

NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-361
UNIT NAME SONGS - 2
DATE 11-14-83
COMPLETED BY C. A. Morris
TELEPHONE (714) 492-7700
Ext. 56264

OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 2
2. Reporting Period: 1 October 1983 through 31 October 1983
3. Licensed Thermal Power (MWT): 3,390
4. Nameplate Rating (Gross MWe): 1,127
5. Design Electrical Rating (Net MWe): 1,087
6. Maximum Dependable Capacity (Gross MWe): 1,127
7. Maximum Dependable Capacity (Net MWe): 1,087
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	745.0	7,296.0	9,756.2
12. Number Of Hours Reactor Was Critical	707.75	4,236.75	5,998.95
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	696.20	3,570.96	4,575.26
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	2,290,400	10,236,560	11,218,110
17. Gross Electrical Energy Generated (MWH)	776,300	3,357,300	3,552,300
18. Net Electrical Energy Generated (MWH)	738,700	3,120,700	3,245,700
19. Unit Service Factor	NA	NA	NA
20. Unit Availability Factor	NA	NA	NA
21. Unit Capacity Factor (Using MDC Net)	0	0	0
22. Unit Capacity Factor (Using DER Net)	0	0	0
23. Unit Forced Outage Rate	0	0	0
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):			
18-month surveillance outage, November 15, 1983, 1-month duration.			

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

07/17/82 07/26/82
9/82 09/20/82
Under Review

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-361

UNIT SONGS - 2

DATE 11-14-83

COMPLETED BY C. A. Morris

TELEPHONE (714) 492-7700

Ext. 56264

MONTH: October 1983

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	723.75
2	1039.17
3	1116.67
4	1105.83
5	1110.00
6	1105.83
7	408.06
8	82.77
9	209.60
10	805.23
11	1108.52
12	1105.90
13	1101.58
14	1078.10
15	1106.79
16	1098.88

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	1103.19
18	1105.98
19	1092.69
20	1099.98
21	1085.65
22	1093.56
23	1101.54
24	1098.96
25	1095.00
26	1084.38
27	1091.60
28	1079.08
29	1087.81
30	1116.33
31	1112.92

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH OCTOBER, 1983

DOCKET NO. 50-361

UNIT NAME SONGS - 2

DATE 11-14-83

COMPLETED BY C. A. Morris

TELEPHONE (714) 492-7700

Ext. 56264

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
23	831007	F	28.9	A	3	83-141	IA	INSTRU	Reactor tripped due to faulty position indication on Control Element Assembly (CEA) 12, which was caused by a failed isolation amplifier card. Same card served CEA 79 during trip on 10/09/83. As corrective action the card was replaced.
24	831009	F	19.8	A	3	83-141	IA	INSTRU	See Cause and Corrective Action for 10/07/83 trip.

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 of 20%
or Greater in the
Past 24 Hours
6-Other (Explain)

4

Exhibit F - Instructions
for Preparation of Data
Entry Sheets for Licensee
Event Report (LER) File
(NUREG 0161)

5

Exhibit H-Same Source

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-361
 UNIT SONGS - 2
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October 1	0001	Unit is in Mode 1, at 100% reactor power. Turbine load is 1166 MWe gross.
October 1	0245	Reduced turbine load to 1050 MWe gross to perform turbine stop and governor valve testing.
October 1	1330	Reduced reactor power to 40% to conduct a heat treatment, CEA exercises and repair of steam leaks on the moisture separator reheaters.
October 2	0415	Returned to 100% reactor power.
October 7	0907	Turbine load at 1165 MWe gross. Reactor tripped due to erroneous signal on Control Element Assembly (CEA) 12.
October 8	0655	Entered Mode 2.
October 8	0702	Reactor critical.
October 8	1205	Entered Mode 1.
October 8	1400	Synchronized generator and applied block load of 100 MWe gross. Commenced power increase to 100%.
October 9	0642	Reactor tripped from 99% power due to faulty position indication on CEA 79, which was caused by an isolation amplifier card. This card was in the CEA 12 position on October 7, and caused reactor to trip. Card was replaced.
October 9	2156	Entered Mode 2.
October 9	2202	Reactor critical.
October 10	0012	Entered Mode 1.
October 10	0231	Synchronized generator and applied block load of 55 MWe gross.
October 10	0935	Increased reactor power to 100% and turbine load to 1160 MWe gross.
October 14	1800	Decreased turbine load to 1050 MWe gross to perform turbine stop and governor valve testing.

