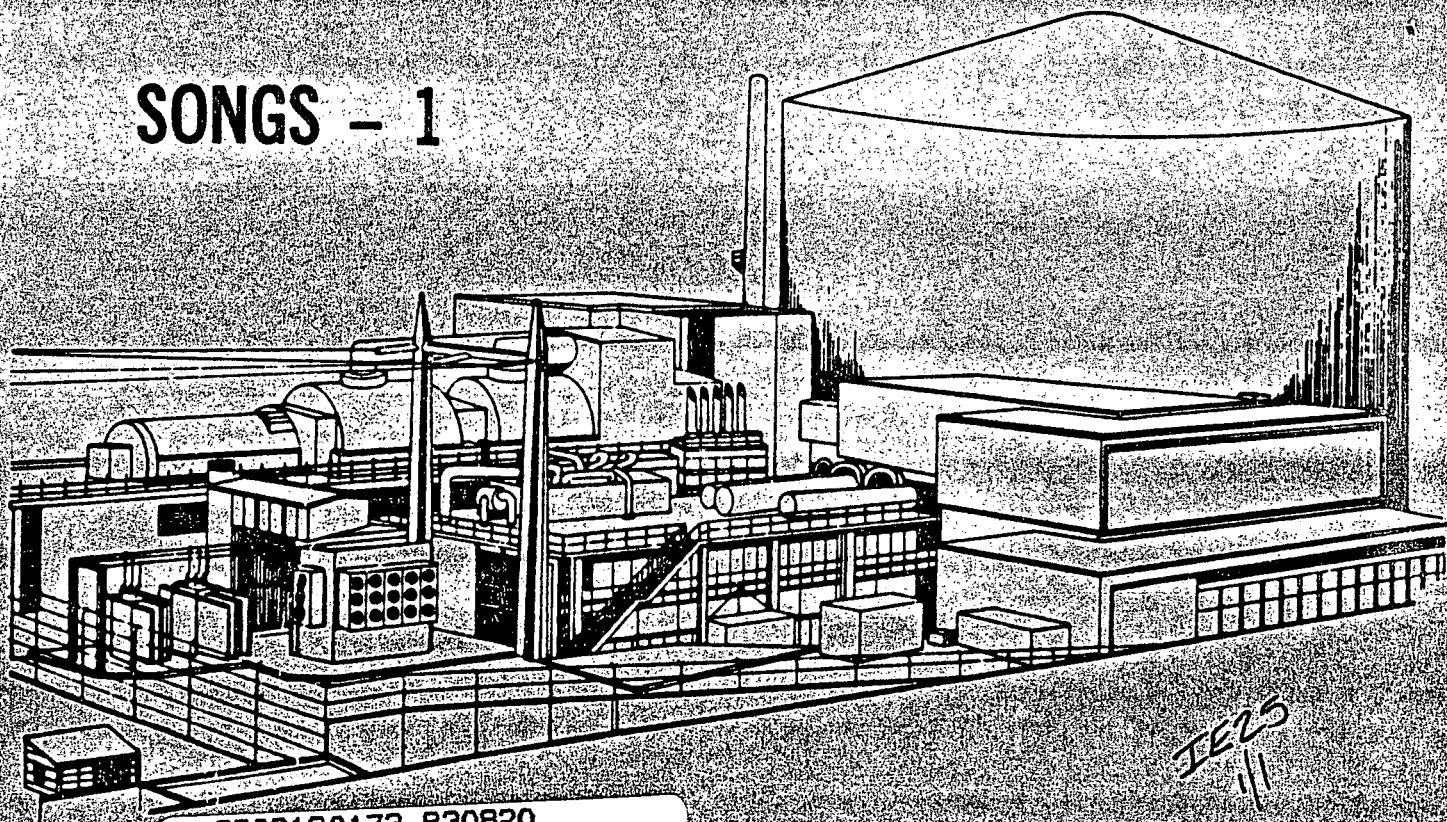


SAN ONOFRE NUCLEAR GENERATING STATION UNIT 1 SEMI ANNUAL EFFLUENT REPORT

JANUARY — JUNE 1982

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SEMIANNUAL EFFLUENT REPORT

January - June 1982

SECTION A. INTRODUCTION

This Semiannual report summarizes the gaseous and liquid radioactive effluent releases and solid waste shipments made from the San Onofre Nuclear Generating Station. This report is prepared in the general format of USNRC Regulatory Guide 1.21 and includes:

1. Quarterly summaries of liquid and gaseous effluents for "batch" and "continuous" modes of release;
2. Percent of Technical Specification Limits;
3. Estimated total percent error;
4. Lower limit of detection concentrations;
5. Meteorological data;
6. 10 CFR 50 Appendix I considerations;
7. 40 CFR 190 Considerations;
8. Radwaste shipments.

SECTION B. GASEOUS EFFLUENTS

Table 1A, "Gaseous Effluents - Summation of All Releases", and Table 1B, "Gaseous Effluents", provide a detailed listing of the quantity of gaseous effluent releases in four categories: Fission and Activation Gases, Iodines, Particulates, and Tritium. Table 1B provides the systematic listing by isotope of the quantity of radioactivity released in each category. The total activity of each isotope released is listed for the quarterly period and also is separated into "continuous" and "batch" modes of releases.

Waste gas decay tank releases are considered to be "batch" releases. Containment sphere purges and plant stack releases are considered to be "continuous" releases.

Table 1A, "Gaseous Effluents-Summation of All Releases", provides a summary of all gaseous effluent releases for the quarter. Listed are the total releases of each category, the average release rate for the quarter, and the percent of Technical Specification Limit (TSL). The percent of TSL was calculated according to SCE's proposed technical specification change because of ambiguity in the current Technical Specifications. The SCE method is fully described in Section E of this report. The percent of TSL is reported for the "maximum hourly release rate" condition rather than the "averaged over a year" condition, since the hourly condition of the TSL was the limiting condition by several orders of magnitude.

Table 1C, "Gaseous Effluents- Lower Limit of Detection", provides a listing of lower limit of detection concentrations for isotopes not detected in Table 1B.

The percent estimated total error is listed in Table 1A for each of the four gaseous effluent categories. The methodology used for error analysis is described in Section F of this report.

TABLE 1A
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	First Quarter	Second Quarter	
A. Fission and activation gases				16 % Estimated Total Error
1. Total release	Ci	7.66E+1	9.48E+0	
2. Average release rate for period	Ci/sec	9.84E-6	1.22E-6	
3. Percent of Technical Specification Limit	%	2.97E-1	9.56E-3	
B. Iodines				16 % Estimated Total Error
1. Total Iodine	Ci	LLD	LLD	
2. Average release rate for period	Ci/sec	0.00	0.00	
3. Percent of Technical Specification Limit	%	0.00	0.00	
C. Particulates				19 % Estimated Total Error
1. Particulates With half-lives > 8 days	Ci	LLD	LLD	
2. Average release rate for period	Ci/sec	0.00	0.00	
3. Percent of Technical Specification Limit	%	0.00	0.00	
4. Gross alpha radioactivity	Ci	LLD	3.30E-8 **	
D. Tritium				25 % Estimated Total Error
1. Total release	Ci	1.76E+1	3.23E+1	
2. Average release rate for period	Ci/sec	2.26E-6	4.15E-6	
3. Percent of Technical Specification Limit	%	3.99E-2	8.84E-3	
E. Volume Released - Batch mode	ft ³	8.21E+3	1.32E+3	
F. Volume Released - Continuous mode	ft ³	5.08E+9	5.13E+9	

LLD- Lower Limit of Detection. See Table 1C.

** Incomplete Data - Values reported are calculated using only April analysis.
The following Semiannual Report will include May and June analysis.

TABLE 1B
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
GASEOUS EFFLUENTS

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		First Quarter	Second Quarter	First Quarter	Second Quarter
1. Fission gases					
krypton-85	Ci	4.01E+0	9.46E+0	2.21E-4	1.72E-2
krypton-85m	Ci	LLD	LLD	2.86E-2	LLD
krypton-87	Ci	LLD	LLD	LLD	LLD
krypton-88	Ci	LLD	LLD	1.16E-2	LLD
xenon-131m	Ci	LLD	LLD	2.21E-5	5.32E-4
xenon-133	Ci	2.09E+1	LLD	5.00E+1	2.85E-4
xenon-133m	Ci	LLD	LLD	1.31E-1	LLD
xenon-135	Ci	LLD	LLD	1.56E+0	LLD
xenon-135m	Ci	LLD	LLD	LLD	LLD
xenon-138	Ci	LLD	LLD	LLD	LLD
argon-41	Ci	LLD	LLD	7.69E-3	LLD
Total for period	Ci	2.49E+1	9.46E+0	5.17E+1	1.80E-2
2. Iodines					
iodine-131	Ci	LLD	LLD	LLD	LLD
iodine-133	Ci	LLD	LLD	LLD	LLD
iodine-135	Ci	LLD	LLD	LLD	LLD
Total for period	Ci	LLD	LLD	LLD	LLD
3. Particulates					
strontium-89	Ci	LLD	LLD**	LLD	LLD**
strontium-90	Ci	LLD	LLD**	LLD	LLD**
cesium-134	Ci	LLD	LLD	LLD	LLD
cesium-137	Ci	LLD	LLD	LLD	LLD
barium-lanthanum-140	Ci	LLD	LLD	LLD	LLD
Total for period	Ci	LLD	LLD	LLD	LLD
4. Tritium					
	Ci	1.76E+1	3.23E+1	NA	NA

LLD- Lower Limit of Detection; See Table 1C.

