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April 14, 1993

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

Subject: Docket Nos. 50-361 and 50-362
Monthly Operating Reports for March 1993
San Onofre Nuclear Generating Station, Units 2 and 3

Technical Specification 6.9.1.10 to Facility Operating Licenses NPF-10 and NPF-15 for the San Onofre Nuclear Generating Station, Units 2 and 3, respectively, requires SCE to provide a Monthly Operating Report for each Unit, which includes: routine operating statistics and shutdown experience; all challenges to safety valves; any changes to the Offsite Dose Calculation Manual (ODCM); and any major changes to the radioactive waste treatment system. All covered activities are reported monthly, except for ODCM changes, which are reported within 90 days from the time the changes were made effective.

This letter transmits the March 1993 Monthly Operating Reports for Units 2 and 3, respectively. There were no challenges to safety valves, no changes to the ODCM, and no major changes to the Units 2 and 3 radioactive waste treatment systems during the reporting period.

If you require any additional information, please let me know.

Sincerely,

Walter C. Marsh

Enclosures

cc: J. B. Martin (Regional Administrator, USNRC Region V)
M. B. Fields (NRC Project Manager, Units 2 and 3)
C. W. Caldwell (USNRC Senior Resident Inspector, Units 1, 2 and 3)

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NRC MONTHLY OPERATING REPORT

DOCKET NO: 50-361
UNIT NAME: SONGS - 2
DATE: APR 1 4 1993
COMPLETED BY: J. L. Darling
TELEPHONE: (714) 368-6223

OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 2
2. Reporting Period: March 1993
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	84,337.00
12.	Number Of Hours Reactor Was Critical	744.00	2,160.00	62,894.36
13.	Reactor Reserve Shutdown Hours	0.00	0.00	0.00
14.	Hours Generator On-Line	744.00	2,160.00	61,817.27
15.	Unit Reserve Shutdown Hours	0.00	0.00	0.00
16.	Gross Thermal Energy Generated (MWH)	2,473,529.44	7,127,670.36	201,947,518.68
17.	Gross Electrical Energy Generated (MWH)	824,446.00	2,400,066.00	68,445,626.00
18.	Net Electrical Energy Generated (MWH)	784,383.00	2,284,273.00	64,891,788.83
19.	Unit Service Factor	100.00%	100.00%	73.30%
20.	Unit Availability Factor	100.00%	100.00%	73.30%
21.	Unit Capacity Factor (Using MDC Net)	98.53%	98.83%	71.91%
22.	Unit Capacity Factor (Using DER Net)	98.53%	98.83%	71.91%
23.	Unit Forced Outage Rate	0.00%	0.00%	6.65%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
Refueling shutdown, June 5, 1993, Duration (77 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	NA	NA
INITIAL ELECTRICITY	NA	NA
COMMERCIAL OPERATION	NA	NA

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AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO: 50-361
UNIT NAME: SONGS - 2
DATE: APR 1 4 1993
COMPLETED BY: J. L. Darling
TELEPHONE: (714) 368-6223

MONTH: March 1993

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	892.50	16	1055.50
2	907.75	17	1062.83
3	907.83	18	1092.13
4	907.29	19	1089.58
5	905.92	20	1048.42
6	1034.63	21	1093.79
7	1089.96	22	1093.00
8	1090.79	23	1093.00
9	1088.38	24	1092.96
10	1059.83	25	1093.00
11	1085.42	26	1094.00
12	1087.88	27	1088.79
13	1083.21	28	1094.96
14	1089.75	29	1093.83
15	1087.75	30	1089.25
		31	1088.71

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UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO: 50-361
UNIT NAME: SONGS - 2
DATE: APR 1 4 1993
COMPLETED BY: J. L. Darling
TELEPHONE: (714) 368-6223

REPORT MONTH: March 1993

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

There were no unit shutdowns or power reductions this reporting period.

