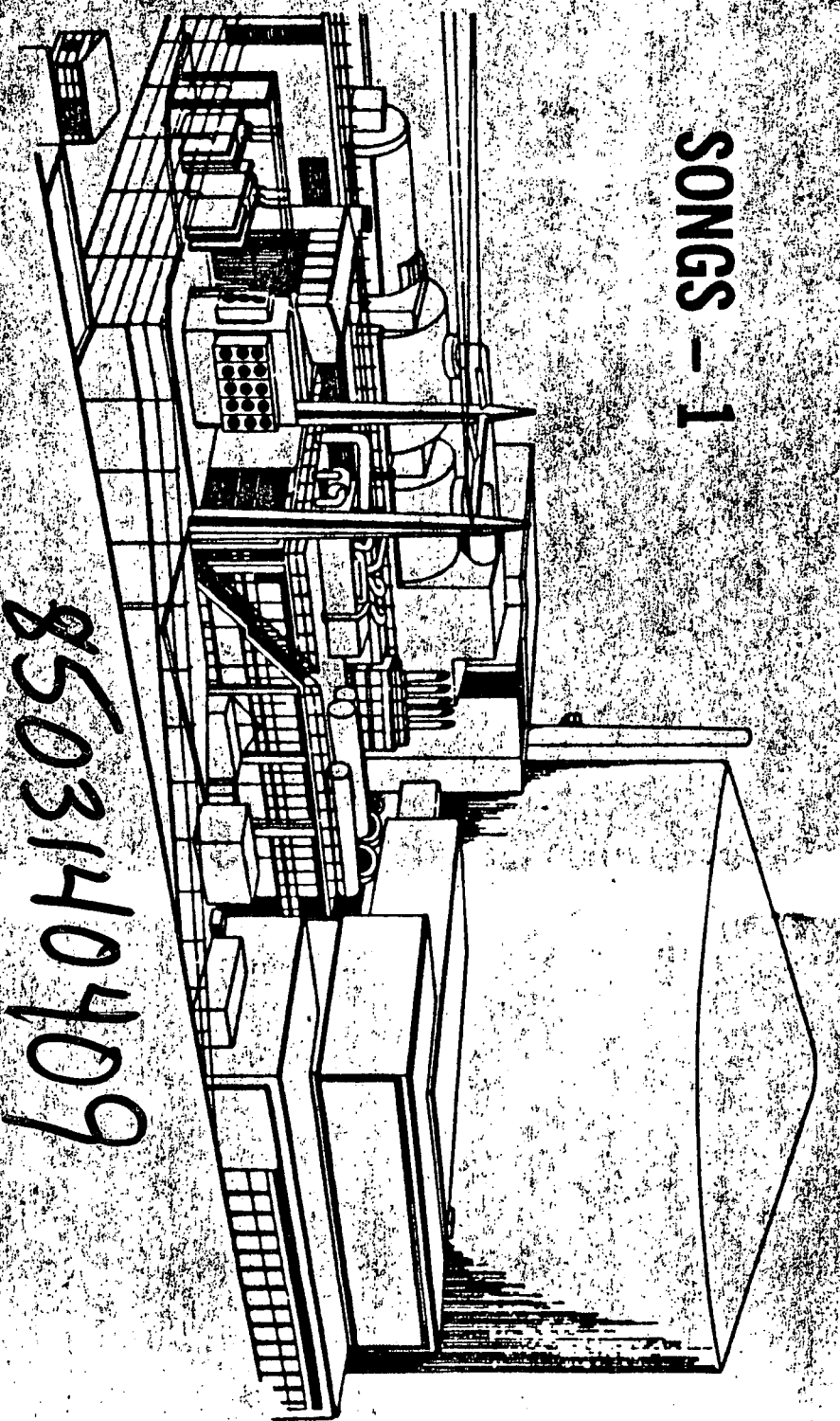


**SAN ONOFRE
NUCLEAR GENERATING STATION
UNIT 1
SEMIANNUAL EFFLUENT REPORT**

JULY — DECEMBER 1984

2/20/85

SONGS - 1



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SEMIANNUAL EFFLUENT REPORT

July - December 1984

SECTION A INTRODUCTION

This Semiannual Report summarizes the gaseous and liquid radioactive effluent releases and radwaste shipments made from the San Onofre Nuclear Generating Station Unit 1. 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. Percent of applicable limits;
4. Estimated total percent error;
5. Lower limit of detection concentrations;
6. Previous Semiannual Report addendum;
7. Radwaste shipments;
8. Meteorological data;
9. 10 CFR 50 Appendix I considerations;
10. 40 CFR 190 considerations.

SECTION B GASEOUS EFFLUENTS

Table 1A, "Gaseous Effluents-Summation of All Releases," provides a detailed listing of gaseous effluents released quarterly in four categories: fission and activation gases, iodine-131, particulates with half-lives greater than eight days, and tritium. Listed for each of the four categories are: the total curies released, the average release rate, the percent of Technical Specification Limit (TSL), and the estimated total error. In addition, the fission and activation gases category lists the maximum gross radioactivity release rate during any one-hour period, and the particulate category lists the gross alpha radioactivity released for each quarter.

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 F of this report. The percent of TSL is reported for the "maximum hourly release rate" condition rather than the "average over a year" condition, since the hourly condition of the TSL was the limiting condition by several orders of magnitude.

The methodology used in Table 1A to calculate the estimated total error is presented in Section G of this report.

Table 1B, "Gaseous Effluents-Elevated Release," has not been included in this report since San Onofre Nuclear Generating Station Unit 1 does not conduct elevated releases.

Table 1C, "Gaseous Effluents-Ground-Level Releases," provides the systematic listing by radionuclide for the quantity of radioactivity released in three categories: fission gases, iodines, and particulates. The total radioactivity for each radionuclide is listed for each quarterly period by both "continuous" and "batch" modes of release.

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

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

Table 1A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	Third Quarter	Fourth Quarter	Estimated Total Error, %	
A. Fission and activation gases					
1.	Total release	Ci	6.04E-4	8.62E+1	2.20E+1
2.	Average release rate for period	uCi/sec	7.60E-5	1.08E+1	
3.	Percent of technical specification limit	%	1.46E-4	2.74E-1	
4.	Maximum gross radio- activity release rate during any one-hour period	Ci/sec	7.83E-7	1.34E-3	
=====					
B. Iodines					
1.	Total iodine-131	Ci	3.12E-6*	1.17E-6	1.90E+1
2.	Average release rate for period	uCi/sec	3.93E-7	1.47E-7	
3.	Percent of technical specification limit	%	1.20E-6	7.12E-6	
=====					
C. Particulates					
1.	Particulates with half-lives > 8 days	Ci	<LLD	9.69E-7	1.60E+1
2.	Average release rate for period	uCi/sec	0.00	1.22E-7	
3.	Percent of technical specification limit	%	0.00	1.79E-7	
4.	Gross alpha radioactivity	Ci	4.54E-8	**	5.00E+1
=====					
D. Tritium					
1.	Total release	Ci	LLD	LLD	2.50E+1
2.	Average release rate for period	uCi/sec	0.00	0.00	
3.	Percent of technical specification limit	%	0.00	0.00	
=====					

LLD - Lower Limit of Detection; see Table 1D

* - All radioiodine released from Unit 1 during the third quarter of this report is due to processing of Unit 2/3 radwaste at Unit 1.

** - Fourth quarter analyses not available at report time; analyses will be included in the following Semiannual Report.

Table 1C

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
GASEOUS EFFLUENTS - GROUND-LEVEL RELEASES

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Third Quarter	Fourth Quarter	Third Quarter	Fourth Quarter
1. Fission Gases					
krypton-85	Ci	<LLD	<LLD	8.33E-5	1.12E-1
krypton-85m	Ci	<LLD	7.70E-2	<LLD	5.95E-2
krypton-87	Ci	<LLD	2.21E-3	<LLD	1.01E-4
krypton-88	Ci	<LLD	<LLD	<LLD	2.65E-4
xenon-133	Ci	<LLD	5.79E+1	5.21E-4	1.89E+1
xenon-133m	Ci	<LLD	7.14E-3	<LLD	3.14E-1
xenon-135	Ci	<LLD	7.59E+0	<LLD	1.18E+0
xenon-135m	Ci	<LLD	4.45E-5	<LLD	<LLD
xenon-138	Ci	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	<LLD	6.56E+1	6.04E-4	2.06E+1
=====					
2. Iodines					
iodine-131	Ci	3.12E-6*	1.17E-6	<LLD	<LLD
iodine-133	Ci	<LLD	<LLD	<LLD	<LLD
iodine-135	Ci	<LLD	<LLD	<LLD	<LLD
Total for period	Ci	3.12E-6	1.17E-6	<LLD	<LLD
=====					
3. Particulates					
strontium-89	Ci	<LLD	**	***	***
strontium-90	Ci	<LLD	**	***	***
cesium-134	Ci	<LLD	<LLD	<LLD	<LLD
cesium-137	Ci	<LLD	9.69E-7	<LLD	<LLD
barium-lanthanum-140	Ci	<LLD	<LLD	<LLD	<LLD
=====					

LLD - Lower Limit of Detection; see Table 1D.