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

October 14	2205	Increased reactor power to 100% and turbine load to 1161 MWe gross.
October 21	1740	Decreased turbine load to 1050 MWe gross to perform turbine stop and governor valve testing.
October 21	2145	Increased reactor power to 100% and turbine load to 1150 MWe gross.
October 28	1730	Decreased turbine load to 1050 MWe gross to perform turbine stop and governor valve testing.
October 28	2030	Increased reactor power to 100% and turbine load to 1145 MWe gross.
October 31	2359	Unit is in Mode 1 at 100% reactor power. Turbine load is 1136 MWe gross.

REFUELING INFORMATION

<u>DOCKET NO.</u>	<u>50-361</u>
<u>UNIT</u>	<u>SONGS - 2</u>
<u>DATE</u>	<u>11-14-83</u>
<u>COMPLETED BY</u>	<u>C. A. Morris</u>
<u>TELEPHONE</u>	<u>(714) 492-7700</u> <u>Ext. 56264</u>

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. 0
7. Licensed spent fuel storage capacity. 800
Intended change in spent fuel storage capacity. NA
8. Projected date of last refueling that can be discharged to spent fuel storage pool assuming present capacity.

NA

NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-362
UNIT NAME SONGS - 3
DATE 11-14-83
COMPLETED BY C. A. Morris
TELEPHONE (714) 492-7700
Ext. 56264

OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 3
2. Reporting Period: 1 October 1983 through 31 October 1983
3. Licensed Thermal Power (Mwt): 3,390
4. Nameplate Rating (Gross MWe): 1,127
5. Design Electrical Rating (Net MWe): 1,087
6. Maximum Dependable Capacity (Gross MWe): 1,127
7. Maximum Dependable Capacity (New MWe): 1,087
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	745.0	870.0	870.0
12. Number Of Hours Reactor Was Critical	565.5	654.6	654.6
13. Reactor Reserve Shutdown Hours	0	0	0
14. Hours Generator On-Line	512.8	601.9	601.9
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	728,980	847,938	847,938
17. Gross Electrical Energy Generated (MWH)	208,700	220,410	220,410
18. Net Electrical Energy Generated (MWH)	177,200	184,260	184,260
19. Unit Service Factor	NA	NA	NA
20. Unit Availability Factor	NA	NA	NA
21. Unit Capacity Factor (Using MDC Net)	0	0	0
22. Unit Capacity Factor (Using DER Net)	0	0	0
23. Unit Forced Outage Rate	0	0	0
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):	None		

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	-	08/29/83
INITIAL ELECTRICITY	-	09/25/83
COMMERCIAL OPERATION	Under Review	

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-362

UNIT SONGS - 3

DATE 11-14-83

COMPLETED BY C. A. Morris

TELEPHONE (714) 492-7700
Ext. 56264

MONTH: October 1983

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	0
2	0
3	0
4	0
5	0
6	51.46
7	57.44
8	49.81
9	113.92
10	245.42
11	240.77
12	413.31
13	289.69
14	218.46
15	420.65
16	442.13

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	437.06
18	457.46
19	442.23
20	462.06
21	448.96
22	454.73
23	462.27
24	462.81
25	460.56
26	435.10
27	0
28	0
29	0
30	135.40
31	426.13

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH OCTOBER, 1983

DOCKET NO. 50-362

UNIT NAME SONGS - 3

DATE 11-14-83

COMPLETED BY C. A. Morris

TELEPHONE (714) 492-7700

Ext. 56264

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
1	830929	F	118.4	A	2	83-071	CB	VALVEX	Reactor remains shutdown after manual trip on September 29, 1983.
2	831011	F	9.5	H	3	NA	IB	INSTRU	Turbine tripped followed by reactor trip due to a temporary loss of instrument power during testing on a non-LE power modification.
3	831013	F	13.3	H	3	NA	HD	INSTRU	Turbine tripped during calibration of stator water flow switches.
4	831026	S	86.4	B	2	NA	NA	NA	Reactor at 50% power tripped from outside the Control Room, in accordance with startup testing.
5	831031	F	4.6	A	2	NA	CH	PUMPXX	Reactor was manually tripped after a main feedwater pump tripped on low suction pressure.

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 of 20%
or Greater in the
Past 24 Hours
6-Other (Explain)

