NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-361
UNIT SONGS - 2
DATE June 15, 1984
COMPLETED BY L. I. Mayweather
TELEPHONE (714) 492-7700
Ext. 56223

OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 2
2. Reporting Period: May, 1984
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	3,647	7,152
12.	Number Of Hours Reactor Was Critical	744	2,766.4	5,379.1
13.	Reactor Reserve Shutdown Hours	0	0	0
14.	Hours Generator On-Line	744	2,692.2	5,253.9
15.	Unit Reserve Shutdown Hours	0	0	0
16.	Gross Thermal Energy Generated (MWH)	2,513,823	8,803,518	17,297,053
17.	Gross Electrical Energy Generated (MWH)	829,282	2,976,553.5	5,888,518.5
18.	Net Electrical Energy Generated (MWH)	791,141	2,818,930	5,594,575
19.	Unit Service Factor	100	73.82	73.46
20.	Unit Availability Factor	100	73.82	73.46
21.	Unit Capacity Factor (Using MDC Net)	99.38	72.24	73.11
22.	Unit Capacity Factor (Using DER Net)	99.38	72.24	73.11
23.	Unit Forced Outage Rate	0	5.50	4.67

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
    Refueling, September 1984, 3 month durations

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	NA	NA
INITIAL ELECTRICITY	NA	NA
COMMERCIAL OPERATION	NA	NA

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-361

UNIT SONGS - 2

DATE June 15, 1984

COMPLETED BY L. I. Mayweather

TELEPHONE (714) 492-7700
Ext. 56223

MONTH May 1984

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	1102.56	17	1024.29
2	1086.29	18	1021.13
3	1099.33	19	1033.35
4	1102.65	20	1042.02
5	1082.08	21	1047.77
6	1056.38	22	1032.29
7	1085.56	23	1108.54
8	1085.46	24	1101.29
9	1079.54	25	1095.25
10	1083.23	26	946.35
11	1041.85	27	1102.88
12	1016.42	28	1100.79
13	1008.08	29	1107.46
14	1026.17	30	1099.46
15	1024.98	31	1091.58
16	1034.02		

2941u

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH MAY , 1984

DOCKET NO. 50-361
UNIT NAME SONGS - 2
DATE June 15, 1984
COMPLETED BY L. I. Mayweather
TELEPHONE (714) 492-7700
Ext. 56223

No.	Date	Type [1]	Duration (Hours)	Reason [2]	Method of Shutting Down Reactor [3]	LER No.	System Code [4]	Component Code [4]	Cause & Corrective Action to Prevent Recurrence
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

[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
9-Other (Explain)

[4] IEEE Std 803-1983

2941u

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-361

UNIT SONGS - 2

DATE June 15, 1984

COMPLETED BY L. I. Mayweather

TELEPHONE (714) 492-7700
Ext. 56223

Date/Time		Event
May 1,	0001	Unit is in Mode 1 at 100% reactor power, turbine load is 1152 MWe gross. Full power operations are planned.
May 2,	0114	Received wide range radiation plant vent monitor 2RI-7865 hi-hi radiation alarm due to a rupture diaphragm on C011 (standby waste gas compressor) rupturing while pumping the waste gas surge tank to one of the waste gas holding tanks.
May 2,	0129	Declared Unusual Event, Tab A11, in accordance with the SONGS Emergency Plan.
May 2,	0136	Terminated Unusual Event following isolation of C011.
May 4,	1954	Reduced reactor power to 90% to perform stop and governor valve testing.
May 5,	0011	Raised reactor power to 100% following completion of turbine stop and governor valve testing.
May 5,	1430	Received plant vent stack radiation monitor hi-hi alarm due to a leak identified in hydrogen and oxygen monitoring equipment in the waste gas system.
May 5,	1840	Declared Unusual Event due to airborne activity exceeding limits of the SONGS Emergency Plan.
May 5,	1845	Terminated Unusual Event following isolation of the hydrogen and oxygen monitoring equipment.
May 6,	0040	Reduced reactor power to 90% for oil leak repairs to HP Stop Valve 2UV2200E.
May 6,	1015	Raised reactor power to 100% following completion of repairs to 2UV2200E.
May 11,	1800	Reduced reactor power to 90% to perform turbine stop and governor valve testing.