* - See footnote Table 1A.

** - Fourth quarter analysis not available at report time; analysis will be included in the following Semiannual Report.

*** - All gaseous releases made from SONGS-1 are vented through the Plant Stack; therefore, Sr-89 & Sr-90 are analyzed by "continuous" mode only.

TABLE 1D

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
 GASEOUS EFFLUENTS - LOWER LIMIT OF DETECTION

RADIONUCLIDES	BATCH MODE LLD (uCi/cc)	CONTINUOUS MODE LLD (uCi/cc)
barium-140	NA	<2.65E-13
cesium-134	NA	<1.18E-13
cesium-137	NA	<1.61E-13
iodine-131	NA	*
iodine-133	NA	<9.96E-14
iodine-135	NA	<5.94E-13
krypton-85	*	<7.82E-6
krypton-85m	<9.59E-6	<2.89E-8
krypton-87	<2.17E-5	<7.12E-8
krypton-88	<5.42E-4	<1.08E-7
lanthanum-140	NA	<1.33E-13
strontium-89	NA	<1.96E-16
strontium-90	NA	<1.96E-16
tritium	NA	<7.30E-6
xenon-133	*	<7.22E-8
xenon-133m	<6.79E-6	<1.51E-7
xenon-135	<1.30E-6	<2.43E-8
xenon-135m	<1.33E-3	<2.15E-7
xenon-138	<2.05E-3	<6.44E-7

* - Nuclides were detected Table 1C.

NA - All gaseous releases made from SONGS-1 are vented through Plant Stack, therefore, iodines, particulates, and tritium are analyzed by "continuous" mode only.

SECTION C. LIQUID EFFLUENTS

Table 2A, "Liquid Effluents - Summation of All Releases," provides a detailed listing of liquid effluents released quarterly in three categories: fission and activation products, tritium, and dissolved and entrained gases. Listed for each of the three categories are: the total curies released, the average diluted concentration, the percent of applicable limit, and the estimated total error. In addition, Table 2A lists the gross alpha radioactivity released, the volume of waste released (prior to dilution), the volume of dilution water and the maximum concentration of gross radioactivity ($\beta\gamma$) released to the unrestricted area.

The percent of applicable limit was calculated according to SCE's proposed Technical Specification change because of the ambiguity in the current Technical Specifications. The methodology used in calculating the percent of applicable limit is presented in section F of this report.

The methodology used to calculate the estimated total error in Table 2A is presented in Section G of this report.

Table 2B, "Liquid Effluents," provides the systematic listing by radionuclide for the quantity of radioactivity released in each category. The total radioactivity of each radionuclide released is listed for each quarterly period by both "continuous" and "batch" modes of release.

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

TABLE 2A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	Unit	Third Quarter	Fourth Quarter	Estimated Total Error %	
A. Fission & activation products					
1.	Total release (not including tritium, gases, alpha)	Ci	1.82E-1	1.48E+0	1.90E+1
2.	Average diluted concentration during period	uCi/ml	2.76E-8	1.07E-8	
3.	Percent of applicable limit	%	4.05E-1	1.38E+0	
=====					
B. Tritium					
1.	Total release	Ci	2.53E+0	1.12E+1	1.90E+1
2.	Average diluted concentration during period	uCi/ml	3.84E-7	8.12E-8	
3.	Percent of applicable limit	%	6.06E-2	1.17E-1	
=====					
C. Dissolved and entrained gases					
1.	Total release	Ci	<LLD	2.20E-1	1.90E+1
2.	Average diluted concentration during period	uCi/ml	0.00	1.59E-9	
3.	Percent of applicable limit	%	0.00	7.67E-2	
=====					
D.	Gross alpha radioactivity	Ci	5.68E-6	*	5.00E+1
=====					
E.	Volume of waste released (prior to dilution)	liters	9.99E+5	8.25E+7	5.00E+0
=====					
F.	Volume of dilution water used during period	liters	6.59E+9	1.38E+11	5.00E+0
=====					
G.	Maximum concentration of gross radioactivity (β γ) released to the unrestricted area (averaged over the period of release)	uCi/ml	1.90E-6	3.69E-6	1.90E+1
=====					

LLD - Lower Limit of Detection; See Table 2C

* - Fourth quarter analyses not available at report time; analyses will be included in the following Semiannual Report.

TABLE 2B

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
LIQUID EFFLUENTS

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Third Quarter	Fourth Quarter	Third Quarter	Fourth Quarter
strontium-89	Ci	<LLD	**	4.82E-4	**
strontium-90	Ci	3.42E-4	**	1.19E-3	**
cesium-134	Ci	<LLD	1.53E-2	1.02E-2	2.59E-2
cesium-137	Ci	<LLD	8.27E-2	5.86E-2	1.40E-1
iodine-131	Ci	<LLD	1.00E-3*	<LLD	1.64E-3
iodine-133	Ci	<LLD	<LLD	<LLD	9.53E-4
cobalt-58	Ci	<LLD	4.13E-5*	2.18E-6	<LLD
cobalt-60	Ci	<LLD	6.59E-2	1.10E-1	1.14E+0
iron-59	Ci	<LLD	<LLD	<LLD	<LLD
zinc-65	Ci	<LLD	<LLD	<LLD	<LLD
manganese-54	Ci	<LLD	<LLD	1.20E-3	3.04E-3
chromium-51	Ci	<LLD	<LLD	<LLD	<LLD
zirconium-niobium-95	Ci	<LLD	<LLD	<LLD	<LLD
molybdenum-99	Ci	<LLD	<LLD	<LLD	<LLD
technetium-99m	Ci	<LLD	<LLD	<LLD	<LLD
barium-lanthanum-140	Ci	<LLD	<LLD	<LLD	<LLD
cerium-141	Ci	<LLD	<LLD	<LLD	<LLD
Total for Period	Ci	3.42E-4	1.65E-1	1.82E-1	1.31E+0
=====					
xenon-133	Ci	<LLD	<LLD	<LLD	2.18E-1
xenon-135	Ci	<LLD	<LLD	<LLD	1.86E-3

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

* - The evaporation pond is released through the Unit 1 outfall. Activity released from the evaporation pond originates from Units 2/3.

** - Fourth quarter analyses not available at report time; analyses will be included in the following Semiannual Report.

TABLE 2C
 EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
 LIQUID EFFLUENTS - LOWER LIMIT OF DETECTION

RADIONUCLIDES	BATCH MODE LLD (uCi/cc)	CONTINUOUS MODE LLD (uCi/cc)
barium-lanthanum-140	<1.06E-5	<1.30E-7
cerium-141	<2.66E-6	<7.77E-8
cesium-134	*	<6.49E-8
cesium-137	*	<2.07E-7
chromium-51	<2.04E-5	<4.44E-7
cobalt-58	<2.94E-8	<3.58E-8
cobalt-60	*	<7.25E-8
iodine-131	<2.99E-6	<5.56E-8
iodine-133	<3.40E-6	<1.43E-7
iron-59	<3.84E-4	<7.16E-8
manganese-54	*	<3.65E-8
molybdenum-99	<3.10E-5	<2.57E-8
strontium-89	*	<2.00E-8
technetium-99m	<2.47E-4	<3.86E-8
xenon-133	<6.20E-6	<1.72E-7
xenon-135	<6.11E-5	<4.50E-8
zinc-65	<6.99E-6	<8.01E-8
zirconium-niobium-95	<4.38E-6	<6.07E-8

* - Nuclides were detected in Table 2B.