** Incomplete Data - Values reported are calculated using only April analysis.
The following Semiannual Report will include May and June analysis.

NA- See footnote, Table 1C.

TABLE 1C
Effluent and Waste Disposal Semiannual Report 1982
Gaseous Effluents - Lower Limit of Detection

Isotopes	Batch Mode LLD ($\mu\text{Ci/cc}$)	Continuous Mode LLD ($\mu\text{Ci/cc}$)
Krypton-85m	2.35E-5	9.34E-8
Krypton-87	6.71E-5	6.13E-7
Krypton-88	4.72E-5	3.35E-7
Xenon-131m	5.08E-3	2.27E-6
Xenon-133	3.05E-5	1.43E-7
Xenon-133m	1.39E-4	5.69E-7
Xenon-135	1.23E-5	6.85E-8
Xenon-135m	1.07E-4	4.70E-6
Xenon-138	4.42E-4	1.00E-7
Argon-41	2.14E-5	3.98E-7
Iodine-131	3.71E-5	1.71E-13
Iodine-133	2.90E-5	2.25E-12
Iodine-135	1.36E-4	4.44E-12
Strontium-89	*	7.35E-16
Strontium-90	*	2.45E-16
Cesium-134	NA	8.55E-13
Cesium-137	NA	1.89E-13
Barium-Lanthanum 140	NA	7.94E-16
Tritium	NA	1.00E-9
Gross Alpha	*	2.45E-16

NA - Particulates are not analyzed prior to release.

* - All gaseous releases made from SONGS-1 are vented through the Plant Stack. Sr-89, Sr-90, and gross alpha are analyzed by "continuous" mode only; therefore "continuous" mode LLDs apply for "batch" mode releases.

SECTION C. LIQUID EFFLUENTS

Table 2A, "Liquid Effluents-Summation of All Releases", and Table 2B, "Liquid Effluents", provide a detailed listing of liquid effluents releases in four categories: Particulates, Tritium, Iodines and Gases. Table 2B provides the systematic listing by isotope of the quantity of radioactivity released in each category. The total activity of each isotope released is listed for each quarterly period and also is separated into "continuous" and "batch" modes of release.

Table 2A, "Liquid Effluents-Summation of All Releases", provides a summary of all liquid effluents for each quarter. Listed are (1) the total release of each category, (2) the average diluted concentration at the point of discharge during each quarterly period, and (3) the percent of Technical Specification Limit. Also listed are the gross alpha radioactivity, the volume of actual waste released (prior to dilution by the circulating water), and the volume of dilution water (i.e. the volume of circulating water) used to dilute the batch releases.

The percent of Technical Specification Limit (TSL) was calculated according to SCE's proposed technical specification change because of the ambiguity in the current Technical Specifications. The methodology used in calculating TSL is presented in Section E of this report. The methodology used for error analysis is presented in Section F of this report.

Table 2C, "Liquid Effluents-Lower Limit of Detection", provides a listing of lower limit of detection concentrations for isotopes not detected in Table 2B.

In the July - December 1981 Semiannual report values for composite Gross Alpha, Sr-89, and Sr-90, in Table 2A and Table 2B Liquid Effluents, were incomplete due to data not available at the time of report. The values not reported were for the second quarter, November and December 1981. The values are as follows:

	Unit	
Gross Alpha	Ci	1.81E-4
Strontium-89	Ci	LLD
Strontium-90	Ci	2.64E-5

LLD= 4.00E-8 μ Ci/ml

TABLE 2A
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	First Quarter	Second Quarter	
A. Particulates				
1. Total release	Ci	2.83E-1	1.00E+0	19 % Estimated Total Error
2. Average diluted concentration during period	µCi/ml	9.89E-9	6.17E-7	
3. Percent of Technical Specification Limit	%	4.05E-1	1.68E-6	
B. Tritium				
1. Total release	Ci	4.77E+2	3.31E+1	19 % Estimated Total Error
2. Average diluted concentration during period	µCi/ml	1.67E-5	2.04E-5	
3. Percent of Technical Specification Limit	%	4.03E+0	1.37E-6	
C. Iodines				
1. Total release	Ci	LLD	LLD	19 % Estimated Total Error
2. Average diluted concentration during period	µCi/ml	0.00	0.00	
3. Percent of Technical Specification Limit	%	0.00	0.00	
D. Gases (Dissolved and entrained)				
1. Total release	Ci	LLD	LLD	19 % Estimated Total Error
2. Average diluted concentration during period	µCi/ml	0.00	0.00	
3. Percent of Technical Specification Limit	%	0.00	0.00	

TABLE 2A (Cont'd)
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	First Quarter	Second Quarter	
E. Gross alpha radioactivity	Ci	9.50E-6	9.68E-6**	19 % Estimated Total Error
F. Volume of waste released (prior to dilution)	liters	3.84E+6	2.26E+5	
G. Volume of dilution water used during period	liters	2.86E+10	1.62E+9	

LLD - Lower Limit of Detection. See Table 2C.

** Incomplete Data - Values reported are calculated using only April analysis.
The following Semiannual Report will include May and June analysis.

TABLE 2B
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
LIQUID EFFLUENTS

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		First Quarter	Second Quarter	First Quarter	Second Quarter
1. Particulates					
strontium-89	Ci	LLD	*	9.50E-6	3.00E-4**
strontium-90	Ci	LLD	*	3.00E-4	4.00E-4**
cesium-134	Ci	1.58E-3	1.14E-4	6.38E-3	2.94E-2
cesium-137	Ci	3.45E-3	2.40E-4	1.22E-2	8.99E-2
cobalt-58	Ci	LLD	3.74E-5	6.92E-2	3.47E-1
cobalt-60	Ci	5.84E-4	7.09E-4	1.47E-1	4.95E-1
iron-59	Ci	LLD	LLD	7.76E-3	4.66E-3
zinc-65	Ci	LLD	LLD	LLD	LLD
manganese-54	Ci	8.92E-8	3.51E-5	1.78E-3	2.33E-2
chromium-51	Ci	LLD	LLD	3.25E-2	1.37E-2
zirconium-95	Ci	LLD	LLD	LLD	LLD
niobium-95	Ci	LLD	LLD	LLD	5.66E-4
molybdenum-99	Ci	LLD	LLD	LLD	LLD
technetium-99m	Ci	LLD	LLD	LLD	LLD
antimony-124	Ci	LLD	LLD	LLD	5.33E-4
lanthanum-140	Ci	LLD	LLD	LLD	LLD
barium-140	Ci	LLD	LLD	LLD	LLD
cerium-144	Ci	LLD	LLD	LLD	LLD
Total for period	Ci	5.61E-3	1.14E-3	2.77E-1	1.00E+0
B. Tritium	Ci	8.84E-1	3.16E-2	4.77E+2	3.31E+1
C. Iodines					
iodine-131	Ci	LLD	LLD	LLD	LLD
Total for period		LLD	LLD	LLD	LLD
D. Dissolved and entrained gases					
xenon-133	Ci	LLD	LLD	LLD	LLD
xenon-135	Ci	LLD	LLD	LLD	LLD
Total for period	Ci	LLD	LLD	LLD	LLD

LLD-Lower Limit of Detection; See Table 2C.

* Data for these values not available for this reporting period; these values will be reported in the following Semiannual Report.

** Incomplete Data - Values reported are calculated using only April analysis. The following Semiannual Report will include May and June analysis.

TABLE 2C

Effluent and Waste Disposal Semiannual Report 1982
Liquid Effluents - Lower Limit of Detection

Isotopes	Batch Mode LLD ($\mu\text{Ci/ml}$)	Continuous Mode LLD ($\mu\text{Ci/ml}$)
Strontium-89	3.00E-8	4.00E-8
Strontium-90	5.00E-9	2.00E-8
Cobalt-57	8.58E-7	9.94E-8
Cobalt-58	9.92E-7	2.12E-7
Iron-59	2.28E-6	2.04E-7
Zinc-65	3.26E-6	2.24E-7
Chromium-51	1.45E-5	2.10E-6
Zirconium-95	2.61E-6	2.80E-7
Niobium-95	1.73E-6	2.19E-7
Molybdenum-99	5.40E-3	4.11E-4
Technetium-99m	3.21E-6	1.07E-5
Barium-140	1.69E-5	3.55E-6
Lanthanum-140	2.26E-5	1.05E-6
Cerium-141	2.31E-6	3.65E-7
Iodine-131	2.21E-5	3.30E-6
Xenon-133	3.56E-4	5.63E-5
Xenon-135	3.21E-6	1.31E-6
Antimony-124	1.97E-6	3.37E-7
Gross Alpha	5.00E-8	2.00E-8

SECTION D. RADWASTE SHIPMENTS

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1982) SOLID WASTE AND IRRADIATED FUEL SHIPMENT