Date/Time		Event
May 12,	0100	Raised reactor power to 100% following completion of turbine stop and governor valve testing. Turbine load is 1072 MWe due to the removal of Third Point Feedwater Heater E041 from service for leak repair.
May 18,	1810	Reduced reactor power to 90% to perform turbine stop and governor valve testing.
May 18,	2059	Raised reactor power to 100% following completion of turbine stop and governor valve testing.
May 22,	2230	Returned Third Point Feedwater Heater E041 to service and restored turbine load to 1153 MWe gross.
May 26,	0005	Reduced reactor power to 90% to perform turbine stop and governor valve testing.
May 26,	0500	Reduced reactor power to 65% for performance of CEA exercises.
May 26,	1330	Raised reactor power to 100% following completion of turbine stop and governor valve testing and CEA exercises.
May 31,	2359	Unit is in Mode 1 at 100% reactor power. Turbine load is 1152 MWe gross. Full power operations are planned.

REFUELING INFORMATION

DOCKET NO. 50-361

UNIT SONGS - 2

DATE June 15, 1984

COMPLETED BY L. I. Mayweather

TELEPHONE (714) 492-7700
Ext. 56223

1. Scheduled date for next refueling shutdown.

   September 1984

2. Scheduled date for restart following refueling.

   December 1984

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

   Yes

   What will these be?

   Proposed Technical Specification changes will be submitted to the NRC for Shutdown Cooling System Modifications (Proposed Change Number (PCN) 126), for the reload analysis (PCN 147-153), for inclusion of heated junction thermocouples (PCN 128), and for Steam Generator tube wall thinning criteria (PCN 141).

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.

   Approximately 1997.

2941u

NRC MONTHLY OPERATING REPORT

DOCKET NO. 50-362
UNIT NAME SONGS - 3
DATE June 15, 1984
COMPLETED BY L. I. Mayweather
TELEPHONE (714) 492-7700
Ext. 56223

OPERATING STATUS

1. Unit Name: San Onofre Nuclear Generating Station, Unit 3
2. Reporting Period: May, 1984
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	1,463	1,463
12.	Number Of Hours Reactor Was Critical	540.67	1,284.67	1,284.67
13.	Reactor Reserve Shutdown Hours	0	0	0
14.	Hours Generator On-Line	398.983	1073.183	1073.183
15.	Unit Reserve Shutdown Hours	0	0	0
16.	Gross Thermal Energy Generated (MWH)	1,157,057	3,342,251	3,342,251
17.	Gross Electrical Energy Generated (MWH)	381,721	1,112,275.50	1,112,275.50
18.	Net Electrical Energy Generated (MWH)	349,775	1,043,067	1,043,067
19.	Unit Service Factor	53.63	73.35	73.35
20.	Unit Availability Factor	53.63	73.35	73.35
21.	Unit Capacity Factor (Using MDC Net)	43.53	66.02	66.02
22.	Unit Capacity Factor (Using DER Net)	43.53	66.02	66.02
23.	Unit Forced Outage Rate	0	0	0

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):
    NA
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	NA	NA
INITIAL ELECTRICITY	NA	NA
COMMERCIAL OPERATION	NA	NA

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-362

UNIT SONGS - 3

DATE June 15, 1984

COMPLETED BY L. I. Mayweather

TELEPHONE (714) 492-7700
Ext. 56223

MONTH May 1984

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	1092.10	17	0.0
2	1081.29	18	0.0
3	1095.21	19	0.0
4	1031.04	20	0.0
5	0.0	21	0.0
6	0.0	22	412.60
7	335.25	23	808.06
8	475.77	24	980.85
9	0.0	25	1101.00
10	0.0	26	1109.31
11	0.0	27	1101.17
12	0.0	28	1093.35
13	0.0	29	1104.27
14	0.0	30	1089.17
15	0.0	31	1077.42
16	0.0		