4
Exhibit F - Instructions
for Preparation of Data
Entry Sheets for Licensee
Event Report (LER) File
(NUREG 0161)

5
Exhibit H-Same Source

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-362

UNIT SONGS - 3

DATE 11-14-83

COMPLETED BY C. A. Morris

TELEPHONE (714) 492-7700
Ext. 56264

October 1	0001	Unit is in Mode 3, 544°F, following a 20% reactor trip in accordance with the startup test program.
October 4	0039	Entered Mode 2.
October 4	0045	Reactor critical.
October 4	1903	Entered Mode 1.
October 4	2043	Reactor tripped on high steam generator level due to an incorrect setpoint on the control air pressure switch to 3FV-111.
October 5	0207	Entered Mode 2.
October 5	0218	Reactor critical.
October 5	0522	Entered Mode 1.
October 5	0526	Reactor tripped on high steam generator level due to instability in feedwater control at low power levels.
October 5	1550	Entered Mode 2.
October 5	1605	Reactor critical.
October 5	1853	Entered Mode 1.
October 5	2222	Synchronized generator and applied block load.
October 5	2300	Reactor power at 20%, turbine load at 90 MWe gross.
October 8	2255	Raised turbine load to 130 MWe gross for Reactor Regulating System Test in accordance with the startup test program.
October 10	0001	Raised reactor power to 30% and turbine load to 223 MWe gross.
October 10	1405	Raised reactor power to 40% and turbine load to 340 MWe gross.
October 11	0130	Reactor power at 50% and turbine load at 470 MWe gross. Commenced 50% power plateau testing.
October 11	1354	Turbine tripped followed by a reactor trip due to a temporary loss of instrument power during testing on a non-1E power modification.

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

October 11	2121	Entered Mode 2.
October 11	2145	Reactor critical.
October 11	2250	Entered Mode 1.
October 11	2325	Synchronized generator and applied block load of 50 MWe gross.
October 12	0335	Reactor power at 50% and turbine load at 474 MWe gross. Resumed 50% power plateau testing.
October 13	1616	Turbine tripped during calibration of stator water flow switches. A reactor trip followed due to high pressurizer pressure.
October 14	0201	Entered Mode 2.
October 14	0226	Reactor critical.
October 14	0347	Entered Mode 4.
October 14	0535	Synchronized generator and applied block load.
October 14	0905	Reactor power at 50% and turbine load at 422 MWe gross. Resumed 50% power plateau testing.
October 26	2233	Tripped reactor from 50% power performing the "Shutdown from Outside the Control Room Test" in accordance with the startup program.
October 27	0130	Completed shutdown test.
October 29	1025	Entered Mode 2.
October 29	1036	Reactor critical.
October 29	1504	Reactor tripped while cycling reactor trip breakers (RTB's) with RTB #9 removed.
October 29	2142	Entered Mode 2.
October 29	2156	Reactor critical.
October 30	0500	Entered Mode 1.
October 30	1157	Synchronized generator and applied block load of 55 MWe gross.
October 30	1725	Raised reactor power to 50% and turbine load to 480 MWe gross. Resumed 50% power plateau testing.
October 31	1030	Raised reactor power to 60% and turbine load to 630 MWe gross following completion of 50% power.
October 31	1925	Manually tripped reactor after a main feedwater pump tripped on low suction pressure.
October 31	2359	Unit is in Mode 3 at 545°F. Preparations for Mode 2 entry are in progress.

REFUELING INFORMATION

DOCKET NO.	50-362
UNIT	SONGS - 3
DATE	11-14-83
COMPLETED BY	C. A. Morris
TELEPHONE	(714) 492-7700
	Ext. 56246

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. 0
7. Licensed spent fuel storage capacity. 800
Intended change in spent fuel storage capacity. NA
8. Projected date of last refueling that can be discharged to spent fuel storage pool assuming present capacity.

NA

ATTACHMENT

OFFSITE DOSE CALCULATION MANUAL
REVISION 11

OFFSITE DOSE CALCULATION MANUAL

REVISION 11

OFFSITE DOSE CALCULATION MANUAL
SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2&3
LIST OF EFFECTIVE PAGES

<u>PAGE NO.</u>	<u>REV. DATE</u>	<u>PAGE NO.</u>	<u>REV. DATE</u>	<u>PAGE NO.</u>	<u>REV. DATE</u>
Title Page	11-15-82	2-1	7-1-82	2-23	7-1-82
I	11-15-82	2-2	11-15-82	2-24	7-1-82
II	7-1-82	2-3	11-15-82	2-25	7-1-82
III	11-15-82	2-4	6-24-83	2-26	7-1-82
IV	7-1-82	2-5	6-24-83	2-27	7-1-82
1-1	7-1-82	2-6	11-15-82	2-28	7-1-82
1-2	7-1-82	2-7	7-1-82	2-29	7-1-82
1-3	7-1-82	2-8	7-1-82	2-30	7-1-82
1-4	5-18-83	2-9	7-1-82	2-31	7-1-82
1-5	7-1-82	2-10	5-18-83	2-32	7-1-82
1-6	5-18-83	2-11	7-1-82	2-33	7-1-82
1-7	11-15-82	2-12	7-1-82	2-34	7-1-82
1-8	5-18-83	2-13	7-1-82	2-35	7-1-82
1-9	7-1-82	2-14	7-1-82	2-36	7-1-82
1-10	11-15-82	2-15	7-1-82	2-37	7-1-82
1-11	5-18-83	2-16	7-1-82	2-38	7-1-82
1-12	5-18-83	2-17	7-1-82	2-39	7-1-82
1-13	5-18-83	2-18	7-1-82	2-40	7-1-82
1-14	11-15-82	2-19	7-1-82	2-41	7-1-82
1-15	5-18-83	2-20	7-1-82	3-1	7-1-82
1-16	5-18-83	2-21	7-1-82	4-1	7-1-82
1-17	5-18-83	2-22	7-1-82	4-2	1-29-82
1-18	5-18-83				
1-19	5-18-83				

Rev. 11
06/24/83

0.1 is an administrative value used to account for potential activity from other gaseous release pathways.