A. Solid Waste Shipped Offsite for Burial or Disposal (Non Irradiated Fuel)

1. Type of Waste	Unit	6-Month Period	Est. Total Error, %
a. Filter Media	M ³ Ci	3.95E+0 2.35E+1	3.00E+1
b. Compacted Waste	M ³ Ci	9.32E+1 6.54E+0	3.00E+1
c. Noncompactible Waste	M ³ Ci	1.13E+2 4.85E-1	3.00E+1
d. Sand	M ³ Ci	6.80E+0 5.98E-3	3.00E+1
e. Absorbed Liquids	M ³ Ci	2.99E+1 7.79E-3	3.00E+1

2. Estimate of Major Nuclide Composition (by type of waste)

a.	Mn-54	1.34E+1%	3.14E+0
	Co-58	2.30E+0%	5.40E-1
	Co-60	7.92E+1%	1.86E+1
	Sr-89	1.00E-1%	2.35E-2
	Sr-90	1.10E-1%	2.58E-2
	Cs-134	4.20E-2%	9.86E-3
	Cs-137	7.60E-2%	1.78E-2
	Ce-144	1.00E+0%	2.34E-1
	Y-90	4.20E-2%	9.86E-3
	Ru-106	3.70E+0%	8.87E-1
b.	Mn-54	3.50E+0%	2.29E-1
	Co-58	2.00E-1%	1.31E-2
	Co-60	4.54E+1%	2.97E+0
	Cs-134	1.20E+1%	7.85E-1
	Cs-137	3.86E+1%	2.52E+0
	Ce-144	3.00E-1%	1.96E-2

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1982)
SOLID WASTE AND IRRADIATED FUEL SHIPMENT

2. Estimate of Major Nuclide Composition (Continued)

c.	Mn-54	5.30E+0%	2.57E-2
	Co-58	5.06E+0%	2.46E-2
	Co-60	8.03E+1%	3.90E-1
	Cs-134	2.90E+0%	1.41E-2
	Cs-137	6.40E+0%	3.11E-2
d.	Mn-54	9.00E+0%	5.38E-4
	Co-58	9.00E+0%	5.38E-4
	Co-60	9.70E+0%	5.80E-4
	Cs-134	3.61E+1%	2.16E-3
	Cs-137	3.61E+1%	2.16E-3
e.	Mn-54	1.20E+0%	9.34E-5
	Co-60	4.53E+1%	3.53E-3
	Cs-134	1.20E+1%	9.34E-4
	Cs-137	4.15E+1%	3.23E-3

3. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
*6	South West Nuclear Truck	Richland, WA
*2 Cask Shipments	South West Nuclear Carrier	Richland, WA

B. IRRADIATED FUEL SHIPMENTS (Disposition)

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
NA	NA	NA

- * - In order to confirm to shipping requirements defined in 10 CFR 71.7 all solid wastes were sampled to determine gross transuranic content. Samples were assayed by an outside contractor and determined to contain less than 2 nanocuries per gram for any single transuranic isotope. The contractors values are based on a lower limit of detection at 0.1 nanocuries per gram \pm 0.025 nanocuries per gram.

SECTION E. TECHNICAL SPECIFICATION LIMITS

The existing Technical Specification 4.5.A and 4.6.A for SONGS 1 have led to several discussions between SCE, NRR, and Region V. The results of these discussions has led to agreement that intent of these Technical Specifications is to require compliance with 10 CFR 20, Appendix B. This intent limits concentrations in unrestricted areas such that the following condition is met on both gaseous and liquid effluents:

$$\sum_i C_i/MPC_i \leq 1 \text{ for concentrations}$$

averaged over a year; and $\sum_i C_i/MPC_i \leq 10$ for concentrations averaged over an hour. SCE has developed revised Technical Specification 4.5.A and 4.6.A. This Semiannual Report has calculations of the percent of the Technical Specification Limit according to the following proposed Technical Specifications 4.5.A and 4.6.A.

Proposed Technical Specification 4.5.A (Liquid Effluents)

Averaged over a year, a radioactivity released shall not result in concentrations at the point of discharge such that the following condition is exceeded.

$$\sum_i C_i/MPC_i \leq 1$$

Where:

C_i	=	Concentration of radionuclide i in the circulating water discharge at the point of release to unrestricted areas; in $\mu\text{Ci/ml}$.
MPC_i	=	Maximum Permissible Concentration of radionuclide i , as defined in 10 CFR 20, Appendix B, Table II, Column 2; in $\mu\text{Ci/ml}$.

The percent of Technical Specification Limit averaged over a year shall be determined by calculation of the following parameter:

$$\frac{1 \text{ E-6}}{V_T} \sum_i \frac{A_i}{\text{MPC}_i} \times 100\%$$

Where:

- A_i = Activity of radionuclide i released over a year; in Ci.
- V_T = Total volume of liquid effluent released to the unrestricted area during the year; in ml.
- V_T = $V_{DW} + V_{LW}$
- T = Subscript to indicate total volume of both dilution water and liquid waste prior to dilution.
- DW = Subscript to indicate dilution water.
- LW = Subscript to indicate liquid waste prior to dilution.
- V_{DW} = Total volume of dilution water used to dilute liquid waste during the year; in ml.
- MPC_i = As defined above.

The licensee shall be provided the flexibility of averaging over the semiannual period of interest rather than averaging over a year if the licensee desires.

Averaged over an hour, radioactivity released shall not result in concentrations in circulating water discharge such that the following condition is exceeded:

$$\sum_i \text{Ci}/\text{MPC}_i \leq 10$$

Where:

- 10 = Maximum value of the summation of the ratios of Ci/MPC_i averaged over hourly time periods; dimensionless.
- Ci = As defined above
- MPC_i = As defined above

The percent of Technical Specification Limit averaged over an hour shall be determined by calculation of the following parameter for the hourly period when maximum releases and/or concentrations occurred:

$$\frac{1 \text{ E-6}}{10 V_{T,h}} \sum_i \frac{A_{i,h}}{MPC_i} \times 100\%$$

Where:

- 10 = As defined above.
- h = Subscript used to indicate the hourly period when maximum releases occurred; in Ci.
- $A_{i,h}$ = Activity of radionuclide i released during the hour when maximum releases occurred; in Ci.
- $V_{T,h}$ = Total volume of liquid waste released to the unrestricted area during the hour when maximum releases occurred; in ml.
- MPC_i = As defined above.

For purposes of reporting the percent of Technical Specification Limit in the Semiannual Effluent Report, the licensee will report the higher percent of the limit as determined from averaging either over the year or over the maximum hour.

Proposed Technical Specification 4.6.A (Gaseous Effluents)

Averaged over a year, radioactivity released shall not result in concentrations of radioactivity in unrestricted areas such that the following condition is exceeded:

$$\sum_i Ci/MPC_i \leq 1$$

Where:

- C_i = Concentration of radionuclide i at the unrestricted area.
- MPC_i = Maximum permissible concentrations of radionuclide i as defined in 10 CFR 20, Appendix B, Table II, Column 1: in $\mu\text{Ci/cc}$.

The percent of Technical Specification Limit averaged over a year shall be determined by calculation of the following parameter:

$$(5.56E-6 \sum_i Q_i / MPC_i) \times 100\%$$

Where: $5.56E-6$ = Atmospheric dispersion factor, in $\frac{\text{sec}}{\text{m}^3}$
 Q_i = Release rate of nuclide i averaged over a year; in Ci/sec.
 MPC_i = As defined above.

The licensee shall be provided the flexibility of averaging over the semiannual period of interest rather than averaging over a year if the licensee desires.

Averaged over the hour when maximum releases occur, radioactivity released shall not result in concentrations in unrestricted areas exceeding ten times the yearly averaged limit stated above. The percent of Technical Specification Limit shall be determined by calculation of the following parameter for the hourly period when maximum releases occurred:

$$(5.56E-7 \sum_i Q_{i,h} / MPC_i) \times 100\%$$

Where: $5.56E-7$ = Atmospheric dispersion factor divided by 10, in $\frac{\text{sec}}{\text{m}^3}$.
 h = Subscript used to indicate the hourly period when maximum releases occurred.
 $Q_{i,h}$ = Release rate of nuclide i averaged over the hour during which the highest releases occurred.
 MPC_i = As defined above.

For purpose of reporting the percent of Technical Specification Limit in the Semiannual Effluent Report, the licensee will report the higher percent of the limit as determined from averaging either over the year or over the hour.

SECTION F. ESTIMATION OF ERROR

Estimations of the error in reported values of gaseous and liquid effluents releases have been made. Sources of error considered for gaseous effluents - batch releases are: (1) tank volumes, (2) sampling errors, (3) counting errors, and (4) calibration errors. Sources of error for gaseous effluents - continuous release are: (1) fan flow rate error, (2) sampling error, (3) counting errors, and (4) calibration errors.

Sources of error for liquid effluents - batch releases are: (1) tank volumes, (2) dilution water flow rate, (3) sampling errors, (4) counting error, and (5) calibration errors. These sources of error are independent, and thus the total error is calculated according to the following formula:

$$\text{Total Error} = \sqrt{\sigma_1^2 + \sigma_2^2 + \sigma_3^2 + \dots + \sigma_i^2}$$

Where: σ_i = Error associated with each component.

SECTION G. METEOROLOGY

The meteorology of the SONGS-1 site for the quarterly periods January-March and April-June, 1982 is described in this section. Meteorological measurements have been made according to the guidance set forth in USNRC Regulatory Guide 1.23, "Onsite Meteorological Programs". A summary report of the meteorological measurements taken during each calendar quarter are presented in Tables 3A and 3B as joint frequency distributions (JFD) of wind direction and wind speed by atmospheric stability class.