[1]F-Forced
S-Scheduled

[2]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)

[3]Method:
1-Manual
2-Manual Scram.
3-Automatic Scram.
4-Continuation from Previous Month
5-Reuuction in the Average Daily Power Level of more than 20% from the previous day
6-Other (Explain)

[4]IEEE Std 805-1984

[5]IEEE Std 803A-1983

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SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO: 50-361
UNIT NAME: SONGS - 2
DATE: APR 1 4 1993
COMPLETED BY: J. L. Darling
TELEPHONE: (714) 368-6223

Date	Time	Event
March 1	0001	Unit is in Mode 1, 75% reactor power, 840 MWe. Unit is at reduced power due to waterbox repairs.
	0029	Commenced reactor power increase to 85% following repairs to waterbox.
	0230	Unit at 85% Rx power, 957 MWe. Maintaining reduced power because of calculation uncertainties in the Core Protection Calculator (CPC) used to generate DNBR.
March 6	0350	Commenced reactor power increase to 100% following resolution of CPC uncertainty issue.
	0700	Unit at 100% reactor power, 1137 MWe.
March 10	1812	High Pressure Stop valve 2UV-2200A tripped closed, turbine load stabilized at 1055 MWe. Reactor power being maintained at 100% with Steam Bypass control system.
March 11	0010	High Pressure Stop valve returned to service after replacement of trip solenoid B. Turbine load restored to 1140 MWe.
March 16	2000	Commenced load reduction to 80% to perform bump of circulating water pumps 2P116 and 2P117 to reduce condenser water box delta-p.
	2155	Unit at 80% reactor power, 890 MWe.
March 17	0015	Commenced load increase to 100% following completion of circulating water pump bumping.
	0430	Unit at 100% reactor power, 1140 MWe.
March 31	2400	Unit is at 100% reactor power, 1140 MWe.

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REFUELING INFORMATION

DOCKET NO: 50-361
UNIT NAME: SONGS - 2
DATE: APR 1 4 1993
COMPLETED BY: J. L. Darling
TELEPHONE: (714) 368-6223

MONTH: March 1993

1. Scheduled date for next refueling shutdown.

   Cycle 7 refueling outage is forecast for June 5, 1993.

2. Scheduled date for restart following refueling.

   Restart from Cycle 7 refueling outage is forecast for August 1993.

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

   Yes.

   What will these be?

   The following Technical Specification changes are desired in support of work being performed during the Unit 2 Cycle 7 refueling outage.

   A. A change to Technical Specification 3.9.7 has been requested to permit use of the cask pool cover to support refueling activities. This cover had previously been used to support the spent fuel pool reracking project. NRC approval of this change will be required prior to the start of the outage to support use of the cover during the outage.

   B. A change has been requested to Technical Specification 4.4.5.2.1 to allow a delay in performing an RCS inventory balance during plant transients. Although not required, NRC approval of this change is desired prior to startup from the Unit 2 Cycle 7 outage.

   C. A change has been requested to Technical Specification 3.7.1.1 to allow an increased tolerance on the main steam safety valves for the purpose of determining valve operability. Although not required, NRC approval of this change is desired to support the surveillance testing scheduled to be performed during the Unit 2 Cycle 7 outage.

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REFUELING INFORMATION

DOCKET NO:	50-361
UNIT NAME:	SONGS - 2
DATE:	APR 1 4 1993
COMPLETED BY:	J. L. Darling
TELEPHONE:	(714) 368-6223

MONTH: March 1993

D. A license Amendment and Technical Specification change has been requested to permit implementation of a design change to use the containment spray pumps for shutdown cooling and spent fuel pool cooling. NRC approval of this change will be requested to permit use of the spray pumps for spent fuel pool cooling during the Unit 2 cycle 7 outage.

E. A one-time change will be requested to Technical Specification 4.8.1.1.1 to permit replacement of transformers on the 480 Volt buses during the Cycle 7 outage. These buses affect the crosstie between the units which provides the second source of offsite power. Because the bus will be out of service for longer than 72 hours, the maintenance work on the shut down unit could affect the operating unit.

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

A.	Proposed Change on Cask Pool Cover	Submitted December 24, 1992
B.	Proposed Change on RCS Leakrate	Submitted November 20, 1992
C.	Proposed Change on MSSVs	Submitted March 05, 1993
D.	Proposed Change on Spray Pumps	Submitted December 24, 1992
E.	Proposed Change on 480 Volt buses	April 30, 1993

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.

