. Reactor Reserve Shutdown Hours	0.00	0.00	0.00
14. Hours Generator On-Line	480.80	2,805.33	48,607.75
15. Unit Reserve Shutdown Hours	0.00	0.00	0.00
16. Gross Thermal Energy Generated (MWH)	1,560,601.80	8,705,359.04	158,189,343.76
17. Gross Electrical Energy Generated (MWH)	519,329.00	2,928,352.00	53,635,846.00
18. Net Electrical Energy Generated (MWH)	486,566.00	2,767,368.00	50,819,890.24
19. Unit Service Factor	64.62%	77.43%	71.21%
20. Unit Availability Factor	64.62%	77.43%	71.21%
21. Unit Capacity Factor (Using MDC Net)	61.12%	71.39%	69.58%
22. Unit Capacity Factor (Using DER Net)	61.12%	71.39%	69.58%
23. Unit Forced Outage Rate	35.38%	22.57%	7.31%
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): Cycle 6 Refueling outage scheduled to commence August 17, 1991, for a duration of 90 days.			
25. If Shutdown 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

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TELEPHONE: (714) 368-9787

MONTH: May 1991

DAY AVERAGE DAILY POWER LEVEL (MWe-Net)

1	<u>0.00</u>
2	<u>0.00</u>
3	<u>0.00</u>
4	<u>0.00</u>
5	<u>0.00</u>
6	<u>0.00</u>
7	<u>0.00</u>
8	<u>0.00</u>
9	<u>0.00</u>
10	<u>0.00</u>
11	<u>0.00</u>
12	<u>501.29</u>
13	<u>1058.67</u>
14	<u>1090.92</u>
15	<u>1093.54</u>
16	<u>1097.96</u>

DAY AVERAGE DAILY POWER LEVEL (MWe-Net)

17	<u>1086.42</u>
18	<u>1094.08</u>
19	<u>1096.38</u>
20	<u>1093.25</u>
21	<u>1023.21</u>
22	<u>940.13</u>
23	<u>1047.75</u>
24	<u>1086.88</u>
25	<u>1098.33</u>
26	<u>1097.08</u>
27	<u>1095.54</u>
28	<u>1096.33</u>
29	<u>1093.75</u>
30	<u>1077.88</u>
31	<u>762.38</u>

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO: 50-361UNIT NAME: SONGS - 2REPORT MONTH: May 1991DATE: 6-13-91COMPLETED BY: M. M. FarrTELEPHONE: (714) 368-9787

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
66	910410	F	487.90	A	1	2-91-007	AB	BAF	Continuation from previous month's outage.
67	910531	S	0.00	B	5	NA	KE	COND	Reduced reactor power to 75% support condenser water box repair.

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

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO: 50-361
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<u>Date</u>	<u>Time</u>	<u>Event</u>
May 1	0001	Unit is in Mode 5. Mode 4 entry preparations in progress following RCP P-004 seal replacement.
	0445	Entered Mode 4.
May 2	0225	Commenced RCS pressurization to 2250 psia.
	0330	RCS at 2250 psia.
	1310	High pressure safety injection valve S21204MU020 failed leak rate test. Commenced approach to Mode 5.
May 3	0445	Entered Mode 5.
May 5	1656	Entered Mode 4 following completion of high pressure safety injection valve S21204MU020 repair.
May 7	2221	Entered Mode 3.
May 11	0552	Entered Mode 2.
	0622	Reactor is made critical.
	1805	Entered Mode 1.
	2312	Unit synchronized to the grid.
May 12	0240	Commenced reactor power increase to 100% power.
May 13	0540	Reactor at 98% power.
May 21	1053	Commenced reactor power decrease to 90% due to failed high level dump valve 2LV3145.
May 23	0642	Commenced reactor power increase to 100% following completion of high level dump valve 2LV3145 repair.
	1005	Reactor at 100% power.
May 30	2200	Commenced reactor power decrease to 75% to perform circulating water pump P-115 water box repair.

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<u>Date</u>	<u>Time</u>	<u>Event</u>
May 31	0140	Reactor at 75% power.
	2210	Commenced reactor power increase to 100% following completion of circulating water pump P-115 water box repair.
	2300	Unit is in Mode 1 at 85% reactor power. Continuing reactor power increase to 100%.

REFUELING INFORMATION

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COMPLETED BY:	<u>M. M. Farr</u>
TELEPHONE:	<u>(714) 368-9787</u>

MONTH: May 1991

1. Scheduled date for next refueling shutdown.

Cycle 6 refueling outage is forecast for August 1991.