Hourly meteorological data for batch releases have been recorded for the periods of actual release. This data is available as well as the hourly data for all periods of the semiannual period, but are not included here because of the bulk of data recorded.

Table 3A, "JFD's First Quarter 1982" and Table 3B, "JFD's Second Quarter 1982" list the joint frequency distributions for the first and second quarters of 1982. Each page of the tables represent the data that is classified as stability Class A, B, C, D, E, F, and G; and the last page of each table is the JFD with all stability classes combined. Each page is divided into two parts; the upper part lists the number of hourly periods when each meteorology condition occurred; and the lower part of each page lists the frequency of each classification by percent. The wind speeds have been measured at the 10 meter level and the stability classes are defined by the temperature differential between the 10 and 40 meter levels.

Table 3A JFD's First Quarter 1982

Stability Class A

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER, 1982
DAMES AND MOORE JOB NO. - 00377-079-09
DATA PERIOD- 01/01/82 TO 03/31/82
STABILITY CLASS SAS (10-40 METERS)
WINDS AT 10 METER LEVEL

WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)												
WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH)										TOTAL	MEAN SPEED
	1	2	3	4	5	6	7	8	9	10		
NNE	0	0	0	0	0	0	0	0	0	0	0	0.00
N	0	0	0	0	0	0	0	0	0	0	0	0.00
NNE	0	0	0	0	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0	0	0	0	19.10
ESE	0	0	0	0	0	0	0	0	0	0	3	19.03
SE	0	0	0	0	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0	0	0	0	0	0.00
NW	0	0	0	0	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0	0	0	0	0.00
N	0	0	0	0	0	0	0	0	0	0	0	0.00
VARIABLE	0	0	0	0	0	0	0	0	0	0	0	0.00
CALM	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL	0	0	1	25	47	71	83	38	37	20	29	7.24

WIND FREQUENCY DISTRIBUTION (FREQUENCY IN PERCENT OF TOTAL)												
WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH)										TOTAL	MEAN SPEED
	1	2	3	4	5	6	7	8	9	10		
NNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	19.10
ESE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	19.03
SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SSE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VARIABLE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.05	1.16	2.18	3.30	3.89	1.76	1.72	0.93	1.39	7.24

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2154

Stability Class B

[illegible]

	2160	2194
TOTAL NUMBER OF POSSIBLE OBSERVATIONS -	2160	2194
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY -	2160	2194

Table 3A JFD's First Quarter 1982

Stability Class C

SOUTHERN CALIFORNIA Edison
 SAN ONOFRE NUCLEAR GENERATING STATION
 1ST QUARTER, 1982
 DATES AND HOUR JOB NO. - 00377-075-09
 DATA PERIOD- 01/01/82 TO 03/31/82
 STABILITY CLASS SC9 (10-40 METERS)
 WINDS AT 10 METER LEVEL

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)										MEAN SPEED
	1	2	3	4	5	6	7	8	9	10	
NNE	0	0	0	0	0	0	0	0	0	0	0.00
NE	0	0	0	0	0	0	0	0	0	0	19.40
ENE	0	0	0	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0	0	0	16.40
SE	0	0	0	0	1	0	0	0	0	0	10.20
SSE	0	0	0	0	0	1	2	0	1	1	8.53
S	0	0	0	1	2	1	0	0	0	0	7.48
SSW	0	0	0	0	1	1	1	0	0	0	8.48
SW	0	0	0	0	0	1	0	0	0	0	5.40
WSW	0	0	0	0	0	0	1	0	0	0	1.40
W	0	0	0	1	0	3	0	0	0	0	9.37
WW	0	0	0	0	0	1	2	0	1	0	7.83
WNW	0	0	0	0	0	0	0	1	0	0	1.40
N	0	0	0	0	0	0	0	0	0	0	0.00
VARIABLE	0	0	0	0	0	0	0	0	0	0	0.00
CALM	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL	0	0	0	2	4	9	7	1	2	1	8.93

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN PERCENT OF TOTAL)										MEAN SPEED
	1	2	3	4	5	6	7	8	9	10	
NNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	19.40
ENE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	16.40
SE	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.14	10.20
SSE	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.00	0.05	0.03	8.53
S	0.00	0.00	0.00	0.05	0.09	0.05	0.00	0.00	0.00	0.03	7.48
SSW	0.00	0.00	0.00	0.00	0.05	0.05	0.03	0.00	0.00	0.00	8.48
SW	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	5.40
WSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
W	0.00	0.00	0.00	0.05	0.00	0.23	0.00	0.00	0.00	0.00	9.37
WNW	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.00	0.00	0.00	7.83
W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.40
WNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VARIABLE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.09	0.26	0.42	0.32	0.05	0.09	0.05	8.93

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2154

Table 3A JFD's First Quarter 1982

Stability Class D

SOUTHERN CALIFORNIA Edison
 SAN ONOFRE NUCLEAR GENERATING STATION
 1ST QUARTER, 1982
 DATA AND MIDDLE JCS NO. - 00377-075-04
 DATA PERIOD- 01/01/82 TO 03/31/82
 STABILITY CLASS 808 (10-40 METERS)
 WINDS AT 10 METER LEVEL

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)											MEAN SPEED
	1	2	3	4	5	6	7	8	9	10	11	TOTAL
NNE	0	0	3	0	3	3	1	1	1	4	0	20
NE	0	0	1	1	2	0	1	0	0	0	0	5
ENE	0	0	1	2	1	0	0	0	1	0	0	5
E	0	0	0	1	2	0	4	2	0	0	0	10
ESE	0	0	0	0	1	4	4	4	2	3	0	21
SE	0	0	0	0	5	13	17	11	11	14	1	69
SSE	0	0	0	2	8	10	3	4	8	9	1	73
S	0	0	0	3	7	10	4	3	4	2	0	53
SSW	0	1	7	5	2	1	2	2	2	4	1	42
WSW	0	1	8	5	4	3	2	2	1	3	1	41
W	0	0	1	3	8	0	3	0	1	1	0	35
WNW	0	0	3	4	4	7	9	4	1	2	0	50
NNW	0	1	1	4	4	6	4	2	2	3	0	31
N	0	1	1	3	4	3	3	1	0	2	0	20
VARIABLE	0	0	1	1	3	3	1	2	0	0	0	11
CALM	0	4	37	55	67	59	61	47	33	43	7	341
TOTAL	0	4	37	55	67	59	61	47	33	43	7	341

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN PERCENT OF TOTAL)											MEAN SPEED
	1	2	3	4	5	6	7	8	9	10	11	TOTAL
NNE	0.00	0.00	0.14	0.00	0.14	0.14	0.03	0.03	0.03	0.19	0.00	0.93
NE	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.37
ENE	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.23
E	0.00	0.00	0.03	0.03	0.03	0.00	0.19	0.03	0.00	0.00	0.00	0.46
ESE	0.00	0.00	0.00	0.00	0.03	0.19	0.19	0.28	0.09	0.14	0.00	0.93
SE	0.00	0.00	0.00	0.00	0.23	0.37	0.60	0.79	0.51	0.43	0.03	7.71
SSE	0.00	0.00	0.00	0.03	0.37	0.46	0.19	0.28	0.37	0.42	0.03	10.03
S	0.00	0.00	0.14	0.32	0.46	0.19	0.23	0.28	0.05	0.09	0.03	10.39
SSW	0.00	0.03	0.32	0.23	0.03	0.03	0.09	0.09	0.19	0.14	0.03	10.63
WSW	0.00	0.03	0.03	0.23	0.19	0.23	0.09	0.09	0.03	0.03	0.03	9.76
W	0.00	0.00	0.03	0.23	0.14	0.37	0.00	0.14	0.00	0.00	0.00	9.15
WNW	0.00	0.00	0.14	0.28	0.28	0.32	0.42	0.19	0.03	0.09	0.00	8.10
NNW	0.00	0.03	0.03	0.14	0.19	0.28	0.19	0.09	0.09	0.09	0.00	7.09
N	0.00	0.03	0.03	0.14	0.28	0.14	0.14	0.03	0.00	0.09	0.00	5.36
VARIABLE	0.00	0.00	0.03	0.03	0.14	0.14	0.03	0.09	0.00	0.00	0.00	0.93
CALM	0.00	1.12	10.85	16.13	19.71	17.33	17.62	13.81	9.68	12.54	2.05	51.45
TOTAL	0.00	0.19	1.72	2.35	3.11	2.74	2.83	2.18	1.62	2.09	0.32	23.12

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2154

Table 3A JFD's First Quarter 1982

Stability Class E

SOUTHERN CALIFORNIA Edison
 SAN ONOFRE NUCLEAR GENERATING STATION
 1ST QUARTER, 1982
 DAMES AND MOORE JOB NO. - 00377-079-09
 DATA PERIOD- 01/01/82 TO 03/31/82
 STABILITY CLASS SES (10-40 METERS)
 WINDS AT 10 METER LEVEL