2941u

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH MAY, 1984

DOCKET NO. 50-362
UNIT NAME SONGS - 3
DATE June 15, 1984
COMPLETED BY L. I. Mayweather
TELEPHONE (714) 492-7700
Ext. 56223

No.	Date	Type[1]	Duration (Hours)	Reason[2]	Method of Shutting Down Reactor[3]	LER No.	System Code[4]	Component Code[4]	Cause & Corrective Action to Prevent Recurrence
5	840505	S	53.067	B	3	NA	NA	NA	Scheduled outage for turbine generator bearing adjustment.
6	840508	S	237.618	B	3	NA	NA	NA	Scheduled outage for correction of bearing alignment on turbine generator.
7	840519	S	26.883	B	3	NA	NA	NA	Scheduled outage for further turbine generator balancing.
8	840520	S	16.833	B	3	NA	NA	NA	Scheduled outage to balance turbine generator coupling.
9	840521	S	10.616	B	3	NA	NA	NA	Scheduled outage for further turbine generator balancing.

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
9-Other (Explain)

4 IEEE Std 803-1983

2941u

SUMMARY OF OPERATING EXPERIENCE FOR THE MONTH

DOCKET NO. 50-362

UNIT SONGS - 3

DATE June 15, 1984

COMPLETED BY L. I. Mayweather

TELEPHONE (714) 492-7700
Ext. 56223

Date/Time		Event
May 1,	0001	Unit is in Mode 1 at 100% reactor power, turbine load is 1152 MWe gross. Full power operations are planned.
May 4,	1800	Commenced power reduction to commence outage activities including bearing adjustments of the turbine generator to correct axial vibrations.
May 5,	0041	Manually tripped main turbine generator from 75 MWe gross to commence outage activities.
May 5,	0102	Reactor tripped due to high level in Steam Generator E-089.
May 5,	2100	Entered Mode 2.
May 5,	2215	Entered Mode 3 to repair a cooling water line leak to the lower bearing lube oil cooler for Reactor Coolant Pump P0003.
May 6	2240	Entered Mode 2 following repair of P003.
May 6,	2300	Reactor critical.
May 7,	0344	Entered Mode 1.
May 7,	0545	Synchronized generator and applied block load.
May 7,	1500	Reactor power at 60%.
May 8,	0324	Commenced power reduction to correct bearing alignment on the turbine generator.
May 8,	2228	Manually tripped the turbine generator.
May 8,	2235	Reactor tripped on high level in Steam Generator E-088.
May 15,	1127	Entered Mode 2.
May 15,	1147	Reactor critical.
May 18,	1428	Entered Mode 1.

Date/Time		Event
May 18,	2005	Synchronized generator and applied block load.
May 19,	0300	Manually tripped main turbine generator for further balancing of turbine.
May 19,	0318	Entered Mode 2.
May 20,	0340	Entered Mode 1.
May 20,	0553	Synchronized generator and applied block load.
May 20,	1150	Manually tripped main turbine generator to balance generator coupling.
May 20,	1215	Entered Mode 2.
May 21,	0212	Entered Mode 1.
May 21,	0440	Synchronized generator and applied block load.
May 21,	0950	Manually tripped main turbine generator for further balancing of turbine.
May 21,	1045	Entered Mode 2.
May 21,	1905	Entered Mode 1 following completion of outage.
May 21,	2027	Synchronized generator and applied block load. Commenced power increase and evaluation of turbine vibration readings.
May 23,	1000	Increased reactor power to 80% and commenced heat treatment of the circulating water system.
May 24,	0800	Increased reactor power to 100% and noted acceptable turbine vibration readings.
May 31,	2359	Unit is in Mode 1 at 100% reactor power, turbine load is 1136 MWe gross. A reactor shutdown is planned to repair excessive inleakage from RCS loop drain isolation valves into the reactor coolant drain tank.