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6. The number of fuel assemblies.

   a) In the core. 217

   b) In the spent fuel storage pool. 554 (484 Unit 2 Spent Fuel Assemblies, 70 Unit 1 Spent 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)

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NRC MONTHLY OPERATING REPORT

DOCKET NO: 50-362
UNIT NAME: SONGS - 3
DATE: APR 1 4 1993
COMPLETED BY: J. L. Darling
TELEPHONE: (714) 368-6223

OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 3
2. Reporting Period: March 1993
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	2,160.00	78,888.00
12.	Number Of Hours Reactor Was Critical	744.00	2,103.97	61,303.73
13.	Reactor Reserve Shutdown Hours	0.00	0.00	0.00
14.	Hours Generator On-Line	74[illegible]	2,080.50	59,686.56
15.	Unit Reserve Shutdown Hours	0.00	0.00	0.00
16.	Gross Thermal Energy Generated (MWH)	2,468,056.20	6,866,572.20	191,500,646.44
17.	Gross Electrical Energy Generated (MWH)	834,326.50	2,346,006.50	64,972,866.50
18.	Net Electrical Energy Generated (MWH)	792,663.00	2,226,266.00	61,371,936.36
19.	Unit Service Factor	100.00%	96.32%	75.66%
20.	Unit Availability Factor	100.00%	96.32%	75.66%
21.	Unit Capacity Factor (Using MDC Net)	98.65%	95.43%	72.03%
22.	Unit Capacity Factor (Using DER Net)	98.65%	95.43%	72.03%
23.	Unit Forced Outage Rate	0.00%	3.68%	7.33%

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): Refueling shutdown, October 1, 1993, duration 85 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	NA	NA
INITIAL ELECTRICITY	NA	NA
COMMERCIAL OPERATION	NA	NA

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AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO: 50-362
UNIT NAME: SONGS - 3
DATE: APR 1 4 1993
COMPLETED BY: J. L. Darling
TELEPHONE: (714) 368-6223

MONTH: March 1993

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	897.71	16	1103.54
2	937.17	17	1104.29
3	942.33	18	1105.88
4	945.67	19	1069.54
5	1089.96	20	1070.54
6	1097.00	21	1106.83
7	1101.08	22	1106.50
8	1103.13	23	1108.33
9	1100.58	24	1105.67
10	1099.54	25	1106.13
11	1099.88	26	1103.08
12	1097.29	27	1102.42
13	1009.96	28	1105.00
14	793.21	29	1108.71
15	1089.38	30	1108.58
		31	1108.71

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UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH: March 1993

DOCKET NO: 50-362
UNIT NAME: SONGS - 3
DATE: APR 1 4 1993
COMPLETED BY: J. L. Darling
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
74	930314	S	0.0	H	5	NA	KE	COND	Unit load reduced to allow circulating water system heat treat and other reduced load work.

[1]F-Forced
S-Scheduled

[2]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)

[3]Method:
1-Manual
2-Manual Scram.
3-Automatic Scram.
4-Continuation from Previous Month
5-Reduction in the Average Daily Power Level of more than 20% from the previous day
6-Other (Explain)

[4]IEEE Std 805-1984

[5]IEEE Std 803A-1983

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SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO: 50-362
UNIT NAME: SONGS - 3
DATE: APR 1 4 1993
COMPLETED BY: J. L. Darling
TELEPHONE: (714) 368-6223

Date	Time	Event
March 1	0001	Unit is in Mode 1 at 75% reactor power, 831 MWe. Unit at reduced power to repair discharge valve limit switch on circulating water pump 3P-116.
	0355	Commenced load increase to 85% following completion of limit switch repairs.
	0600	Unit at 85% reactor power, 977 MWe. Maintaining reduced power because of calculation uncertainties in the Core Protection Calculator (CPC) used to generate DNBR.
March 4	2205	Commenced reactor power increase to 100% following resolution of CPC uncertainty issue.
March 5	0545	Unit at 98.7% reactor power, 1140 MWe, Main Turbine valves full open.
March 13	1405	Commenced unit load reduction to 80% to perform circulating water system heat treat.
	1725	Unit at 80% reactor power.
March 14	0625	Commenced load decrease to 75% to allow condenser water box cleaning following completion of circulating water heat treat.
	0830	Unit load at 75%, 830 MWe.
	2240	Commenced load increase to 100% following completion of water box cleaning.
March 15	0210	Reactor power at 98.5%, 1140 MWe, Main Turbine valves full open.
March 19	1900	Commenced load reduction to 80% to perform pump of circulating water pump 3P-118 to reduce condenser water box delta-p.
	2200	Unit at 80% reactor power.