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)											MEAN SPEED		
	1	2	3	4	5	6	7	8	9	10	11		>11	TOTAL
NNE	0	0	9	24	18	11	6	13	4	2	3	8	100	6.07
NE	0	1	1	7	8	1	2	0	0	3	1	11	35	9.95
ENE	0	1	4	5	4	2	0	0	0	0	0	3	21	3.70
E	0	1	3	4	4	2	1	0	0	0	0	0	17	3.91
ESE	0	0	3	6	8	4	2	0	1	1	0	0	25	4.74
SE	0	1	5	8	5	4	1	1	2	0	0	0	27	4.47
SSE	0	0	2	0	2	2	1	0	0	0	0	1	8	7.11
S	0	0	2	0	1	0	0	0	0	0	1	3	7	12.73
SSW	0	1	0	4	2	0	0	0	0	0	0	0	13	11.37
SW	0	0	1	1	0	1	0	0	0	0	0	0	3	3.70
WSW	0	0	0	0	1	0	0	0	0	0	0	0	1	3.85
W	0	0	2	4	2	1	0	0	0	0	0	4	17	7.12
WNW	0	0	1	5	1	3	3	1	2	1	1	7	29	8.23
NNW	0	0	0	2	2	4	4	2	1	1	4	28	40	6.90
N	0	1	1	1	3	4	2	1	2	1	0	20	40	6.03
N VARIABLE	0	0	7	15	14	9	5	5	1	1	3	2	62	5.29
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL	0	6	45	93	81	53	27	29	13	11	11	51	416	6.49

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN PERCENT OF TOTAL)											MEAN SPEED	
	1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL
NNE	0.00	0.00	0.43	1.11	0.84	0.51	0.28	0.70	0.19	0.09	0.14	0.37	4.64
NE	0.00	0.03	0.05	0.32	0.37	0.05	0.09	0.00	0.00	0.14	0.05	0.51	9.95
ENE	0.00	0.03	0.28	0.23	0.19	0.09	0.00	0.00	0.00	0.00	0.00	0.14	5.70
E	0.00	0.03	0.14	0.28	0.37	0.19	0.05	0.00	0.00	0.00	0.00	0.00	0.79
ESE	0.00	0.00	0.00	0.14	0.28	0.37	0.19	0.09	0.00	0.05	0.00	0.00	4.74
SE	0.00	0.03	0.23	0.37	0.23	0.19	0.05	0.00	0.09	0.00	0.00	0.00	4.47
SSE	0.00	0.00	0.09	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.03	7.11
S	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.14	12.73
SSW	0.00	0.03	0.00	0.19	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.37	11.27
SW	0.00	0.00	0.03	0.05	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	3.70
WSW	0.00	0.00	0.00	0.23	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
W	0.00	0.00	0.09	0.19	0.09	0.19	0.05	0.00	0.00	0.00	0.00	0.19	3.70
WNW	0.00	0.00	0.00	0.05	0.23	0.05	0.14	0.05	0.09	0.05	0.05	0.32	8.23
NNW	0.00	0.00	0.03	0.05	0.23	0.28	0.14	0.09	0.05	0.05	0.03	0.19	6.90
N	0.00	0.03	0.05	0.05	0.23	0.19	0.09	0.05	0.09	0.09	0.03	0.00	9.93
Variable	0.00	0.00	0.32	0.70	0.63	0.42	0.23	0.23	0.05	0.03	0.14	0.09	2.88
CALM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.28	2.09	4.32	3.76	2.46	1.25	1.16	0.60	0.51	0.51	2.37	19.31

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2134

Table 3A JFD's First Quarter 1982

Stability Class F

SOUTHERN CALIFORNIA EDISON
 SAN ONOFRE NUCLEAR GENERATING STATION
 1ST QUARTER, 1982
 DATES AND MOORE JOB NO. - 00377-075-09
 DATA PERIOD- 01/01/82 TO 03/31/82
 STABILITY CLASS SF9 (10-40 METERS)
 WINDS AT 10 METER LEVEL

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)											MEAN SPEED
	1	2	3	4	5	6	7	8	9	10	11	TOTAL
NNE	0	0	2	17	41	44	35	25	12	11	7	201
NE	0	0	5	8	7	4	1	3	1	0	2	34
ENE	0	2	1	3	1	1	0	0	0	0	0	8
E	0	0	1	1	2	3	2	0	0	0	0	9
ESE	0	0	0	2	1	0	1	0	0	0	0	5
SE	0	0	1	2	1	0	0	0	0	0	0	5
SSE	0	0	1	1	4	0	0	0	0	0	0	8
S	0	0	1	2	1	0	0	0	0	0	0	4
SSW	0	0	0	1	1	0	0	0	0	0	0	2
SW	0	0	0	1	0	0	0	0	0	0	0	1
WSW	0	0	0	1	0	0	0	0	0	0	0	1
W	0	0	0	2	2	1	2	1	0	0	0	9
WNW	0	0	0	1	4	3	0	0	0	0	0	8
NNW	0	0	0	0	0	1	0	0	0	0	0	1
N	0	0	1	1	2	1	2	0	0	0	0	7
Variable	0	1	1	0	9	6	2	4	2	4	2	33
CALN	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	3	14	41	76	84	46	35	14	13	12	331

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN PERCENT OF TOTAL)											MEAN SPEED
	1	2	3	4	5	6	7	8	9	10	11	TOTAL
NNE	0.00	0.00	0.09	0.79	1.90	2.04	1.42	1.14	0.36	0.31	0.43	9.33
NE	0.00	0.00	0.23	0.37	0.32	0.19	0.03	0.14	0.03	0.00	0.09	1.98
ENE	0.00	0.09	0.03	0.14	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.37
E	0.00	0.00	0.03	0.03	0.04	0.14	0.07	0.00	0.00	0.00	0.00	0.42
ESE	0.00	0.00	0.03	0.03	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.23
SE	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.37
SSE	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.19
S	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.09
SSW	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.09
SW	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.03	0.03	0.03	0.14	0.03	0.00	0.00	0.00	0.42
WNW	0.00	0.00	0.00	0.03	0.03	0.14	0.00	0.00	0.00	0.00	0.00	0.37
NNW	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.03
N	0.00	0.00	0.03	0.03	0.03	0.03	0.07	0.00	0.00	0.00	0.00	0.32
Variable	0.00	0.03	0.03	0.00	0.42	0.28	0.07	0.28	0.07	0.19	0.07	1.93
CALN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.14	0.43	1.90	3.53	2.97	2.14	1.62	0.74	0.70	0.60	15.37

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2134

Stability Class G

SOUTHERN CALIFORNIA Edison
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER, 1982
DAMES AND MOORE JOB NO. - 00377-075-04
DATA PERIOD- 01/01/82 TO 03/31/82
STABILITY CLASS 808 (10-40 METERS)
WINDS AT 10 METER LEVEL

[illegible][illegible]

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160	TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2142
1	1
2	2
3	3
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Table 3A JFD's First Quarter 1982

Stability Class All

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER, 1982
DAVIS AND MOORE JOB NO. - 00377-075-09
DATA PERIOD- 01/01/82 TO 03/31/82
STABILITY CLASS ALL (10-40 METERS)
WINDS AT 10 METER LEVEL

WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)														
WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH)											TOTAL	MEAN SPEED	
	1	2	3	4	5	6	7	8	9	10	11			>11
NNE	0	0	13	43	69	76	77	83	72	62	59	109	663	7.96
NE	0	1	7	16	17	6	5	4	3	4	3	21	89	8.66
ENE	0	3	9	11	6	3	0	0	2	0	0	3	37	5.02
E	0	1	3	7	9	5	7	2	0	0	0	2	38	5.00
ESE	0	0	4	8	10	8	7	6	3	4	0	9	59	7.07
SE	0	1	8	14	20	19	19	12	13	16	1	9	132	6.89
SSE	0	0	6	12	10	17	10	11	14	14	4	22	122	8.91
S	0	0	7	11	21	11	12	11	6	5	4	20	108	9.03
SSW	0	2	7	22	11	10	7	3	3	6	1	23	97	8.63
SW	0	1	6	16	15	11	7	3	6	2	3	16	86	7.35
WSW	0	0	1	19	24	25	11	6	5	2	6	17	116	7.00
W	0	0	7	11	22	38	36	26	14	9	5	23	213	7.55
WNW	0	0	5	12	13	20	26	10	16	8	5	34	151	8.44
NW	0	1	3	6	10	13	10	5	4	4	1	9	68	6.99
NNW	0	2	3	5	14	8	8	2	2	4	1	0	49	5.36
N	0	1	10	17	28	21	10	20	5	4	8	4	130	6.00
VARIABLE													0	0.00
CALM													0	0.00
TOTAL	0	13	103	230	301	293	272	204	170	148	101	323	2160	7.63