2. Scheduled date for restart following refueling.

Restart from Cycle 6 refueling outage is forecast for November 1991.

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

Yes.

What will these be?

There are several License Amendments required to support work being performed during the Unit 2 Cycle 6 refueling outage. A summary of each of these items follows:

- A. In accordance with SCE's letter dated October 31, 1990, SCE committed to remove the autoclosure interlock on the shutdown cooling valves. This commitment was a result of SCE's evaluation in accordance with Generic Letter 88-17. Specifically, Surveillance Requirement 4.5.2.d.1 will be revised to reflect removal of the automatic isolation of the shutdown cooling system from the reactor coolant system (RCS) when RCS pressure is greater than or equal to 715 psia. NRC approval will be required prior to returning the shutdown cooling system to Operable status during the outage. The work will be done during the core offload from day 20 to day 36 of the outage. Based on an August 17 start date, NRC approval will be required by about September 22, 1991.
- B. A change to the Technical Specifications and an exemption from 10CFR50, Appendix J is required to decouple the 10 year Inservice Testing from the ten year Integrated Leak Rate Test (ILRT). Specifically, Surveillance Requirement 4.6.1.2.a will be revised to remove the requirement that the third test of each set of ILRTs be conducted during the shutdown for the 10-year plant inservice inspection. Received NRC approval on June 3, 1991

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MONTH: May 1991

- C. NRC approval of changes to the UFSAR is requested to permit use of the shutdown cooling system as the primary means of spent fuel pool cooling. Use of the shutdown cooling system will be required when it is necessary to perform maintenance on certain components in the component cooling water system and the spent fuel pool cooling system. Currently, a test of leakage of the cross train isolation valves in the component cooling water system will be performed at the beginning of the outage. Received NRC approval on June 3, 1991.
 - D. A change to the Technical Specifications is requested to revise the snubber visual inspection frequency and criteria in accordance with Generic Letter 90-09. Specifically, Surveillance Requirements 4.7.6.b and 4.7.6.c will be revised in accordance with the Generic Letter. NRC approval by August 17, 1991, is requested to permit the use of these revisions for the inspections being conducted during this outage and to ensure appropriate credit for these revisions to establish the frequency for future surveillances.
 - E. A change to the Technical Specifications will be requested to permit a one time extension to the 24 month diesel generator surveillance requirements. Specifically, a one month extension will be requested for the manufacturer's recommended inspections required by Surveillance Requirement 4.8.1.1.2.d.1. This change is necessary to provide sufficient time to complete the inspections on one diesel generator before the other diesel generator becomes inoperable due to expiration of its 24 month surveillance. NRC approval will be required prior to September 21.
4. Scheduled date for submitting proposed licensing action and supporting information.
- A. Proposed Change on Autoclosure Interlock - Submitted April 15, 1991
 - B. Proposed Change and Exemption of ILRT - Approved June 3, 1991
 - C. Approval of Shutdown Cooling for Spent Fuel Pool Cooling - Approved June 3, 1991
 - D. Proposed Change on Snubber Surveillances - Submitted May 2, 1991
 - E. Proposed Change on Diesel Generator Surveillance - Submitted May 22, 1991

REFUELING INFORMATION

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MONTH: May 1991

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.

6. The number of fuel assemblies.

a) In the core. 217

b) In the spent fuel storage pool. 481 (376 Unit 2 Spent
Fuel Assemblies, 70
Unit 1 Spent Fuel
Assemblies, and 35
Unit 2 New Fuel
Assemblies)

7. Licensed spent fuel storage capacity. 1542

Intended change in spent fuel storage capacity. None

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

Approximately 2001 (full off load capability)

NRC MONTHLY OPERATING REPORT

DOCKET NO: 50-362
 UNIT NAME: SONGS - 3
 DATE: 6-13-91
 COMPLETED BY: M. M. Farr
 TELEPHONE: (714) 368-9787

OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 3
2. Reporting Period: May 1991
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	744.00	3,623.00	62,807.00
12. Number Of Hours Reactor Was Critical	390.28	3,203.66	47,431.63
13. Reactor Reserve Shutdown Hours	0.00	0.00	0.00
14. Hours Generator On-Line	390.07	3,194.15	46,170.64
15. Unit Reserve Shutdown Hours	0.00	0.00	0.00
16. Gross Thermal Energy Generated (MWH)	1,267,424.24	10,672,103.08	146,969,744.64
17. Gross Electrical Energy Generated (MWH)	427,425.00	3,626,861.50	49,878,544.00
18. Net Electrical Energy Generated (MWH)	397,677.00	3,446,592.97	47,071,502.30
19. Unit Service Factor	52.43%	88.16%	73.51%
20. Unit Availability Factor	52.43%	88.16%	73.51%
21. Unit Capacity Factor (Using MDC Net)	49.49%	88.08%	69.39%
22. Unit Capacity Factor (Using DER Net)	49.49%	88.08%	69.39%
23. Unit Forced Outage Rate	47.57%	11.84%	8.07%
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):	NA		
25. If Shutdown 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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TELEPHONE: (714) 368-9787