SECTION D

PREVIOUS SEMIANNUAL REPORT ADDENDUM

The January - June 1984 Semiannual Report values for composite gross alpha, Sr-89, Sr-90, (Table 1A and Table 1C Gaseous Effluents, Table 2A and Table 2B, Liquid Effluents) were incomplete due to data unavailable prior to report time. The values not reported were for the second quarter of 1984. The values are as follows:

GASEOUS EFFLUENTS

Second Quarter			
Nuclides Released	Unit	Continuous Mode	Batch Mode
strontium 89	Ci	<LLD	*
strontium 90	Ci	<LLD	*
gross alpha	Ci	4.23E-8**	

Sr-89 LLD = <1.63E-16 uCi/cc

Sr-90 LLD = <3.66E-16 uCi/cc

LIQUID EFFLUENTS

Second Quarter			
Nuclides Released	Unit	Continuous Mode	Batch Mode
strontium 89	Ci	<LLD	2.05E-4
strontium 90	Ci	<LLD	1.85E-3
gross alpha	Ci	2.81E-4**	

Sr-89 LLD = <3.00E-8 uCi/ml

Sr-90 LLD = <1.50E-8 uCi/ml

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

** - Gross alpha is reported as total activity released per quarter. See Tables 1A & 2A.

SECTION E RADWASTE SHIPMENTS

TABLE 3

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
SOLID WASTE AND IRRADIATED FUEL SHIPMENT

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1.	Type of waste	Unit	6-month Period	Est. Total Error, %
a.	Spent resins, filter sludges, evaporator bottoms, etc.	m ³ Ci	0.00 0.00	
b.	Dry compressible waste, contaminated equip. etc.	m ³ Ci	1.47E+2 1.50E+1	3.00E+1
c.	Irradiated components, control rods, etc.	m ³ Ci	0.00 0.00	
d.	Absorbed liquids, sand, building rubble, biological waste	m ³ Ci	9.73E+1 2.39E-1	3.00E+1

2. Estimate of major nuclide composition (by type of waste)

a.	Not Applicable	%	0.00
b.	carbon-14	%	1.09E-2
	cesium-134	%	4.76E+0
	cesium-137	%	3.73E+1
	cobalt-60	%	3.97E+1
	hydrogen-3	%	1.07E-1
	iodine-129	%	5.48E-2
	manganese-54	%	4.37E-1
	nickel-63	%	1.46E+1
	plutonium-241	%	2.16E+0
	ruthenium-106	%	4.46E-1
	silver-110m	%	4.25E-1
	technetium-99	%	1.81E-2
c.	Not Applicable	%	0.00

SECTION E RADWASTE SHIPMENTS (Continued)

TABLE 3

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
SOLID WASTE AND IRRADIATED FUEL SHIPMENT

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not Irradiated fuel)
(Continued)

2. Estimate of major nuclide composition (by type of waste)

d.

carbon-14	%	9.07E+0
cesium-134	%	1.68E+0
cesium-137	%	1.05E+1
cobalt-60	%	5.23E+1
hydrogen-3	%	1.77E+1
iodine-129	%	3.08E-1
manganese-54	%	4.82E-2
nickel-63	%	7.17E+0
plutonium-241	%	8.29E-1
strontium-90	%	9.52E-2
technetium-99	%	2.64E-1

3. Solid Waste Disposition

<u>Number of Shipments*</u>	<u>Mode of Transportation</u>	<u>Destination</u>
2	Hanck Transportation	Richland, WA
26	Chem-Nuclear Systems, Inc.	Richland, WA

B. IRRADIATED FUEL SHIPMENTS (Disposition)

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
Not Applicable	Not Applicable	Not Applicable

* - The number of shipments listed reflects shipments made from all three units at SONGS. All waste generated is packaged and delivered to a central staging area for shipment. There are no independent shipments made of dry active waste for Unit 1 or Units 2/3, and are not reported separately. Therefore, the same data is reported in the Unit 2/3 Semiannual Report.

SECTION F. TECHNICAL SPECIFICATION LIMITS

The existing Technical Specifications 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 have led to agreement that the intent of these Technical Specifications is to require compliance with 10CFR 20, Appendix B. This intent limits concentrations in unrestricted areas such that the following condition is met on both gaseous and liquid effluents:

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

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, 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 uCi/ml.

MPC_i = Maximum permissible concentration of radionuclide i, as defined in 10 CFR 20, Appendix B, Table II, Column 2; in uCi/ml.

SECTION F. TECHNICAL SPECIFICATION LIMITS (Continued)

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

$$(1E+6/V_T) \sum_i (A_i/MPC_i) \times 100\%$$

- 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 = $V_{DW} + V_{LW}$
 - V_{DW} = Total volume of dilution water used to dilute liquid waste during the year; in ml.
 - V_{LW} = Total volume of liquid waste released prior to dilution; 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 so desires.

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

$$\sum_i C_i/MPC_i \leq 10$$

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

SECTION F. TECHNICAL SPECIFICATION LIMITS (Continued)

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:

$$(1E+6/10V_{T,h}) \sum_i (A_{i,h}/MPC_i) \times 100\%$$

- 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:

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

- Where: C_i = Concentration of radionuclide i at the unrestricted area.
- MPC_i = Maximum permissible concentration of radionuclide i as defined in 10 CFR 20, Appendix B, Table II, Column 1, in uCi/cc.

SECTION F. TECHNICAL SPECIFICATION LIMITS (Continued)

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 sec/m^3
 Q_i = Release rate of radionuclide 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 sec/m^3
 h = Subscript used to indicate the hourly period when maximum releases occurred.
 $Q_{i,h}$ = Release rate of radionuclide i averaged over the hour during which the highest releases occurred; Ci/sec.
 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.

SECTION G. ESTIMATION OF ERROR

Estimation of the error in reported values of gaseous and liquid effluent 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 releases are: (1) fan flow rate, (2) sampling, (3) counting, (4) calibration and (5) differential pressure drop.

Sources of error for liquid effluents - batch releases are: (1) tank volumes, (2) sampling, (3) counting and (4) calibration. Sources of error for liquid effluents - continuous releases are: (1) dilution water flow rate, (2) sampling, (3) counting and (4) calibration.

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 H. METEOROLOGY

The meteorology of the SONGS-1 site for the quarterly periods July - September and October - December, 1984, 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 Table 4A 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 Report, but has not been included in this report because of the bulk of recorded data.

Table 4A lists the joint frequency distributions for the third and fourth quarters of 1984. Each page of Table 4A represents the data for the Stability Classes: A, B, C, D, E, F, G; the last page of each table is the JFD with the combined stability classes. Each page is also divided into two parts; the upper part lists the number of hourly periods when each meteorology condition occurred and the lower part lists the frequency of each classification by percent. The wind speeds have been measured at the 10 meter level and stability classes are defined by the temperature differential between the 10 and 40 meter levels.

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 3RD QUARTER, 1984
 DAMES AND MOORE JOB NO - 00377-084-09
 DATA PERIOD- 07/01/84 TO 09/30/84
 STABILITY CLASS ## (10-40 METERS)
 WINDS AT 10 METER LEVEL

23-JAN-85

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
NE	0	0	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	0	0.00
E	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	5.70
ESE	0	0	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	0	0.00
SSE	0	0	0	1	1	1	1	0	0	2	1	3	10	8	70	7.63
S	0	0	1	3	12	11	6	8	8	5	9	9	72	75	6	33
SSW	0	0	0	3	17	16	13	12	4	4	2	2	119	5	66	6.32
SW	0	0	4	20	19	21	32	15	7	1	0	0	172	6	62	6.62
WSW	0	0	3	7	22	41	48	30	17	3	1	0	276	109	7	76
W	0	0	4	10	32	48	68	73	30	9	1	1	109	13	10	23
WNW	0	0	1	3	5	12	19	26	22	10	4	7	0	0	0	0.00
NW	0	0	0	1	0	0	2	1	1	0	0	0	0	0	0	0.00
NNW	0	0	0	0	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	0	0	0	0.00
VARIABLE CALM													0	0	0	0.00
TOTAL	0	0	13	50	108	151	189	165	89	34	18	30	847	0	0	6.71

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	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	0.00	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	0.00	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	0.00	0.00
E	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	5.70
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	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	0.00	0.00
SSE	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.00	0.09	0.05	0.14	0.45	0.45	8	70
S	0.00	0.00	0.03	0.14	0.54	0.50	0.27	0.36	0.36	0.23	0.41	0.41	3.26	3.40	6	33
SSW	0.00	0.00	0.00	0.23	0.77	0.72	0.59	0.54	0.18	0.18	0.09	0.09	5.39	5	66	6.32
SW	0.00	0.00	0.18	0.91	0.86	0.95	1.45	0.68	0.32	0.05	0.00	0.00	7.79	6	62	6.62
WSW	0.00	0.00	0.14	0.32	1.00	1.86	2.17	1.36	0.77	0.14	0.05	0.00	12.50	109	7	76
W	0.00	0.00	0.18	0.45	1.45	2.17	3.08	3.31	1.36	0.41	0.05	0.05	4.94	13	10	23
WNW	0.00	0.00	0.05	0.14	0.23	0.54	0.86	1.18	1.00	0.45	0.18	0.32	0.59	0	0	0.00
NW	0.00	0.00	0.00	0.05	0.00	0.00	0.09	0.05	0.05	0.00	0.00	0.36	0.00	0	0	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	0	0	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	0	0.00
VARIABLE CALM													0.00	0	0	0.00
TOTAL	0.00	0.00	0.59	2.26	4.89	6.84	8.56	7.47	4.03	1.54	0.82	1.36	38.36	0	0	6.71

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2208

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 3RD QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 07/01/84 TO 09/30/84
 STABILITY CLASS #B# (10-40 METERS)
 WINDS AT 10 METER LEVEL