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN PERCENT OF TOTAL)											MEAN SPEED		
	1	2	3	4	5	6	7	8	9	10	11		>11	TOTAL
NNE	0.00	0.00	0.69	1.99	3.19	3.52	3.36	3.84	3.33	2.87	2.73	5.05	30.79	7.96
NE	0.00	0.05	0.32	0.74	0.79	0.28	0.23	0.19	0.14	0.28	0.14	0.97	4.12	8.46
ENE	0.00	0.14	0.42	0.51	0.28	0.14	0.00	0.00	0.09	0.00	0.00	0.14	1.71	5.02
E	0.00	0.05	0.23	0.32	0.42	0.23	0.32	0.09	0.00	0.00	0.00	0.09	1.76	5.30
ESE	0.00	0.00	0.19	0.37	0.46	0.37	0.32	0.28	0.14	0.19	0.00	0.42	2.73	7.07
SE	0.00	0.05	0.37	0.65	0.93	0.88	0.68	0.56	0.60	0.74	0.05	0.42	6.11	8.89
SSE	0.00	0.00	0.28	0.56	0.46	0.79	0.46	0.51	0.74	0.65	0.19	1.02	5.65	8.91
S	0.00	0.00	0.32	0.51	0.97	0.51	0.36	0.51	0.28	0.23	0.19	0.93	5.00	9.02
SSW	0.00	0.09	0.32	1.02	1.02	0.51	0.46	0.32	0.14	0.28	0.05	1.16	4.49	8.63
SW	0.00	0.05	0.28	0.74	0.69	0.51	0.32	0.14	0.28	0.09	0.14	0.74	3.98	7.35
WSW	0.00	0.00	0.05	0.88	1.11	1.16	0.51	0.28	0.23	0.09	0.28	0.79	9.37	7.00
W	0.00	0.00	0.32	0.51	1.02	1.76	2.59	1.20	0.65	0.42	0.23	1.16	9.86	7.55
WNW	0.00	0.00	0.23	0.56	0.69	0.93	1.20	0.46	0.37	0.37	0.23	1.57	6.99	8.44
NW	0.00	0.05	0.14	0.28	0.46	0.69	0.46	0.23	0.19	0.19	0.05	0.42	3.15	6.99
NNW	0.00	0.09	0.14	0.23	0.65	0.37	0.37	0.09	0.09	0.19	0.05	0.00	2.27	5.36
N	0.00	0.05	0.46	0.79	1.30	0.97	0.46	0.93	0.23	0.28	0.37	0.19	6.02	8.60
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.60	4.77	10.65	13.94	13.56	12.59	9.44	7.87	6.85	4.68	15.05	100.00	7.65

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2154

Table 3B JFD's Second Quarter 1982

Stability Class A

SOUTHERN CALIFORNIA Edison
 SAN ONOFRE NUCLEAR GENERATING STATION
 END QUARTER, 1982
 DATES AND HOUR JOB NO. - 00377-073-09
 DATA PERIOD - 04/01/82 TO 06/30/82
 STABILITY CLASS SAS (10-40 METERS)
 WINDS AT 10 METER LEVEL

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)											MEAN SPEED		
	1	2	3	4	5	6	7	8	9	10	11		>11	TOTAL
NNE	0	0	0	0	0	0	0	0	0	0	0	0	8	18.98
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
S	0	0	2	2	7	5	15	11	3	5	2	3	18	9.43
SSW	0	0	1	3	5	13	14	21	11	10	6	10	79	8.11
SW	0	0	1	12	15	15	24	14	6	6	3	3	74	7.02
WSW	0	0	0	2	12	26	30	33	28	14	6	1	99	4.39
W	0	0	0	3	11	29	40	45	55	28	16	2	153	7.31
WNW	0	0	0	0	2	1	9	16	12	10	5	1	228	7.72
NW	0	0	0	0	0	0	0	0	0	0	0	1	37	8.31
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	13.50
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
VARIABLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
CALM	0	0	4	24	52	90	133	143	188	78	37	88	717	7.84
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN PERCENT OF TOTAL)											TOTAL	MEAN SPEED	
	1	2	3	4	5	6	7	8	9	10	11			>11
NNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.38	18.98
NE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ENE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SSE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.24	0.09	0.14	0.85	9.43
SSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.47	0.28	0.14	3.74	8.11
SW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.28	0.08	0.14	3.30	7.02
WSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.28	0.03	0.00	4.68	6.35
W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32	0.76	0.28	0.00	7.24	7.31
WNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	1.32	0.76	0.03	10.79	7.72
NW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.60	1.32	0.24	0.09	2.70	8.31
NNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.47	0.24	0.03	0.03	13.30
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VARIABLE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.92	7.64

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2114

Table 3B JFD's Second Quarter 1982

Stability Class B

SOUTHERN CALIFORNIA Edison
 SAN ONOFRE NUCLEAR GENERATING STATION
 2ND QUARTER, 1982
 DATES AND HOURS: J08 MO - 00377-079-09
 DATA PERIOD: 04/01/82 TO 04/30/82
 STABILITY CLASS: B (10-40 METERS)
 WINDS AT 10 METER LEVEL

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)											MEAN SPEED		
	1	2	3	4	5	6	7	8	9	10	11		>11	TOTAL
NNE	0	0	0	0	0	0	0	0	0	0	0	1	1	14.70
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	6.20
SSE	0	0	0	0	1	0	0	0	1	0	0	0	2	8.50
S	0	0	0	0	0	1	0	2	1	0	1	2	10	7.64
SSW	0	0	0	1	0	0	1	1	0	0	0	0	4	9.75
SW	0	0	0	0	1	0	0	1	0	0	1	0	11	9.47
WSW	0	0	0	0	4	0	1	0	0	1	0	0	11	9.28
W	0	0	0	2	3	2	1	2	0	0	0	0	10	9.45
WNW	0	0	0	2	4	2	0	1	1	0	0	0	10	9.23
NW	0	0	0	3	6	4	1	4	0	0	0	0	22	7.20
NNW	0	0	0	2	2	1	2	0	1	0	1	1	9	7.20
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
VARIABLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL	0	0	0	11	20	19	12	12	9	4	1	4	57	6.41

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN PERCENT OF TOTAL)											MEAN SPEED	
	1	2	3	4	5	6	7	8	9	10	11		>11
NNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05
NE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ENE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SE	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.09
SSE	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.24	0.03	0.00	0.00	0.09	0.47
S	0.00	0.00	0.00	0.03	0.00	0.09	0.03	0.03	0.03	0.00	0.00	0.00	0.33
SSW	0.00	0.00	0.00	0.03	0.03	0.00	0.03	0.03	0.00	0.00	0.03	0.00	0.32
SW	0.00	0.00	0.00	0.14	0.19	0.00	0.03	0.09	0.00	0.00	0.00	0.00	0.47
WSW	0.00	0.00	0.00	0.14	0.14	0.09	0.03	0.03	0.03	0.00	0.00	0.00	0.43
W	0.00	0.00	0.00	0.09	0.19	0.09	0.28	0.03	0.19	0.00	0.00	0.03	1.04
WNW	0.00	0.00	0.00	0.00	0.24	0.28	0.09	0.09	0.00	0.03	0.00	0.00	0.43
NW	0.00	0.00	0.00	0.00	0.09	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00
NNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VARIABLE													
CALM	0.00	0.00	0.00	0.52	0.93	0.71	0.57	0.57	0.38	0.19	0.03	0.19	4.12
TOTAL													6.41

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2114

Stability Class C

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1982
DAMES AND MOORE JOB NO. - 00377-075-04
DATA PERIOD- 04/01/82 TO 06/30/82
STABILITY CLASS 9C8 (10-40 METERS)
WINDS AT 10 METER LEVEL

[illegible][illegible]

TOTAL NUMBER OF POSSIBLE OBSERVATIONS -	2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY -	2114

Table 3B JFD's Second Quarter 1982

Stability Class D

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1982
DAVIS AND MOORE JOB NO. - 00377-075-09
DATA PERIOD- 04/01/82 TO 06/30/82
STABILITY CLASS DD (10-40 METERS)
WINDS AT 10 METER LEVEL

WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)														
WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH)											TOTAL	MEAN SPEED	
	1	2	3	4	5	6	7	8	9	10	11			>11
NNE	0	0	9	9	9	11	8	2	0	0	1	1	50	5.07
NE	0	0	1	2	2	3	0	0	0	0	0	1	9	5.77
ENE	0	0	0	0	0	1	0	1	0	0	0	0	2	6.65
E	0	1	1	2	1	4	5	0	0	0	0	0	14	5.17
ESE	0	0	2	3	5	4	4	2	0	0	0	0	22	5.23
SE	0	0	1	9	14	14	18	10	8	8	3	6	90	7.06
SSE	0	1	1	9	16	10	7	9	7	3	1	7	75	7.09
S	0	2	8	12	10	2	7	12	3	4	1	0	57	5.28
SSW	0	5	9	20	4	8	6	3	2	1	1	0	72	4.72
SW	0	4	9	7	7	6	0	1	3	1	1	4	48	5.09
WSW	0	4	9	15	8	3	2	3	1	0	0	3	48	4.92
W	0	7	17	12	11	13	5	1	1	0	0	1	68	4.26
WNW	0	4	7	20	16	14	14	8	2	6	0	2	93	5.30
NW	0	3	9	11	10	18	10	9	6	2	1	3	82	5.71
NNW	0	1	8	14	8	3	0	2	0	1	0	0	37	4.21
N	0	1	11	19	10	4	2	0	0	2	0	0	49	4.11
VARIABLE													0	0.00
CALM	0	34	98	168	126	126	91	88	33	28	7	30	798	0.00
TOTAL														5.43