2941u

REFUELING INFORMATION

DOCKET NO. 50-362

UNIT SONGS - 3

DATE June 15, 1984

COMPLETED BY L. I. Mayweather

TELEPHONE (714) 492-7700
Ext. 56223

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

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D

Enclosure 1

OFFSITE DOSE CALCULATION MANUAL

REVISION 9

OFFSITE DOSE CALCULATION MANUAL

REVISION 9

This revision incorporates SONGS 3 into the ODCM. It includes the addition of Radiation Monitors 3RT-7821 (pages 1-7 and 1-10), 3RT-7821 (page 1-11), 3RT-7818 and 7870-1 (page 2-3) and 3RT-7804 (page 2-4); their calibration constants; (page 1-13 and 2-10); Flow Indicator 3FI-3772; and the administrative value to account for simultaneous releases from both SONGS 2 and SONGS 3 (pages 2-3, 2-4 and 2-5). In addition, this revision added a statement which had been removed in a previous revision (page 2-2, 2-4 and 2-6) and renumbered pages for text (page i) and Tables (page iii).

The calculational methodology for Unit 3 is identical to that of Unit 2 and uses the same conservative assumptions, therefore the changes do not reduce the accuracy or reliability of dose calculations or setpoint determinations.

This revision was presented and accepted by the Onsite Review Committee on November 9, 1982.

ODCM

TABLE OF CONTENTS

	Page
LIST OF FIGURES	ii
LIST OF TABLES	iii
INTRODUCTION	iv
1.0 LIQUID EFFLUENTS	
1.1 Liquid Effluent Monitor Setpoints	1-1
1.1.1 Batch Release Setpoint Determination	1-2
1.1.2 Continuous Release Setpoint Determination	1-8
1.2 Dose Calculations for Liquid Effluents	1-14
1.3 Representative Sampling	1-17
2.0 GASEOUS EFFLUENTS	
2.1 Gaseous Effluent Monitor Setpoints	2-1
2.1.1 Plant Stack	2-1
2.1.2 Condenser Evacuation System	2-3
2.1.3 Containment Purge	2-4
2.1.4 Waste Gas Header	2-6
2.2 Gaseous Effluent Dose Rate	2-11
2.2.1 Noble Gases	2-11
2.2.2 Radioiodines and Particulates	2-12
2.3 Gaseous Effluent Dose Calculation	2-14
2.3.1 Noble Gases	2-14
2.3.1.1 Historical Meteorology	2-14
2.3.1.2 Concurrent Meteorology	2-15
2.3.2 Radioiodines and Particulates	2-17
2.3.2.1 Historical Meteorology	2-17
2.3.2.2 Concurrent Meteorology	2-19
3.0 PROJECTED DOSES	3-1
3.1 Liquid Dose Projection	3-1
3.2 Gaseous Dose Projection	3-1
4.0 OPERABILITY OF EQUIPMENT	4-1
5.0 RADIOLOGICAL ENVIRONMENTAL MONITORING	5-1

LIST OF TABLES

Table	Title	Page
1-1	Liquid Effluent Radiation Monitors Calibration Constant	1-13
1-2	Dose Commitment Factors Ai	1-16
2-1	Gaseous Effluent Radiation Monitors Calibration Constant	2-10
2-2	Dose Factors for Noble Gas and Daughters	2-21
2-3	Dose Parameters P_{ik}	2-22
2-4	Controlling Location Factors	2-23
2-5	Dose Parameters R_i for WNW Sector	2-24 thru 2-26
2-6	Dose Parameters R_i for NW Sector	2-27 thru 2-30
2-7	Dose Parameter R_i for NNW Sector	2-31 thru 2-34
2-8	Dose Parameter R_i for N Sector	2-35
2-9	Dose Parameter R_i for NNE Sector	2-36
2-10	Dose Parameter R_i for NE Sector	2-37
2-11	Dose Parameter R_i for ENE Sector	2-38
2-12	Dose Parameter R_i for E Sector	2-39
2-13	Dose Parameter R_i for ESE Sector	2-40 thru 2-41
2-14	Parameters Used to Calculate R_i	2-42
5-1	Radiological Environmental Monitoring Sample Locations	5-2 thru 5-7
5-2	Radiological Environmental Monitoring Locations	5-8
5-3	Sector and Direction Designation for Radiological Environmental Monitoring Sample Location Map	5-9

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

2RT - 7817, 3RT - 7817

$$C_m < \frac{0.1\ F \sum_i IC_{\gamma i}}{RA} \qquad (1\text{-}6)$$

Where:

$IC_{\gamma i}$, A = The values of $\sum_i IC_{\gamma i}$ and A (as defined in Steps 1) and 2) above) for the neutralization sump. F = 400 gpm/pump (x number of sump pumps to be run).