23-JAN-85

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	0	0	0	0	0	0	0	0	0	0	0	0	0.00
NE	0	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	0.00
E	0	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	0.00
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
SSE	0	0	0	0	0	0	1	0	0	0	0	0	0	1	6.20
S	0	0	0	0	2	0	0	1	1	2	0	1	7	8.04	
SSW	0	0	0	1	0	0	0	1	0	0	0	0	2	5.55	
SW	0	0	1	1	0	0	0	0	0	0	0	0	2	3.00	
WSW	0	0	1	2	0	1	0	0	0	0	0	0	4	3.83	
W	0	0	0	3	1	2	0	0	0	0	0	0	6	4.35	
WNW	0	0	0	1	2	0	0	2	1	0	0	0	6	6.07	
NW	0	0	0	0	0	0	0	0	0	0	0	2	2	13.20	
NNW	0	0	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	0	0.00	
VARIABLE															0.00
CALM															0.00
TOTAL	0	0	2	8	5	3	1	4	2	2	0	3	30	6.13	

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	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	0.00	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	0.00	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	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	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	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	0.00
SSE	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	0.03	6.20
S	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.05	0.05	0.09	0.00	0.05	0.32	8.04	
SSW	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.09	5.55	
SW	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	3.00	
WSW	0.00	0.00	0.05	0.09	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.18	3.83	
W	0.00	0.00	0.00	0.14	0.05	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.27	4.35	
WNW	0.00	0.00	0.00	0.05	0.09	0.00	0.00	0.09	0.05	0.00	0.00	0.00	0.27	6.07	
NW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	13.20	
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	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	0.00
VARIABLE															0.00
CALM															0.00
TOTAL	0.00	0.00	0.09	0.36	0.23	0.14	0.05	0.18	0.09	0.09	0.00	0.14	1.36	6.13	

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2208

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 3RD QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 07/01/84 TO 09/30/84
 STABILITY CLASS #C# (10-40 METERS)
 WINDS AT 10 METER LEVEL

23-JAN-85

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.	1.	0.	1.	0.	0.	0.	1.	0.	0.	0.	3.	5.50
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.	1.	0.	0.	0.	0.	1.	2.	9.00
SSE	0.	0.	0.	0.	0.	0.	2.	2.	0.	2.	0.	0.	6.	7.92
S	0.	0.	0.	3.	4.	1.	1.	0.	1.	1.	1.	2.	14.	6.74
SBW	0.	0.	2.	2.	1.	1.	3.	0.	0.	0.	0.	0.	9.	4.51
SW	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.	2.	4.60
WSW	0.	0.	1.	2.	3.	1.	1.	0.	0.	0.	0.	0.	8.	4.34
W	0.	0.	1.	9.	0.	0.	0.	0.	0.	0.	0.	0.	10.	3.54
WNW	0.	0.	3.	6.	6.	2.	1.	0.	0.	0.	0.	0.	18.	4.22
NW	0.	0.	2.	0.	0.	1.	2.	0.	0.	0.	0.	3.	8.	7.85
NNW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	11.00
N	0.	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.	2.	4.20
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	0.	11.	22.	17.	6.	12.	2.	2.	3.	2.	6.	83.	5.48

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	11			>11
NNE	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.14	5.50
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	0.05	0.00	0.00	0.00	0.00	0.05	0.09	9.00
SSE	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.00	0.09	0.00	0.00	0.27	7.92
S	0.00	0.00	0.00	0.14	0.18	0.05	0.05	0.00	0.05	0.05	0.05	0.09	0.63	6.74
SBW	0.00	0.00	0.09	0.09	0.05	0.05	0.14	0.00	0.00	0.00	0.00	0.00	0.41	4.51
SW	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	4.60
WSW	0.00	0.00	0.05	0.09	0.14	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.36	4.34
W	0.00	0.00	0.05	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	3.54
WNW	0.00	0.00	0.14	0.27	0.27	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.82	4.22
NW	0.00	0.00	0.09	0.00	0.00	0.05	0.09	0.00	0.00	0.00	0.00	0.14	0.36	7.85
NNW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	11.00
N	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.09	4.20
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.00	0.50	1.00	0.77	0.27	0.54	0.09	0.09	0.14	0.09	0.27	3.76	5.48

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2208

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 3RD QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 07/01/84 TO 09/30/84
 STABILITY CLASS #D# (10-40 METERS)
 WINDS AT 10 METER LEVEL

23-JAN-85

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	4	5	16	6	3	1	2	0	0	1	0	38	3.97
NE	0	2	0	2	1	0	0	0	0	0	0	0	5	2.98
ENE	0	1	0	1	0	0	0	0	0	0	0	0	2	2.75
E	0	0	1	1	2	5	0	0	0	0	0	0	9	4.92
EE	0	0	1	3	2	6	4	4	0	0	0	0	20	5.64
SE	0	0	4	9	15	20	18	10	12	5	2	4	99	6.45
SSE	0	0	8	15	23	17	16	14	16	10	6	8	133	6.64
S	0	3	15	6	13	7	6	8	4	4	0	3	69	5.51
SSW	0	0	16	7	3	4	2	1	1	0	0	0	34	3.94
SW	1	4	8	4	1	2	0	0	0	0	0	0	20	2.90
WSW	0	5	13	13	2	1	0	0	1	1	0	0	36	3.36
W	0	9	12	10	3	3	2	0	0	0	0	0	39	3.21
WNW	0	2	18	21	10	10	2	3	0	0	0	0	66	3.93
NW	0	2	12	21	9	4	5	4	2	3	0	2	64	4.77
NNW	0	5	13	18	8	1	3	1	2	1	0	0	52	3.87
N	0	8	9	13	8	2	1	0	0	0	0	0	41	3.35
VARIABLE CALM													0	0.00
TOTAL	1	45	135	160	106	85	60	47	38	24	9	17	727	4.91

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	11			>11
NNE	0.00	0.18	0.23	0.72	0.27	0.14	0.05	0.09	0.00	0.00	0.05	0.00	1.72	3.97
NE	0.00	0.09	0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	2.98
ENE	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	2.75
E	0.00	0.00	0.05	0.05	0.09	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.41	4.92
EE	0.00	0.00	0.05	0.14	0.09	0.27	0.18	0.18	0.00	0.00	0.00	0.00	0.91	5.64
SE	0.00	0.00	0.18	0.41	0.68	0.91	0.82	0.45	0.54	0.23	0.09	0.18	4.48	6.45
SSE	0.00	0.00	0.36	0.68	1.04	0.77	0.72	0.63	0.72	0.45	0.27	0.36	6.02	6.64
S	0.00	0.14	0.68	0.27	0.59	0.32	0.27	0.36	0.18	0.18	0.00	0.14	3.13	5.51
SSW	0.00	0.00	0.72	0.32	0.14	0.18	0.09	0.05	0.05	0.00	0.00	0.00	1.54	3.94
SW	0.05	0.18	0.36	0.18	0.05	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.91	2.90
WSW	0.00	0.23	0.59	0.59	0.09	0.05	0.00	0.00	0.05	0.05	0.00	0.00	1.63	3.36
W	0.00	0.41	0.54	0.45	0.14	0.14	0.09	0.00	0.00	0.00	0.00	0.00	1.77	3.21
WNW	0.00	0.09	0.82	0.95	0.45	0.45	0.09	0.14	0.00	0.00	0.00	0.00	2.99	3.93
NW	0.00	0.09	0.54	0.95	0.41	0.18	0.23	0.18	0.09	0.14	0.00	0.09	2.90	4.77
NNW	0.00	0.23	0.59	0.82	0.36	0.05	0.14	0.05	0.09	0.05	0.00	0.00	2.36	3.87
N	0.00	0.36	0.41	0.59	0.36	0.09	0.05	0.00	0.00	0.00	0.00	0.00	1.86	3.35
VARIABLE CALM													0.00	0.00
TOTAL	0.05	2.04	6.11	7.25	4.80	3.85	2.72	2.13	1.72	1.09	0.41	0.77	32.93	4.91

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2208

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 3RD QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 07/01/84 TO 09/30/84
 STABILITY CLASS #E# (10-40 METERS)
 WINDS AT 10 METER LEVEL