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN PERCENT OF TOTAL)											MEAN SPEED	
	UPPER CLASS INTERVALS OF WIND SPEED (MPH)												
	1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL
NNE	0.00	0.00	0.43	0.43	0.43	0.52	0.38	0.09	0.00	0.00	0.05	0.05	2.37
NE	0.00	0.00	0.03	0.09	0.09	0.14	0.00	0.00	0.00	0.00	0.00	0.05	0.43
ENE	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.09
E	0.00	0.03	0.03	0.09	0.05	0.19	0.24	0.00	0.00	0.00	0.00	0.00	0.64
ESE	0.00	0.00	0.09	0.14	0.24	0.28	0.19	0.09	0.00	0.00	0.00	0.00	1.04
SE	0.00	0.00	0.03	0.38	0.66	0.66	0.85	0.47	0.38	0.38	0.14	0.28	4.26
SSE	0.00	0.03	0.03	0.43	0.43	0.76	0.47	0.43	0.33	0.14	0.05	0.43	3.55
S	0.00	0.14	0.38	0.57	0.47	0.09	0.33	0.33	0.14	0.19	0.05	0.00	2.70
SSW	0.00	0.24	0.24	0.45	0.28	0.38	0.28	0.14	0.09	0.03	0.05	0.19	2.13
SW	0.00	0.19	0.43	0.43	0.33	0.28	0.00	0.05	0.14	0.05	0.00	0.14	2.27
WSW	0.00	0.19	0.43	0.71	0.38	0.14	0.09	0.14	0.05	0.05	0.00	0.05	3.22
W	0.00	0.33	0.80	0.97	0.52	0.61	0.24	0.05	0.05	0.00	0.00	0.09	4.40
WNW	0.00	0.19	0.33	0.95	0.76	0.66	0.66	0.38	0.09	0.28	0.00	0.14	5.90
NW	0.00	0.14	0.43	0.52	0.47	0.83	0.47	0.43	0.28	0.09	0.05	0.14	3.88
NNW	0.00	0.03	0.38	0.66	0.38	0.14	0.00	0.09	0.00	0.05	0.00	0.00	1.75
N	0.00	0.03	0.52	0.90	0.47	0.19	0.09	0.00	0.00	0.09	0.00	0.00	2.32
VARIABLE													0.00
CALM													0.00
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TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2114

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1982
DAMES AND MOORE JOB NO. - 00377-075-09
DATA PERIOD- 04/01/82 TO 06/30/82
STABILITY CLASS BSS (10-40 METERS)
WINDS AT 10 METER LEVEL

Table 3B JFD's Second Quarter 1982

Stability Class E

WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)														
WIND DIRECTION	1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0	1	4	14	17	14	10	3	1	1	0	0	69	9.01
NE	0	0	2	0	3	0	0	0	0	0	0	5	10	9.26
ENE	0	0	2	1	4	0	0	0	0	1	0	0	8	4.60
E	0	0	3	2	3	3	1	0	0	0	0	0	12	4.24
ESE	0	0	0	5	1	1	0	0	0	0	0	0	7	4.23
SE	0	0	0	0	1	1	3	0	0	1	0	0	6	4.78
SSE	0	0	0	1	1	2	1	0	0	0	0	0	9	5.08
S	0	0	2	1	1	0	0	0	0	0	0	1	4	9.18
SSW	0	1	0	1	1	0	0	0	0	0	0	0	3	3.33
SW	0	1	0	2	0	0	0	0	0	0	0	0	3	2.27
WSW	0	1	2	0	0	0	0	0	0	0	0	0	4	4.33
W	0	0	2	1	2	0	1	0	0	0	0	1	8	5.94
WNW	0	0	2	0	1	0	2	0	0	1	0	0	8	4.03
NW	0	0	2	2	1	0	0	1	0	0	0	0	10	4.50
NNW	0	0	3	2	2	1	1	0	1	0	0	0	31	4.85
N	0	2	7	2	5	4	5	3	1	0	0	0	0	0.00
VARIABLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
CALN	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL	0	7	33	34	41	31	24	7	3	5	0	8	193	5.18

WIND FREQUENCY DISTRIBUTION (FREQUENCY IN PERCENT OF TOTAL)														
WIND DIRECTION	1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0.00	0.03	0.28	0.64	0.80	0.76	0.47	0.14	0.05	0.03	0.00	0.00	3.26	9.01
NE	0.00	0.00	0.07	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.47	9.26
ENE	0.00	0.00	0.07	0.03	0.19	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.39	4.60
E	0.00	0.00	0.14	0.09	0.14	0.14	0.03	0.00	0.00	0.00	0.00	0.00	0.57	4.24
ESE	0.00	0.00	0.00	0.24	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.33	4.23
SE	0.00	0.00	0.00	0.00	0.03	0.05	0.14	0.00	0.00	0.03	0.00	0.00	0.28	4.78
SSE	0.00	0.00	0.00	0.03	0.05	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.24	5.08
S	0.00	0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.19	9.18
SSW	0.00	0.03	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	3.33
SW	0.00	0.03	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	2.27
WSW	0.00	0.03	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	4.33
W	0.00	0.00	0.07	0.03	0.05	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.38	5.94
WNW	0.00	0.03	0.07	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.38	4.03
NW	0.00	0.00	0.07	0.09	0.05	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.47	4.50
NNW	0.00	0.00	0.14	0.09	0.09	0.03	0.03	0.00	0.03	0.00	0.00	0.00	1.47	4.85
N	0.00	0.03	0.33	0.09	0.24	0.28	0.24	0.14	0.03	0.00	0.00	0.00	0.00	0.00
VARIABLE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.33	1.36	1.61	1.94	1.47	1.14	0.33	0.14	0.24	0.00	0.38	9.13	5.18

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2114

Table 3B JFD's Second Quarter 1982

Stability Class F

SOUTHERN CALIFORNIA Edison
SAN Geronimo NUCLEAR GENERATING STATION
2ND QUARTER, 1982
DAMES AND MOORE JOB NO. - 80377-073-09
DATA PERIOD - 04/01/82 TO 06/30/82
STABILITY CLASS F'S (10-40 METERS)
WINDS AT 10 METER LEVEL

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)											MEAN SPEED		
	1	2	3	4	5	6	7	8	9	10	11		>11	TOTAL
NE	0	0	5	12	21	25	24	14	12	8	1	2	128	4.37
NE	0	1	0	4	3	4	0	0	0	0	0	1	13	5.27
ENE	0	1	2	1	0	0	1	0	0	0	0	0	4	4.92
E	0	0	2	1	0	0	0	0	0	0	0	0	3	3.10
ESE	0	0	0	1	0	0	0	0	0	0	0	0	1	3.80
SE	0	0	1	0	0	0	0	0	0	0	0	0	1	2.40
SSE	0	0	1	1	0	0	1	0	0	0	0	0	3	4.27
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
WNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
N	0	0	0	1	0	0	0	1	0	0	0	0	2	4.45
NNE	0	0	0	0	0	1	0	0	0	0	0	0	0	0.00
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
N	0	0	0	0	0	0	0	2	0	1	0	0	12	4.14
Variable	0	0	2	0	1	2	4	2	0	0	0	0	0	0.00
Caln	0	0	0	0	0	0	0	0	0	1	0	4	170	4.07

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH)											TOTAL	MEAN SPEED	
	1	2	3	4	5	6	7	8	9	10	11			>11
NE	0.00	0.00	0.24	0.97	0.99	1.18	1.23	0.76	0.57	0.38	0.03	0.09	4.09	4.37
NE	0.00	0.03	0.00	0.19	0.14	0.19	0.00	0.00	0.00	0.00	0.00	0.03	0.61	5.27
ENE	0.00	0.03	0.09	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.28	4.92
E	0.00	0.00	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	3.10
ESE	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	3.80
SE	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	2.60
SSE	0.00	0.00	0.03	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.14	4.37
S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NNE	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.03	3.60
NW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	4.43
NNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	6.14
VARIABLE	0.00	0.00	0.09	0.00	0.03	0.09	0.19	0.09	0.00	0.03	0.00	0.00	0.00	0.00
CALN	0.00	0.09	0.61	0.99	1.18	1.51	1.51	0.90	0.57	0.43	0.03	0.19	8.04	6.07
TOTAL	0.00	0.09	0.61	0.99	1.18	1.51	1.51	0.90	0.57	0.43	0.03	0.19	8.04	6.07

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2114

Table 3B JFD's Second Quarter 1982

Stability Class G

SOUTHERN CALIFORNIA Edison
 SAN DIEGO NUCLEAR GENERATING STATION
 2ND QUARTER, 1982
 DATA AND MOORE JOB NO. - 00377-075-09
 DATA PERIOD- 04/01/82 TO 04/30/82
 STABILITY CLASS GGG (10-40 METERS)
 WINDS AT 10 METER LEVEL

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)											MEAN SPEED		
	1	2	3	4	5	6	7	8	9	10	11		>11	TOTAL
NNE	0	0	0	1	2	4	11	26	30	17	12	11	114	8.82
NE	0	0	0	1	0	1	0	0	0	0	0	0	2	4.20
ENE	0	0	0	1	0	1	0	0	0	0	0	0	0	4.60
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
SE	0	0	0	1	0	0	0	0	0	0	0	0	1	3.40
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
SSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
SW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
W	0	0	0	0	0	0	0	0	0	0	0	0	1	3.00
WNW	0	0	1	0	0	0	0	0	0	0	0	0	1	1.70
NW	0	0	0	0	0	0	0	0	0	0	0	0	1	7.00
NNW	0	0	0	0	0	0	1	0	0	0	0	0	1	4.90
N	0	0	0	0	1	0	0	0	0	0	0	0	2	6.19
VARIABLE	0	0	0	0	0	1	1	0	0	0	0	0	0	0.00
CALN	0	1	1	4	3	7	13	26	30	17	12	11	123	8.44
TOTAL	0	1	1	4	3	7	13	26	30	17	12	11	123	8.44