The 0.1 is an administrative value used to account for the potential activity from other releases. This assures that the total concentration from all release points to the plant discharge will not result in a release of concentrations exceeding the limits of 10CFR20, Appendix B, Table II, Column 2 from the site.

NOTE: If $C_m < \sum_i C_{\gamma_i}$ then no release is possible. To increase C_m, increase dilution flow F (by running more circulating water pumps), and/or decrease the effluent flow rate R (by throttling the flow as measured on 2FI 3772 and 3FI 3772), and recalculate C_m using the new F, R and equation (1-6). 19

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

1.1.2 Continuous Release Setpoint Determination

Step 1) The isotopic concentration for the continuous releases are obtained for each release stream (steam generator blowdown or turbine building sump) from the sum of the respective measured concentrations as determined by analysis:

$$C = \sum_i C_{\gamma i} + C_\alpha + C_t + C_s + C_{Fe} \qquad (1\text{-}7)$$

Step 2) The adjustment factor, B, for each release stream (steam generator blowdown or turbine building sump) is determined using:

$$B = \sum_i \frac{C_{\gamma i}}{MPC_i} + \frac{C_s}{MPC_s} + \frac{C_t}{MPC_t}\,\frac{C_a}{MPC_a} + \frac{C_{Fe}}{MPC_{Fe}} \qquad (1\text{-}8)$$

Step 3) The setpoint for each continuous release radioactivity monitor may now be specified based on the respective values of $\sum_i C_{\gamma i}$, F, B and R to provide compliance with the limits of 10CFR50, Appendix B, Table II, Column 2. The monitor setpoint (cpm) is taken from the applicable calibration constants given in Table 1-1 to correspond to the calculated monitor limit, C_m.

2RT - 7817, 3RT - 7817

19

$$C_m \leq \frac{0.1 \sum_i C_{\gamma i}}{R\,B} \qquad (1\text{-}9)$$

Where:

$\sum_i C_{\gamma i}$, B = values of $\sum_i C_{\gamma i}$ and B (as defined in Steps 1 and 2 above) for the steam generator blowdown.

R = 400 gpm

where R is the effluent flow rate at the radiation monitor as defined in Step 2.

The 0.1 is an administrative value to account for the potential activity in other release pathways. This assures that the total concentration from all release points to the plant discharge will not result in a release of concentrations exceeding the limits of 10CFR20, Appendix B, Table II, Column 2 from the site.

NOTE: $C_m < \sum_i C_{\gamma i}$ then no release is possible. To increase C_m, increase the dilution flow F (by running more circulating water pumps), and/or decrease the effluent flow rate R (by throttling the flow as measured on 2FI-3772), and recalculate C_m using the new values of F, R and equation (1-9).

2RT - 7821, 3RT - 7821

$$C_m < \frac{0.1\ F \sum_i C_{\gamma i}}{RB} \qquad (1\text{-}10)$$

Table 1-1

Liquid Effluent Radiation Monitor
Calibration Constants

Monitor	Co-60*	Ba-133*	Cs-137*
2/3RT-7813	2.08 E-9	3.14 E-9	4.59 E-9
2RT-7817	2.11 E-9	3.20 E-9	4.71 E-9
2RT-7821	2.08 E-9	3.17 E-9	4.61 E-9
3RT-7817	2.24 E-9	2.99 E-9	4.63 E-9
3RT-7821	2.15 E-9	3.30 E-9	4.72 E-9

*μCi/cc/cpm

MPC = the 10CFR Part 20 concentration for the limiting radionuclide present in sample analysis in μCi/cc (i.e., smallest MPC)

flow rate = the plant vent flow rate in cfm

= 83,000 cfm/fan (x no. of fans to be run)

(X/Q) = 2.4 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

The alarm setting is determined by using the calibration constant for the applicable Plant Stack 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.