0.5 is an administrative value used to account for releases from both SONGS 2 and SONGS 3 simultaneous.

The alarm setting is determined by using the calibration constant for the corresponding Condenser Evacuation System Monitor given in Table 2-1. The alarm setpoint is the cpm value corresponding to the concentration, C, which is conservatively assumed to be the isotope of greatest sensitivity for the monitor.

If there is no release associated with this monitor, the monitor setpoint should be established as close as practical to background to prevent spurious alarms yet assure an alarm should an inadvertent release occur.

2.1.3 Containment Purge - 2RT - 7804-1, 3RT - 7804-1

For the purpose of implementation of Specification 3.11.2.1, the alarm setpoint level for noble gas monitors is based on the gaseous effluent flow rate and meteorological dispersion factor.

The concentration at the detector is determined by using:

$$\begin{aligned} C_2 &< (0.45) (P_2) (2120) \frac{(MPC)}{(X/Q) \text{ (Flow rate)}} \\ C_3 &< (0.45) (P_3) (2120) \frac{(MPC)}{(X/Q) \text{ (Flow rate)}} \end{aligned} \quad (2-3) \quad \text{R}$$

where:

C_2 = the instantaneous concentration at the detector
(2RT-7804C) in $\mu\text{Ci/cc}$.

C_3 = the instantaneous concentration at the detector
(3RT-7804C) in $\mu\text{Ci/cc}$.

MPC = the 10CFR Part 20 concentration for the limiting
radionuclide present in sample analysis in $\mu\text{Ci/cc}$.
(i.e., smallest MPC)

flow rate = the containment purge flow rate in cfm
= 40,000 cfm full purge
= 2,000 cfm mini purge

$(X/Q) = 2.4 \text{ E-5 sec/m}^3$ the annual average atmosphere dispersion
2120 = conversion of cfm to m^3/sec

0.45 is an administrative value used to account for potential
activity from other gaseous release pathways.

P_2 and P_3 are administrative values used to account for
simultaneous releases from both SONGS 2 and SONGS 3. The
fractions P_2 and P_3 will be assigned such that $P_2 + P_3 \leq 1.0$.

The alarm setting is determined by using the calibration constant
for the Containment Airborne Monitor given in Table 2-1. The
alarm setpoint is the cpm value corresponding to the
concentration, C, which is conservatively assumed to be the
isotope of greatest sensitivity for the monitor.

OFFSITE DOSE CALCULATION MANUAL

REVISION 12

August 31, 1983

SUBJECT: Monitor Setpoint Calculational Change to ODCM

2.1 (Page 2-1)

ADD: For purposes of gaseous setpoint calculations, two methods of MPC generation are acceptable for all monitors listed in this section.

1. Most restrictive or limiting MPC as determined by isotopic analysis.
2. Generation of an "Effective MPC" defined as:

$$MPC_{eff} = \frac{1}{\sum_{i=1}^n \frac{F_i}{MPC_i}}$$

Where: F_i = fractional abundance of the i th radionuclide as obtained by sample analysis.

n = total number of radionuclides identified.

MPC_i = MPC of the i th radionuclide.

2

Southern California Edison Company

SAN ONOFRE NUCLEAR GENERATING STATION
P.O. BOX 128
SAN CLEMENTE, CALIFORNIA 92672

SCE

November 14, 1983

Director
Office of Management Information and
Program Analysis
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Sir:

Subject: Docket Nos. 50-361/50-362
Monthly Operating Reports for October 1983
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.

Also attached to these reports are Revisions 11 and 12 to the Offsite Dose Calculation Manual. In accordance with Appendix A, Technical Specification, Section 6.14.2, these revisions were reviewed and found acceptable by the Onsite Review Committee on June 24 and August 31, 1983.

Please contact us if we can be of further assistance.

Sincerely,

J. G. Haynes

J. G. HAYNES
STATION MANAGER

IE24
1/1

Enclosures

cc: J. B. Martin (Regional Administrator, USNRC Region V)

A. E. Chaffee (USNRC Resident Inspector, Units 1, 2 and 3)
J. P. Stewart (USNRC Resident Inspector, Units 2 and 3)