23-JAN-85

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.	6.	21.	31.	25.	12.	2.	1.	0.	0.	0.	0.	98.	3.91
NE	0.	3.	7.	2.	0.	0.	0.	0.	0.	0.	0.	0.	12.	2.47
ENE	0.	0.	3.	1.	1.	0.	0.	0.	0.	0.	0.	0.	5.	3.08
E	0.	2.	1.	3.	0.	0.	0.	0.	0.	0.	0.	0.	6.	2.92
ESE	0.	1.	3.	3.	2.	1.	0.	1.	0.	0.	0.	0.	11.	3.95
SE	0.	3.	1.	9.	5.	13.	5.	9.	7.	3.	1.	0.	56.	5.97
SSE	0.	3.	13.	6.	13.	1.	2.	0.	1.	1.	1.	3.	44.	4.98
S	1.	2.	11.	4.	1.	0.	0.	0.	0.	0.	0.	0.	19.	2.71
SSW	0.	1.	3.	1.	0.	0.	0.	0.	0.	0.	0.	0.	5.	2.68
SW	0.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	5.	2.92
WSW	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.90
W	0.	2.	1.	2.	1.	0.	0.	0.	0.	0.	0.	0.	6.	2.53
WNNW	0.	1.	4.	3.	2.	3.	2.	1.	0.	0.	0.	0.	16.	4.31
NW	0.	0.	0.	3.	3.	1.	0.	0.	0.	0.	0.	0.	7.	4.37
NNW	0.	1.	1.	0.	0.	3.	1.	1.	0.	0.	0.	0.	7.	4.90
N	0.	5.	15.	12.	6.	2.	1.	0.	1.	0.	0.	0.	42.	3.38
VARIABLE CALM													1.	0.90
TOTAL	1.	31.	98.	92.	60.	36.	13.	13.	9.	4.	2.	3.	343.	4.10

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	11			>11
NNE	0.00	0.27	0.95	1.40	1.13	0.54	0.09	0.05	0.00	0.00	0.00	0.00	4.44	3.91
NE	0.00	0.14	0.32	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	2.47
ENE	0.00	0.00	0.14	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	3.08
E	0.00	0.09	0.05	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	2.92
ESE	0.00	0.05	0.14	0.14	0.09	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.50	3.95
SE	0.00	0.14	0.05	0.41	0.23	0.59	0.23	0.41	0.32	0.14	0.05	0.00	2.54	5.97
SSE	0.00	0.14	0.59	0.27	0.59	0.05	0.09	0.00	0.05	0.05	0.05	0.14	1.99	4.98
S	0.05	0.09	0.50	0.18	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	2.71
SSW	0.00	0.05	0.14	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	2.68
SW	0.00	0.05	0.09	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	2.92
WSW	0.00	0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	2.90
W	0.00	0.09	0.05	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	2.53
WNNW	0.00	0.05	0.18	0.14	0.09	0.14	0.09	0.05	0.00	0.00	0.00	0.00	0.72	4.31
NW	0.00	0.00	0.00	0.14	0.14	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.32	4.37
NNW	0.00	0.05	0.05	0.00	0.00	0.14	0.05	0.05	0.00	0.00	0.00	0.00	0.32	4.90
N	0.00	0.23	0.68	0.54	0.27	0.09	0.05	0.00	0.05	0.00	0.00	0.00	1.90	3.38
VARIABLE CALM													0.05	0.90
TOTAL	0.05	1.40	3.99	3.71	2.72	1.63	0.59	0.59	0.41	0.18	0.09	0.14	15.53	4.10

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2208

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN JONFRE NUCLEAR GENERATING STATION
 3RD QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 07/01/84 TO 09/30/84
 STABILITY CLASS #F# (10-40 METERS)
 WINDS AT 10 METER LEVEL

23-JAN-85

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.	6.	11.	21.	19.	11.	6.	1.	1.	0.	0.	76.	5.09
NE	0.	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.	0.	2.	4.40
ENE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.00
E	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.20
ESE	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.60
SE	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	2.	6.50
SSE	0.	1.	0.	4.	3.	0.	0.	0.	0.	0.	0.	0.	8.	3.64
S	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.	4.80
SSW	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.20
SW	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.70
WSW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.00
W	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	1.	5.10
WNW	0.	0.	0.	0.	0.	1.	1.	1.	0.	0.	0.	0.	3.	6.40
NW	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.	0.	2.	6.65
NNW	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	6.50
N	0.	0.	0.	2.	5.	4.	5.	4.	0.	0.	0.	0.	20.	5.74
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	3.	8.	20.	30.	26.	18.	11.	1.	2.	1.	0.	120.	5.09

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	11			>11
NNE	0.00	0.00	0.27	0.50	0.95	0.86	0.50	0.27	0.05	0.05	0.00	0.00	3.44	5.09
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	4.40
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	2.20
ESE	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	1.60
SE	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.09	6.50
SSE	0.00	0.05	0.00	0.18	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	3.64
S	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	4.80
SSW	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	3.20
SW	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	1.70
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05	5.10
WNW	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.14	6.40
NW	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.09	6.65
NNW	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	6.50
N	0.00	0.00	0.00	0.09	0.23	0.18	0.23	0.18	0.00	0.00	0.00	0.00	0.91	5.74
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.14	0.36	0.91	1.36	1.18	0.82	0.50	0.05	0.09	0.05	0.00	5.43	5.09

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2208

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 3RD QUARTER, 1984
 DAMES AND MOORE JOB NO - 00377-084-09
 DATA PERIOD- 07/31/84 TO 09/30/84
 STABILITY CLASS #G# (10-40 METERS)
 WINDS AT 10 METER LEVEL

23-JAN-85

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	1	2	1	0	5	10	8	8	2	1	0	38	6.86
NE	0	0	0	0	1	0	0	0	0	0	0	0	1	5.00
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	2	1	0	0	0	0	0	0	3	4.83
SSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
S	0	1	0	0	0	0	0	0	0	0	0	0	1	1.50
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	1	0	0	0	0	1	7.60
WNW	0	0	0	0	2	0	2	0	1	0	0	0	5	6.08
NW	0	0	0	1	0	1	0	0	0	0	0	0	2	4.45
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
N	0	0	0	1	1	1	1	1	2	0	0	0	7	6.53
VARIABLE													0	0.00
CALM													0	0.00
TOTAL	0	2	2	3	6	8	13	10	11	2	1	0	58	6.45

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	11	>11		
NNE	0.00	0.05	0.09	0.05	0.00	0.23	0.45	0.36	0.36	0.09	0.05	0.00	1.72	6.86
NE	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	5.00
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
EBE	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	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.14	4.83
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	1.50
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	0.05	0.00	0.00	0.00	0.00	0.05	7.60
WNW	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.00	0.05	0.00	0.00	0.00	0.23	6.08
NW	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	4.45
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	0.00
N	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.09	0.00	0.00	0.00	0.32	6.53
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.09	0.09	0.14	0.27	0.36	0.59	0.45	0.50	0.09	0.05	0.00	2.63	6.45

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2208

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 3RD QUARTER, 1984
 DAMES AND MOORE JOB NO - 00377-084-09
 DATA PERIOD- 07/01/84 TO 09/30/84
 STABILITY CLASS ALL (10-40 METERS)
 WINDS AT 10 METER LEVEL

23-JAN-85

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.	11	35	59	53	39	24	17	10	3	2	0	253	4.70
NE	0.	5	7	5	2	1	0	0	0	0	0	0	20	2.92
ENE	0.	1	3	2	1	0	0	0	0	0	0	0	7	2.99
E	0.	2	3	4	2	6	0	0	0	0	0	0	17	4.10
ESE	0.	2	4	6	4	7	4	5	0	0	0	0	32	4.93
SE	0.	3	6	18	22	34	24	19	19	8	4	5	162	6.28
SSE	0.	4	21	26	40	19	22	16	17	15	8	14	202	6.28
S	1.	6	27	16	33	19	13	17	14	12	10	15	183	6.22
SGW	0.	1	21	17	21	21	18	14	5	4	2	2	126	5.37
SW	1.	6	15	26	23	23	32	15	7	1	0	0	149	5.12
WSW	0.	5	20	25	27	44	49	30	18	4	1	0	223	5.68
W	0.	11	18	34	37	54	70	74	30	9	1	1	339	6.03
WNW	0.	3	26	34	27	28	27	33	24	10	4	7	223	5.99
NW	0.	2	14	27	12	7	9	5	3	4	0	15	98	5.92
NNW	0.	6	14	18	8	4	5	2	2	1	1	0	61	4.14
N	0.	13	25	28	20	9	9	5	3	0	0	0	112	4.00
VARIABLE													1	0.90
CALM													0	0.00
TOTAL	2.	81.	259.	345.	332.	315.	306.	252.	152.	71.	33.	59.	2208.	5.56