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 and yet assure an alarm should inadvertant release occur.

2.1.2 Condenser Evacuation System - 2RT - 7818, 2RT - 7870-1

3RT - 7818 or 3RT - 7870-1

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:

$$C \leq (0.1)\ (0.5)\ (2120)\ \frac{MPC}{(X/Q)\ (\text{flow rate})} \qquad (2\text{-}2)$$

where:

C = the instantaneous concentration at the detector in μCi/cc

MPC = the 10CFR Part 20 concentration for the limiting radionuclide present in sample analysis in μCi/cc (i.e., smallest MPC)

flow rate = the condenser evacuation system flow rate in cfm

= 1,000 cfm

(X/Q) = 2.4 E-5 sec/m^3 the annual average atmosphere dispersion

2120 = conversion of cfm to m^3/sec

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. | 9

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. | 9

2.1.3 Containment Purge - 2RT - 7804-1, 3RT - 7804-1 | 9

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:

$$C \leq (0.45)\ (0.5)\ (2120)\ \frac{(MPC)}{(X/Q)\ (\text{flow rate})} \qquad (2\text{-}2)$$ | 9

where:

C = the instantaneous concentration at the detector in μCi/cc

MPC = the 10CFR Part 20 concentration for the limiting radionuclide present in sample analysis in μCi/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 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.

0.5 is an administrative value used to account for simultaneous releases from both SONGS 2 and SONGS 3. 9

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.

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.

2.1.4 Waste Gas Header - 2/3 RT-7814, 2/3 RT-7808

For the purpose 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. Since the waste gas header discharges to the plant vent stack, either 2/3 RT-7814 or 2/3 RT-7808 may be used to monitor waste gas header releases.

2/3 RT-7808

When plant vent stack monitor 2/3 RT-7808 is being used to monitor waste gas header releases, the setpoint determined by equation (2-1) will provide automatic termination of release from the waste gas header.

Determine the maximum permissible waste gas header effluent flow rate corresponding to the vent stack monitor setpoint in accordance with the following:

$$f < \frac{(0.9)\ C\ F}{\sum_i C_{gi}} \qquad (2\text{-}4)$$

Table 2-1

Gaseous Effluent Radiation Monitor
Calibration Constants

Monitor	Kr-85*	Xe-133*	
2RT-7804-1C	2.78 E-8	3.90 E-8	
3RT-7804-1C	2.05 E-8	1.67 E-8	9
2/3RT-7808C	2.76 E-8	3.72 E-8	
2/3RT-7814A	3.21 E-8	4.49 E-8	
2/3RT-7814B	4.24 E-5	3.61 E-5	
2RT-7818A	3.06 E-8	5.30 E-8	
2RT-7818B	5.85 E-5	3.77 E-5	
3RT-7818A	3.14 E-8	4.56 E-8	9
3RT-7818B	3.00 E-5	2.83 E-5	
2RT-7865-1 (low)	1.41 E-8	3.02 E-8	
2RT-7865-1 (mid)		5.33 E-5	
2RT-7865-1 (high)		6.81 E-2	
3RT-7865-1 (low)	1.41 E-8	3.02 E-8	
3RT-7865-1 (mid)		8.02 E-5	
3RT-7865-1 (high)		2.39 E-2	
2RT-7870-1 (low)	1.41 E-8	3.02 E-8	
2RT-7870-1 (mid)		1.07 E-4	
2RT-7870-1 (high)		2.87 E-2	
3RT-7870-1 (low)	1.41 E-8	3.02 E-8	9
3RT-7870-1 (mid)		1.08 E-4	
3RT-7870-1 (high)		2.17 E-2	

*μCi/cc/cpm