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SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO: 50-362
UNIT NAME: SONGS - 3
DATE: APR 1 4 1983
COMPLETED BY: J. L. Darling
TELEPHONE: (714) 368-6223

Date	Time	Event
March 20	0135	Commenced load increase to 100% following completion of circulating water pump bump.
	0600	Unit at 100% reactor power, 1151 MWe.
March 25	1053	Backup Core Operating Limit Supervisory System (COLSS) failed, normal Plant monitoring System (PMS) COLSS out of service for maintenance.
	1106	Commenced reactor power decrease in accordance with Technical Specification 3.2.4 action for DNBR margin with COLSS out of service.
	1117	Reactor power decrease stopped at 98.5%, 1153 MWe following PMS/COLSS being restored to operable.
	1200	Unit restored to 100% reactor power, 1153 MWe.
March 31	2400	Unit is at 100% reactor power, 1153 MWe.

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REFUELING INFORMATION

DOCKET NO: 50-362
UNIT NAME: SONGS - 3
DATE: APR 1 4 1993
COMPLETED BY: J. L. Darling
TELEPHONE: (714) 368-6223

MONTH: March 1993

1. Scheduled date for next refueling shutdown.

   Cycle 7 refueling outage is forecast for October 1, 1993.

2. Scheduled date for restart following refueling.

   Restart from Cycle 7 refueling outage is forecast for December 1993.

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

   Yes.

   What will these be?

   The following Technical Specification changes are desired in support of work being performed during the Unit 3 Cycle 7 refueling outage.

   A. A change to Technical Specification 3.9.7 has been requested to permit use of the cask pool cover to support refueling activities. This cover had previously been used to support the spent fuel pool reracking project. NRC approval of this change will be required prior to the start of the outage to support use of the cover during the outage.

   B. A change has been requested to Technical Specification 4.4.5.2.1 to allow a delay in performing an RCS inventory balance during plant transients. Although not required, NRC approval of this change is desired prior to startup from the Unit 3 Cycle 7 outage.

   C. A change has been requested to Technical Specification 3.7.1.1 to allow an increased tolerance on the main steam safety valves for the purpose of determining valve operability. Although not required, NRC approval of this change is desired to support the surveillance testing scheduled to be performed during the Unit 3 Cycle 7 outage.

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REFUELING INFORMATION

DOCKET NO: 50-362
UNIT NAME: SONGS - 3
DATE: APR 1 4 1993
COMPLETED BY: J. L. Darling
TELEPHONE: (714) 368-6223

MONTH: March 1993

D. A license Amendment and Technical Specification change has been requested to permit implementation of a design change to use the containment spray pumps for shutdown cooling and spent fuel pool cooling. NRC approval of this change will be requested to permit use of the spray pumps for spent fuel pool cooling during the Unit 3 cycle 7 outage.

E. A one-time change will be requested to Technical Specification 4.8.1.1.1 to permit replacement of transformers on the 480 Volt buses during the Cycle 7 outage. These buses affect the crosstie between the units which provides the second source of offsite power. Because the bus will be out of service for longer than 72 hours, the maintenance work on the shut down unit could affect the operating unit.

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

A.	Proposed Change on Cask Pool Cover	Submitted December 24, 1992
B.	Proposed Change on RCS Leakrate	Submitted November 20, 1992
C.	Proposed Change on MSSVs	Submitted March 5, 1993
D.	Proposed Change on Spray Pumps	Submitted December 24, 1992
E.	Proposed Change on 480 Volt buses	April 30, 1993

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.

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6. The number of fuel assemblies.

   a) In the core. 217

   b) In the spent fuel storage pool. 602 (484 Unit 3 Spent Fuel Assemblies, 118 Unit 1 Spent 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 2003 (full off-load capability)