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	11			>11
NNE	0.00	0.50	1.59	2.67	2.40	1.77	1.09	0.77	0.45	0.14	0.09	0.00	11.46	4.70
NE	0.00	0.23	0.32	0.23	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.91	2.92
ENE	0.00	0.05	0.14	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	2.99
E	0.00	0.09	0.14	0.18	0.09	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.77	4.10
ESE	0.00	0.09	0.18	0.27	0.18	0.32	0.18	0.23	0.00	0.00	0.00	0.00	1.45	4.93
SE	0.00	0.14	0.27	0.82	1.00	1.54	1.09	0.86	0.86	0.36	0.18	0.23	7.34	6.28
SSE	0.00	0.18	0.95	1.18	1.81	0.86	1.00	0.72	0.77	0.68	0.36	0.63	9.15	6.28
S	0.05	0.27	1.22	0.72	1.49	0.86	0.59	0.77	0.63	0.54	0.45	0.68	8.29	6.22
SGW	0.00	0.05	0.95	0.77	0.95	0.95	0.82	0.63	0.23	0.18	0.09	0.09	5.71	5.37
SW	0.05	0.27	0.68	1.18	1.04	1.04	1.45	0.68	0.32	0.05	0.00	0.00	6.75	5.12
WSW	0.00	0.23	0.91	1.13	1.22	1.99	2.22	1.36	0.82	0.18	0.05	0.00	10.10	5.68
W	0.00	0.50	0.82	1.54	1.68	2.45	3.17	3.35	1.36	0.41	0.05	0.05	15.35	6.03
WNW	0.00	0.14	1.18	1.54	1.22	1.27	1.22	1.49	1.09	0.45	0.18	0.32	10.10	5.99
NW	0.00	0.09	0.63	1.22	0.54	0.32	0.41	0.23	0.14	0.18	0.00	0.68	4.44	5.92
NNW	0.00	0.27	0.63	0.82	0.36	0.18	0.23	0.09	0.09	0.05	0.05	0.00	2.76	4.14
N	0.00	0.59	1.13	1.27	0.91	0.41	0.41	0.23	0.14	0.00	0.00	0.00	5.07	4.00
VARIABLE													0.05	0.90
CALM													0.00	0.00
TOTAL	0.09	3.67	11.73	15.63	15.04	14.27	13.86	11.41	6.88	3.22	1.49	2.67	100.00	5.56

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2208

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 4TH QUARTER, 1984
 DAMES AND MOORE JOB NO - 00377-084-09
 DATA PERIOD- 10/01/84 TO 12/31/84
 STABILITY CLASS ## (10-40 METERS)
 WINDS AT 10 METER LEVEL

28-JAN-85

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.	0	0.	0	0.	0.	0.	0	1.	0.	1.	2.	11.00
NE	0.	0.	0	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	12.00
ENE	0	0.	0.	0.	1.	0.	0	0.	0	0.	0.	0.	1.	4.90
E	0.	0.	0.	0.	0.	0.	0	0.	0.	0.	0.	0.	0.	0.00
EBE	0.	0.	0.	0	0	0.	0	0.	0.	0.	0.	0.	0.	0.00
SE	0.	0.	0	0.	0.	1.	0.	0.	1.	3.	1.	0	6.	8.75
SSE	0.	0.	0.	1.	2.	1.	3.	2.	3.	2.	2.	2.	18.	8.02
S	0.	0.	1.	8.	5.	9.	7.	4.	5.	2.	2.	1.	44.	6.25
SSW	0.	0.	4	12	10.	8.	10.	8	3.	4	2.	4.	65.	6.27
SW	0.	0.	7.	13	21.	11.	12.	8.	1.	1.	2.	1.	77.	5.29
WSW	0.	0.	5.	20	34.	22.	29.	16.	1.	2.	2.	0.	131.	5.47
W	0.	0.	3.	11	20.	35.	23.	15	2.	2.	2.	2.	115.	5.99
WNW	0.	0.	1.	0.	3.	4.	2.	8	4.	6.	7.	4.	39.	8.29
NW	0.	0.	0	0.	0.	0.	0.	0	0.	0.	1.	1.	2.	11.45
NNW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.00
N	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	0.	2.	4	8.15
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	0.	22.	56.	96.	91.	96.	51.	20.	23	21.	19	505.	6.14

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	11			>11
NNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.09	11.00
NE	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	12.00
ENE	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	4.90
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
EBE	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	0.05	0.00	0.00	0.05	0.14	0.05	0.00	0.27	8.75
SSE	0.00	0.00	0.00	0.05	0.09	0.05	0.14	0.09	0.14	0.09	0.09	0.09	0.82	8.02
S	0.00	0.00	0.05	0.37	0.23	0.41	0.32	0.18	0.23	0.09	0.09	0.05	2.01	6.25
SSW	0.00	0.00	0.18	0.55	0.46	0.37	0.46	0.37	0.14	0.18	0.09	0.18	2.97	6.27
SW	0.00	0.00	0.32	0.59	0.96	0.50	0.55	0.37	0.05	0.05	0.09	0.05	3.52	5.29
WSW	0.00	0.00	0.23	0.91	1.55	1.01	1.33	0.73	0.05	0.09	0.09	0.09	5.99	5.47
W	0.00	0.00	0.14	0.50	0.91	1.60	1.05	0.69	0.09	0.09	0.09	0.09	5.25	5.99
WNW	0.00	0.00	0.05	0.00	0.14	0.18	0.09	0.37	0.18	0.27	0.32	0.18	1.79	8.29
NW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.09	11.45
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	0.00
N	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.19	8.15
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.00	1.01	3.02	4.39	4.16	3.93	2.79	0.91	1.05	0.96	0.87	23.09	6.14

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2187

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 4TH QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 10/01/84 TO 12/31/84
 STABILITY CLASS #B# (10-40 METERS)
 WINDS AT 10 METER LEVEL

28-JAN-85

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	0	0	0	0	0	0	0	0	0	0	0	0	0.00
NE	0	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	0.00
E	0	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	0.00
SE	0	0	0	0	0	0	0	2	0	0	1	0	3	8.57	
SSE	0	0	0	0	0	1	1	0	0	0	1	3	9.37		
S	0	0	0	1	2	0	1	0	1	0	1	6	7.23		
SSW	0	0	0	0	0	1	0	0	0	0	0	1	5.10		
SW	0	0	0	1	0	0	1	0	0	0	0	2	5.35		
WSW	0	0	0	2	0	0	0	0	0	0	0	2	3.55		
W	0	0	0	2	0	0	0	0	0	0	0	2	3.95		
WNW	0	0	1	1	0	1	0	0	0	0	0	3	4.20		
NW	0	0	0	0	0	0	0	1	0	0	0	1	7.70		
NNW	0	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	0.00		
VARIABLE CALM												0	0.00		
TOTAL	0	0	1	7	2	2	1	6	0	1	1	23	6.45		

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	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	0.00	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	0.00	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	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	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	0.00
SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.05	0.00	0.14	8.57	
SSE	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.05	0.14	9.37	
S	0.00	0.00	0.00	0.05	0.09	0.00	0.00	0.05	0.00	0.05	0.00	0.05	0.27	7.23	
SSW	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05	5.10	
SW	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.09	5.35	
WSW	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	3.55	
W	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	3.95	
WNW	0.00	0.00	0.05	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.14	4.20	
NW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.05	7.70	
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	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	0.00
VARIABLE CALM												0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.05	0.32	0.09	0.09	0.05	0.27	0.00	0.05	0.05	0.09	1.05	6.45	

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2187

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 4TH QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 10/01/84 TO 12/31/84
 STABILITY CLASS #C# (10-40 METERS)
 WINDS AT 10 METER LEVEL

28-JAN-85

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	0	0	0	1	0	0	0	1	1	0	3	8.77
NE	0	0	0	0	0	0	0	1	0	0	1	0	2	9.30
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	1	0	0	0	4	1	2	8	9.84
SSE	0	0	1	1	0	0	0	2	0	0	0	1	5	6.60
S	0	0	1	0	1	0	0	0	0	0	0	0	2	3.70
SSW	0	0	1	0	0	0	1	0	0	0	0	0	2	4.65
SW	0	0	0	1	2	0	0	0	2	0	0	0	5	6.02
WSW	0	0	4	0	1	1	0	0	0	0	0	0	6	3.43
W	0	0	0	1	0	0	0	0	0	0	0	0	1	3.70
WNW	0	0	0	0	1	0	1	0	0	0	0	0	2	5.60
NW	0	0	0	1	0	1	0	0	0	0	1	0	3	6.67
NNW	0	0	0	0	1	0	0	0	0	0	0	2	3	15.57
N	0	0	0	1	0	0	0	0	0	0	0	0	1	3.70
VARIABLE													0	0.00
CALM													0	0.00
TOTAL	0	0	7	5	6	4	2	3	2	5	4	5	43	7.20

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	11			>11
NNE	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.05	0.00	0.14	8.77
NE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.09	9.30
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	0.05	0.00	0.00	0.00	0.18	0.05	0.09	0.37	9.84
SSE	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.05	0.23	6.60
S	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	3.70
SSW	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.09	4.65
SW	0.00	0.00	0.00	0.05	0.09	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.23	6.02
WSW	0.00	0.00	0.18	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.27	3.43
W	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	3.70
WNW	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.09	5.60
NW	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.14	6.67
NNW	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.14	15.57
N	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	3.70
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.00	0.32	0.23	0.27	0.18	0.09	0.14	0.09	0.23	0.18	0.23	1.97	7.20

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2187

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 4TH QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 10/01/84 TO 12/31/84
 STABILITY CLASS #D* (10-40 METERS)
 WINDS AT 10 METER LEVEL