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH)											TOTAL	MEAN SPEED	
	1	2	3	4	5	6	7	8	9	10	11			>11
NNE	0.00	0.00	0.00	0.05	0.09	0.19	0.32	1.23	1.42	0.80	0.97	0.92	5.37	8.82
NE	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.09	4.20
ENE	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.09	4.40
E	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SE	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	3.40
SSE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	3.00
W	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	1.70
WNW	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	7.00
NW	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	4.90
NNW	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	4.13
N	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VARIABLE														
CALN	0.00	0.05	0.05	0.19	0.14	0.33	0.41	1.23	1.42	0.80	0.97	0.92	5.41	8.44
TOTAL														

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2194
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2114

Table 3B JFD's Second Quarter 1982

Stability Class All

SOUTHERN CALIFORNIA Edison
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1982
DAMES AND MOORE JOB NO. - 00377-075-09
DATA PERIOD- 04/01/82 TO 06/30/82
STABILITY CLASS ALL (10-40 METERS)
WINDS AT 10 METER LEVEL

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN NUMBER OF OCCURRENCES)										TOTAL	MEAN SPEED
	1	2	3	4	5	6	7	8	9	10		
NNE	0	1	20	34	49	54	55	47	43	26	370	4.99
NE	0	1	3	7	8	8	0	0	0	0	7	4.56
ENE	0	1	4	3	4	2	1	1	0	1	18	4.93
E	0	1	4	5	4	7	4	0	0	0	29	4.97
ESE	0	0	2	9	6	7	4	2	0	0	30	4.93
SE	0	0	2	9	16	16	21	10	9	9	101	6.93
SSE	0	1	12	11	10	21	14	18	15	5	113	7.40
S	0	3	12	14	19	10	23	18	16	16	151	6.93
SSW	0	4	7	28	13	21	24	8	7	1	141	5.93
WSW	0	4	10	27	27	21	23	14	8	3	161	5.93
W	0	5	11	22	29	32	33	38	29	16	224	6.31
WNW	0	7	21	18	28	44	46	47	37	28	314	4.81
NW	0	4	9	22	24	22	34	23	18	9	187	4.43
NNW	0	3	11	12	13	21	12	13	4	1	103	4.00
N	0	1	11	14	11	4	1	2	1	1	48	4.28
Variable	0	2	20	21	14	13	12	5	1	3	94	4.44
CALM	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL	0	44	191	269	277	309	302	269	217	141	2122	6.42

WIND DIRECTION	WIND FREQUENCY DISTRIBUTION (FREQUENCY IN PERCENT OF TOTAL)										TOTAL	MEAN SPEED
	1	2	3	4	5	6	7	8	9	10		
NNE	0.00	0.03	0.94	1.70	2.31	2.44	2.39	2.21	2.03	1.23	1.03	17.44
NE	0.00	0.03	0.14	0.33	0.38	0.38	0.00	0.00	0.00	0.00	0.44	4.99
ENE	0.00	0.03	0.19	0.14	0.19	0.09	0.03	0.03	0.00	0.03	0.33	1.60
E	0.00	0.03	0.28	0.24	0.19	0.33	0.28	0.00	0.00	0.00	0.03	0.89
ESE	0.00	0.00	0.09	0.42	0.28	0.33	0.19	0.09	0.00	0.00	0.00	1.37
SE	0.00	0.00	0.09	0.42	0.73	0.73	0.99	0.47	0.42	0.28	0.00	1.41
SSE	0.00	0.03	0.09	0.32	0.47	0.99	0.64	0.85	0.71	0.24	0.19	4.76
S	0.00	0.14	0.57	0.75	0.90	0.47	1.08	0.85	0.73	0.33	0.32	7.12
SSW	0.00	0.28	0.33	1.32	0.61	0.99	0.99	1.23	0.38	0.33	0.14	6.64
WSW	0.00	0.24	0.47	1.37	1.27	1.51	1.56	1.79	1.37	0.75	0.19	7.59
W	0.00	0.32	0.99	0.83	1.32	2.07	2.17	2.21	2.69	1.32	0.28	10.56
WNW	0.00	0.33	0.99	0.83	1.32	2.07	2.17	2.21	2.69	1.32	0.28	10.56
NW	0.00	0.28	0.42	1.04	1.13	1.04	1.60	1.18	0.85	0.80	0.24	8.81
NNW	0.00	0.14	0.52	0.61	0.61	0.99	0.97	0.71	0.28	0.19	0.03	4.93
N	0.00	0.03	0.52	0.75	0.52	0.19	0.03	0.09	0.03	0.03	0.00	2.26
Variable	0.00	0.14	0.94	0.99	0.73	0.61	0.57	0.24	0.03	0.14	0.00	4.44
CALM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	2.07	7.12	12.49	13.03	14.37	14.31	12.68	10.23	6.64	2.83	100.00

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2114

SECTION H. 10 CFR 50, APPENDIX I, CONSIDERATIONS

Current Technical Specifications does not require and effluent monitoring capabilities do not allow strict compliance to the provisions of Appendix I. However, using data from an Appendix I study, conducted for the years 1973, 1974, and 1975, conclusions may be drawn regarding relative release amounts versus doses assessed.

A submittal dated October 7, 1976 titled: Docket No. 50-206, Provisional Operating Licensed No. DPR-13, Supplementary Information Concerning Compliance with 10 CFR 50 Appendix I; San Onofre Nuclear Generating Station Unit-1 lists releases and dose assessments for 1973, 1974, and 1975. This study proved the Appendix I criteria was met for the reference 3 years. During the current period of January - June, 1982 releases were an order of magnitude less, therefore, it may be concluded that the current reporting period meets Appendix I constraints.

SECTION I. 40 CFR 190 CONSIDERATIONS

Current capabilities at Unit-1 does not allow for the direct determination (calculation) for doses from liquid and gaseous releases. However, comparing the releases from this reporting period to the referenced study in Section H, and direct dose measurements via TLDs located on the beach west of Unit-1, it is reasonable to conclude that the doses from releases at Unit-1, including scattered and direct radiation, comply with the provision of 40 CFR 190.

SECTION J. CONCLUSIONS

- o Radioactive Releases totaled 136 curies for gaseous effluent releases and 511 curies total for liquid releases. Gaseous effluent releases were primarily noble gas (86 curies total; composed primarily of 71 curies of Xe-133 and 14 curies of Kr-85) and tritium (50 curies) with Lower Limit of Detection releases for iodines and particulates.

Liquid effluents were primarily tritium (510 curies) and particulates (1.3 curies, composed primarily of 1.1 curies of cobalt and 0.14 curies of cesium).

The operation of SONGS-1 results in radioactive releases which were below the Technical Specification Limits, 0.34% for gaseous effluents and 4.4% for liquid effluents.

- o Radwaste shipments totaled 8 shipments to Richland, Washington. There were 247 cubic meters of solid radwaste shipped containing 31 curies of radioactivity.
- o Meteorological conditions during the semiannual period were typical of the meteorology at SONGS-1. Meteorological dispersion was good 31% of the time, fair 46% of the time and poor 24% of the time.
- o 10 CFR 50, Appendix I criteria were met and SONGS-1 had no measurable radiological impact on the surrounding environment during the reporting period. This is based on a comparison with a report generated for the years 1973, 1974, and 1975 which showed compliance with the criteria set forth in Appendix I to 10 CFR 50.
- o 40 CFR 190 compliance has been demonstrated using the comparison of this reporting period data with the study referenced in Section H.
- o For liquid releases, marine sample analyses will indicate if any of the particulate activity has concentrated in marine life. Detection of any tritium in these samples is not expected because of the rapid turnover of water in marine life and because of the bulk of ocean water available for dilution.
- o The net results of these effluent releases analyses indicates that the operation of SONGS-1 should not have produced any detrimental effect on the environment.

Southern California Edison Company

SAN ONOFRE NUCLEAR GENERATING STATION

P.O. BOX 128

SAN CLEMENTE, CALIFORNIA 92672

H. B. RAY
STATION MANAGER

TELEPHONE
(714) 492-7700

U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596-5368

Attention: Mr. R. H. Engelken, Regional Administrator
Subject: Docket No. 50-206
Semiannual Report
San Onofre Nuclear Generating Station, Unit No. 1

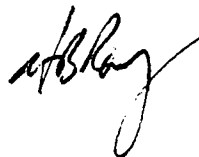
Dear Sir:

The semiannual report for the period from January 1, 1982 through June 30, 1982 is enclosed. This report is submitted in accordance with Section 5.6.2.a and 5.6.2.b of Appendix B to Provisional Operating License No. DPR-13, as amended.

This report has been prepared in the general format of U.S.N.R.C. Regulatory Guide 1.21; sections pertinent to SONGS-1. Included in this report are quarterly effluent summaries; percent of Technical Specification Limits; estimated total percent error; lower limit of detection concentrations; 10CFR50 Appendix I considerations; 40CFR190 considerations; and meteorological data.

Please contact us if we can be of further assistance.

Sincerely,



Enclosures: 2 copies

cc: Director, USNRC Division of Document Control Administration
L. Miller, Resident Inspector, Unit No. 1

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