MONTH: May 1991

DAY AVERAGE DAILY POWER LEVEL (MWe-Net)

1	<u>1073.04</u>
2	<u>1098.54</u>
3	<u>1003.63</u>
4	<u>794.83</u>
5	<u>875.67</u>
6	<u>1096.79</u>
7	<u>1097.79</u>
8	<u>1096.79</u>
9	<u>1093.96</u>
10	<u>1087.54</u>
11	<u>1091.50</u>
12	<u>1097.71</u>
13	<u>1101.13</u>
14	<u>1102.25</u>
15	<u>1101.83</u>
16	<u>1065.42</u>

DAY AVERAGE DAILY POWER LEVEL (MWe-Net)

17	<u>52.58</u>
18	<u>0.00</u>
19	<u>0.00</u>
20	<u>0.00</u>
21	<u>0.00</u>
22	<u>0.00</u>
23	<u>0.00</u>
24	<u>0.00</u>
25	<u>0.00</u>
26	<u>0.00</u>
27	<u>0.00</u>
28	<u>0.00</u>
29	<u>0.00</u>
30	<u>0.00</u>
31	<u>0.00</u>

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: May 1991DOCKET NO: 50-362UNIT NAME: SONGS - 3DATE: 6-13-91COMPLETED BY: M. M. FarrTELEPHONE: (714) 368-9787

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
57	910504	S	0.00	B	5	NA	KE	COND	Reduced reactor power to 80% to support condenser water box cleaning.
58	910517	F	353.93	A	1	NA	TJ	GEN	Reactor was shutdown from 100% power due to hydrogen leakage into the main generator stator water system. A small hole in the generator conductor bus bar was determined to be the cause of the leakage. A small metallic object penetrated the conductor bus bar as a result of the generator magnetic field during operation. The hole was repaired and reassembly of the main generator is in progress. The main generator internals will be vacuumed and a magnetic search will be conducted prior to system closure to ensure no foreign material is present.

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

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

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<u>Date</u>	<u>Time</u>	<u>Event</u>
May 1	0001	Unit is in Mode 1 at 100% reactor power. Turbine load at 1140 MWe gross.
May 3	1558	Commenced reactor power decrease to 80% for circulating water system heat treatment and to perform maintenance on circulating water pump P-118.
	1805	Reactor at 80%.
May 5	0300	Commenced reactor power increase to 100% following completion of heat treating operations and maintenance on circulating water pump P-118.
	2025	Reactor at 100%.
May 16	2138	Commenced reactor power reduction due to hydrogen leakage into main generator stator water system.
May 17	0615	Manually tripped reactor at 16%. Unit is in Mode 3. Outage commenced on main generator.
May 31	2359	Unit is in Mode 3, 545 1/2 degrees F, 2250 psia, RCPs P-001 and P-004 running.

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MONTH: May 1991

1. Scheduled date for next refueling shutdown.

Cycle 6 refueling outage is forecast for January 1992.

2. Scheduled date for restart following refueling.

Restart from Cycle 6 refueling outage is forecast for April 1992.

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

Yes.

What will these be?

The first four items listed in Unit 2 Refueling Information, Item 3, are also applicable to Unit 3.

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

Same dates as specified for Unit 2.

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 for Cycle 6. Under evaluation.

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MONTH: May 1991

6. The number of fuel assemblies.

a) In the core. 217

b) In the spent fuel storage pool. 445 (376 Unit 3 Spent
Fuel Assemblies and 69
Unit 1 Spent Fuel
Assemblies

7. Licensed spent fuel storage capacity. 1542 *

Intended change in spent fuel storage capacity. None

* Expanded from 800 to 1542 by License Amendment No. 77 - Facility modification is scheduled to be completed by September 1991.

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

Approximately 2003 (full off load capability)

ATTACHMENT A

Revised Unit 2 and 3 March and April 1991 Operating Status Sheets

SONGS Units 2 and 3 Monthly Operating Report, May 1991