28-JAN-85

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	3	2	3	7	1	0	1	1	1	0	19	5.43
NE	0	1	1	1	0	0	0	1	0	0	0	1	5	5.64
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
E	0	0	1	0	3	4	1	0	0	0	0	0	9	5.07
ESE	0	0	1	2	2	3	6	6	1	1	2	3	27	7.84
SE	0	0	2	8	6	16	10	13	16	12	3	17	103	8.22
SSE	0	0	3	7	8	3	5	11	3	9	2	27	78	10.60
S	0	0	5	2	2	3	2	2	4	3	3	11	37	8.97
SSW	0	1	3	4	2	4	1	2	5	2	1	6	31	7.49
SW	0	2	1	2	2	1	1	5	6	2	3	3	28	8.06
WSW	0	0	2	1	1	0	0	1	0	0	2	1	8	7.20
W	0	0	3	3	2	0	0	1	0	0	0	0	9	3.81
WNW	0	1	3	5	6	3	2	0	2	0	1	1	24	5.21
NW	0	3	3	2	9	6	4	5	3	1	2	1	39	5.76
NNW	0	1	5	5	3	0	3	0	0	2	0	5	24	7.03
N	0	1	6	4	2	2	1	0	1	0	0	2	19	5.17
VARIABLE													0	0.00
CALM													0	0.00
TOTAL	0	10	42	48	51	52	37	47	42	33	20	78	460	7.74

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	11			>11
NNE	0.00	0.00	0.14	0.09	0.14	0.32	0.05	0.00	0.05	0.05	0.05	0.00	0.87	5.43
NE	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.23	5.64
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	0.05	0.00	0.14	0.18	0.05	0.00	0.00	0.00	0.00	0.00	0.41	5.07
ESE	0.00	0.00	0.05	0.09	0.09	0.14	0.27	0.27	0.05	0.05	0.09	0.14	1.23	7.84
SE	0.00	0.00	0.09	0.37	0.27	0.73	0.46	0.59	0.73	0.55	0.14	0.78	4.71	8.22
SSE	0.00	0.00	0.14	0.32	0.37	0.14	0.23	0.50	0.14	0.41	0.09	1.23	3.57	10.60
S	0.00	0.00	0.23	0.09	0.09	0.14	0.09	0.09	0.18	0.14	0.14	0.50	1.69	8.97
SSW	0.00	0.05	0.14	0.18	0.09	0.18	0.05	0.09	0.23	0.09	0.05	0.27	1.42	7.49
SW	0.00	0.09	0.05	0.09	0.09	0.05	0.05	0.23	0.27	0.09	0.14	0.14	1.28	8.06
WSW	0.00	0.00	0.09	0.05	0.05	0.00	0.00	0.05	0.00	0.00	0.09	0.05	0.37	7.20
W	0.00	0.00	0.14	0.14	0.09	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.41	3.81
WNW	0.00	0.05	0.14	0.23	0.27	0.14	0.09	0.00	0.09	0.00	0.05	0.05	1.10	5.21
NW	0.00	0.14	0.14	0.09	0.41	0.27	0.18	0.23	0.14	0.05	0.09	0.05	1.78	5.76
NNW	0.00	0.05	0.23	0.23	0.14	0.00	0.14	0.00	0.00	0.09	0.00	0.23	1.10	7.03
N	0.00	0.05	0.27	0.18	0.09	0.09	0.05	0.00	0.05	0.00	0.00	0.09	0.87	5.17
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.46	1.92	2.19	2.33	2.38	1.69	2.15	1.92	1.51	0.91	3.57	21.03	7.74

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208

TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2187

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 4TH QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 10/01/84 TO 12/31/84
 STABILITY CLASS #E# (10-40 METERS)
 WINDS AT 10 METER LEVEL

28-JAN-85

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.	1.	10.	20.	13.	8.	4.	6.	2.	2.	0.	1.	67.	4.82
NE	0.	1.	2.	10.	2.	0.	0.	0.	1.	1.	0.	1.	18.	4.64
ENE	0.	0.	0.	3.	6.	2.	0.	0.	1.	1.	0.	0.	13.	5.16
E	0.	1.	2.	1.	8.	4.	5.	2.	0.	0.	0.	0.	23.	5.08
ESE	0.	0.	1.	4.	6.	3.	2.	1.	1.	0.	0.	0.	18.	5.08
SE	0.	2.	0.	3.	6.	4.	4.	5.	0.	1.	2.	6.	33.	8.09
SSE	0.	2.	1.	2.	1.	2.	0.	0.	0.	0.	1.	9.	18.	13.77
S	0.	1.	1.	0.	0.	1.	0.	0.	0.	0.	0.	4.	7.	15.34
SSW	0.	1.	0.	0.	1.	0.	0.	1.	0.	0.	0.	2.	5.	9.92
SW	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.	2.	4.	9.58
WSW	0.	0.	1.	1.	0.	0.	0.	1.	0.	1.	2.	1.	7.	7.97
W	0.	0.	2.	0.	0.	0.	0.	1.	0.	0.	0.	0.	3.	4.33
WNW	0.	0.	1.	0.	0.	0.	0.	0.	1.	2.	0.	2.	6.	9.32
NW	0.	2.	1.	4.	0.	0.	0.	0.	1.	0.	1.	7.	16.	10.04
NNW	0.	1.	2.	6.	5.	1.	4.	2.	0.	0.	0.	4.	25.	6.30
N	0.	2.	4.	13.	10.	11.	6.	1.	2.	1.	1.	7.	58.	6.21
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	14.	28.	67.	58.	36.	26.	20.	10.	9.	7.	46.	321.	6.84

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	11			>11
NNE	0.00	0.05	0.46	0.91	0.59	0.37	0.18	0.27	0.09	0.09	0.00	0.05	3.06	4.82
NE	0.00	0.05	0.09	0.46	0.09	0.00	0.00	0.00	0.05	0.05	0.00	0.05	0.82	4.64
ENE	0.00	0.00	0.00	0.14	0.27	0.09	0.00	0.00	0.05	0.05	0.00	0.00	0.59	5.16
E	0.00	0.05	0.09	0.05	0.37	0.18	0.23	0.09	0.00	0.00	0.00	0.00	1.05	5.08
ESE	0.00	0.00	0.05	0.18	0.27	0.14	0.09	0.05	0.05	0.00	0.00	0.00	0.82	5.08
SE	0.00	0.09	0.00	0.14	0.27	0.18	0.18	0.23	0.00	0.05	0.09	0.27	1.51	8.09
SSE	0.00	0.09	0.05	0.09	0.05	0.09	0.00	0.00	0.00	0.00	0.05	0.41	0.82	13.77
S	0.00	0.05	0.05	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.18	0.32	15.34
SSW	0.00	0.05	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.00	0.00	0.09	0.23	9.92
SW	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.09	0.18	9.58
WSW	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.05	0.00	0.05	0.09	0.05	0.32	7.97
W	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.14	4.33
WNW	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.00	0.09	0.27	9.32
NW	0.00	0.09	0.05	0.18	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.32	0.73	10.04
NNW	0.00	0.05	0.09	0.27	0.23	0.05	0.18	0.09	0.00	0.00	0.00	0.18	1.14	6.30
N	0.00	0.09	0.18	0.59	0.46	0.50	0.27	0.05	0.09	0.05	0.05	0.32	2.65	6.21
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.64	1.28	3.06	2.65	1.65	1.19	0.91	0.46	0.41	0.32	2.10	14.68	6.84

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2187

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 4TH QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 10/01/84 TO 12/31/84
 STABILITY CLASS #F# (10-40 METERS)
 WINDS AT 10 METER LEVEL

28-JAN-85

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.	1.	13.	35.	55.	90.	34.	14.	7.	1.	0.	0.	210.	5.18
NE	0.	0.	5.	7.	5.	1.	2.	0.	0.	0.	0.	0.	20.	3.93
ENE	0.	0.	4.	4.	1.	2.	1.	0.	0.	0.	0.	0.	12.	3.82
E	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.	0.	0.	2.	3.70
EBE	0.	0.	2.	0.	0.	0.	1.	0.	0.	0.	0.	0.	3.	3.63
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.	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.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.60
W	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.40
WNW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.00
NW	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.70
NNW	0.	0.	0.	0.	1.	2.	1.	0.	0.	0.	0.	0.	4.	5.50
N	0.	0.	3.	3.	13.	9.	6.	9.	4.	0.	0.	0.	47.	5.66
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	2.	30.	49.	76.	64.	45.	23.	11.	1.	0.	0.	301.	5.07

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	11			>11
NNE	0.00	0.05	0.59	1.60	2.51	2.29	1.55	0.64	0.32	0.05	0.00	0.00	9.60	5.18
NE	0.00	0.00	0.23	0.32	0.23	0.05	0.09	0.00	0.00	0.00	0.00	0.00	0.91	3.93
ENE	0.00	0.00	0.18	0.18	0.05	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.55	3.82
E	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	3.70
EBE	0.00	0.00	0.09	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.14	3.63
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	0.00	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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	1.60
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	2.40
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
NW	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	2.70
NNW	0.00	0.00	0.00	0.00	0.05	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.18	5.50
N	0.00	0.00	0.14	0.14	0.59	0.41	0.27	0.41	0.18	0.00	0.00	0.00	2.15	5.66
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.09	1.37	2.24	3.48	2.93	2.06	1.05	0.50	0.05	0.00	0.00	13.76	5.07

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208

TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2187

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 4TH QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 10/01/84 TO 12/31/84
 STABILITY CLASS #C# (10-40 METERS)
 WINDS AT 10 METER LEVEL

28-JAN-85

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.	1.	9.	20.	35.	95.	114.	98.	92.	34.	13.	491.	7.91
NE	0.	0.	1.	0.	2.	0.	0.	2.	0.	0.	0.	0.	5.	5.40
ENE	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.90
E	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.00
ESE	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.70
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.	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
NW	0.	0.	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.	0.	0.00
N	0.	0.	0.	1.	3.	1.	7.	10.	5.	5.	3.	1.	36.	7.59
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	0.	3.	11.	29.	36.	92.	126.	103.	97.	37.	14.	534.	7.95

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	11			>11
NNE	0.00	0.00	0.05	0.41	0.91	1.60	3.89	5.21	4.48	3.75	1.35	0.59	22.45	7.91
NE	0.00	0.00	0.05	0.00	0.09	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.23	5.40
ENE	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	3.90
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	2.70
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	0.00	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
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	0.00	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	0.00
N	0.00	0.00	0.00	0.05	0.14	0.05	0.32	0.46	0.23	0.23	0.14	0.05	1.65	7.59
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.00	0.14	0.50	1.14	1.65	4.21	5.76	4.71	3.98	1.69	0.64	24.42	7.95

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2187

TABLE 4A

28-JAN-85

SOUTHERN CALIFORNIA EDISON COMPANY
 SAN ONOFRE NUCLEAR GENERATING STATION
 4TH QUARTER, 1984
 DAMES AND MOORE JOB NO. - 00377-084-09
 DATA PERIOD- 10/01/84 TO 12/31/84
 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.	2.	27.	66.	91.	101.	124.	134.	108.	88.	36.	15.	792.	6.88
NE	0.	2.	9.	18.	9.	1.	2.	4.	1.	1.	1.	3.	51.	4.86
ENE	0.	0.	4.	8.	8.	4.	1.	0.	1.	1.	0.	0.	27.	4.51
E	0.	1.	4.	1.	12.	8.	6.	2.	0.	0.	0.	0.	34.	4.99
ESE	0.	0.	5.	6.	8.	6.	9.	7.	2.	1.	2.	3.	49.	6.47
SE	0.	2.	2.	11.	12.	22.	14.	20.	17.	20.	8.	25.	153.	8.31
SSE	0.	2.	5.	11.	11.	6.	9.	16.	6.	11.	5.	40.	122.	10.49
S	0.	1.	8.	11.	10.	13.	9.	7.	9.	6.	5.	17.	96.	7.97
SSW	0.	2.	8.	16.	13.	13.	12.	11.	8.	6.	3.	12.	104.	6.77
SW	0.	2.	8.	17.	25.	12.	14.	14.	10.	3.	5.	6.	116.	6.14
WSW	0.	1.	12.	24.	36.	25.	29.	18.	1.	3.	6.	2.	157.	5.54
W	0.	0.	9.	17.	23.	36.	24.	17.	2.	2.	2.	2.	134.	5.63
WNW	0.	1.	6.	6.	10.	8.	6.	8.	7.	8.	8.	7.	75.	7.12
NW	0.	5.	5.	7.	9.	7.	5.	6.	4.	1.	5.	9.	63.	7.07
NNW	0.	2.	7.	11.	10.	3.	8.	2.	0.	2.	0.	11.	56.	7.05
N	0.	3.	14.	23.	28.	23.	20.	20.	12.	6.	4.	12.	165.	6.29
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	26.	133.	253.	315.	288.	292.	286.	188.	159.	90.	164.	2194.	6.87

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	11			>11
NNE	0.00	0.09	1.23	3.01	4.15	4.60	5.65	6.11	4.92	4.01	1.64	0.68	36.10	6.88
NE	0.00	0.09	0.41	0.82	0.41	0.05	0.09	0.18	0.05	0.05	0.05	0.14	2.32	4.86
ENE	0.00	0.00	0.18	0.36	0.36	0.18	0.05	0.00	0.05	0.05	0.00	0.00	1.23	4.51
E	0.00	0.05	0.18	0.05	0.55	0.36	0.27	0.09	0.00	0.00	0.00	0.00	1.55	4.99
ESE	0.00	0.00	0.23	0.27	0.36	0.27	0.41	0.32	0.09	0.05	0.09	0.14	2.23	6.47
SE	0.00	0.09	0.09	0.50	0.55	1.00	0.64	0.91	0.77	0.91	0.36	1.14	6.97	8.31
SSE	0.00	0.09	0.23	0.50	0.50	0.27	0.41	0.73	0.27	0.50	0.23	1.82	5.56	10.49
S	0.00	0.05	0.36	0.50	0.46	0.59	0.41	0.32	0.41	0.27	0.23	0.77	4.38	7.97
SSW	0.00	0.09	0.36	0.73	0.59	0.59	0.55	0.50	0.36	0.27	0.14	0.55	4.74	6.77
SW	0.00	0.09	0.36	0.77	1.14	0.55	0.64	0.64	0.46	0.14	0.23	0.27	5.29	6.14
WSW	0.00	0.05	0.55	1.09	1.64	1.14	1.32	0.82	0.05	0.14	0.27	0.09	7.16	5.54
W	0.00	0.00	0.41	0.77	1.05	1.64	1.09	0.77	0.09	0.09	0.09	0.09	6.11	5.63
WNW	0.00	0.05	0.27	0.27	0.46	0.36	0.27	0.36	0.32	0.36	0.36	0.32	3.42	7.12
NW	0.00	0.23	0.23	0.32	0.41	0.32	0.23	0.27	0.18	0.05	0.23	0.41	2.87	7.07
NNW	0.00	0.09	0.32	0.50	0.46	0.14	0.36	0.09	0.00	0.09	0.00	0.50	2.55	7.05
N	0.00	0.14	0.64	1.05	1.28	1.05	0.91	0.91	0.55	0.27	0.18	0.55	7.52	6.29
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	1.19	6.06	11.53	14.36	13.13	13.31	13.04	8.57	7.25	4.10	7.47	100.00	6.87

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2208
 TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2187

SECTION I. 10 CFR 50 APPENDIX I CONSIDERATIONS

Current Technical Specifications do not require and effluent monitoring capabilities do not allow, strict compliance with the provisions of 10 CFR 50, Appendix I. However, using data from an Appendix I study conducted for the years 1973, 1974, and 1975, conclusions can be drawn regarding relative release amounts versus doses assessed.

A submittal dated October 6, 1976, titled: Evaluation of Radioactive Gaseous Effluents from the San Onofre Nuclear Generating Station - Unit 1. For the Years 1973, 1974, and 1975 (CNO5-RAD) lists releases and dose assessments for the years 1973, 1974, and 1975. In 1975, Appendix I criteria were met and the lowest doses were obtained. The releases for the second half of 1984 were categorized as Noble Gas, Particulate, Tritium and Iodine. The released quantity of radionuclides in each of these categories was at least an order of magnitude less than in 1975. Therefore, it may be concluded that the current reporting period complies with Appendix I of 10 CFR 50.

SECTION J. 40 CFR 190 CONSIDERATIONS

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

SECTION K. CONCLUSION

- o Radioactive releases totaled $8.62E+1$ curies for gaseous effluent releases and $1.56E+1$ curies for liquid effluent releases.
- o Gaseous releases were primarily xenon-133 which accounted for 89.1% of the total gaseous releases.
- o Liquid releases were primarily tritium which accounted for 87.9% of the total liquid releases.
- o Unit 1 generated radioactive releases which were below the Technical specifications Limits for both gaseous and liquid effluents.
- o Radwaste shipments totaled 28 shipments to Richland, Washington. There were $2.44E+2$ cubic meters of solid radwaste shipped containing $1.52E+1$ curies of radioactivity.
- o Meteorological conditions during the semiannual period were typical of the meteorology at SONGS-1. Meteorological dispersion was good 35% of the time, fair 42% of the time and poor 23% of the time.
- o 10 CFR 50, Appendix I criteria was 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 I.
- o The net results from the analysis of these effluent releases indicate the operation of SONGS-1 has met all the requirements of the Technical Specifications and other applicable regulatory requirements and therefore has not produced any detrimental effect on the environment.