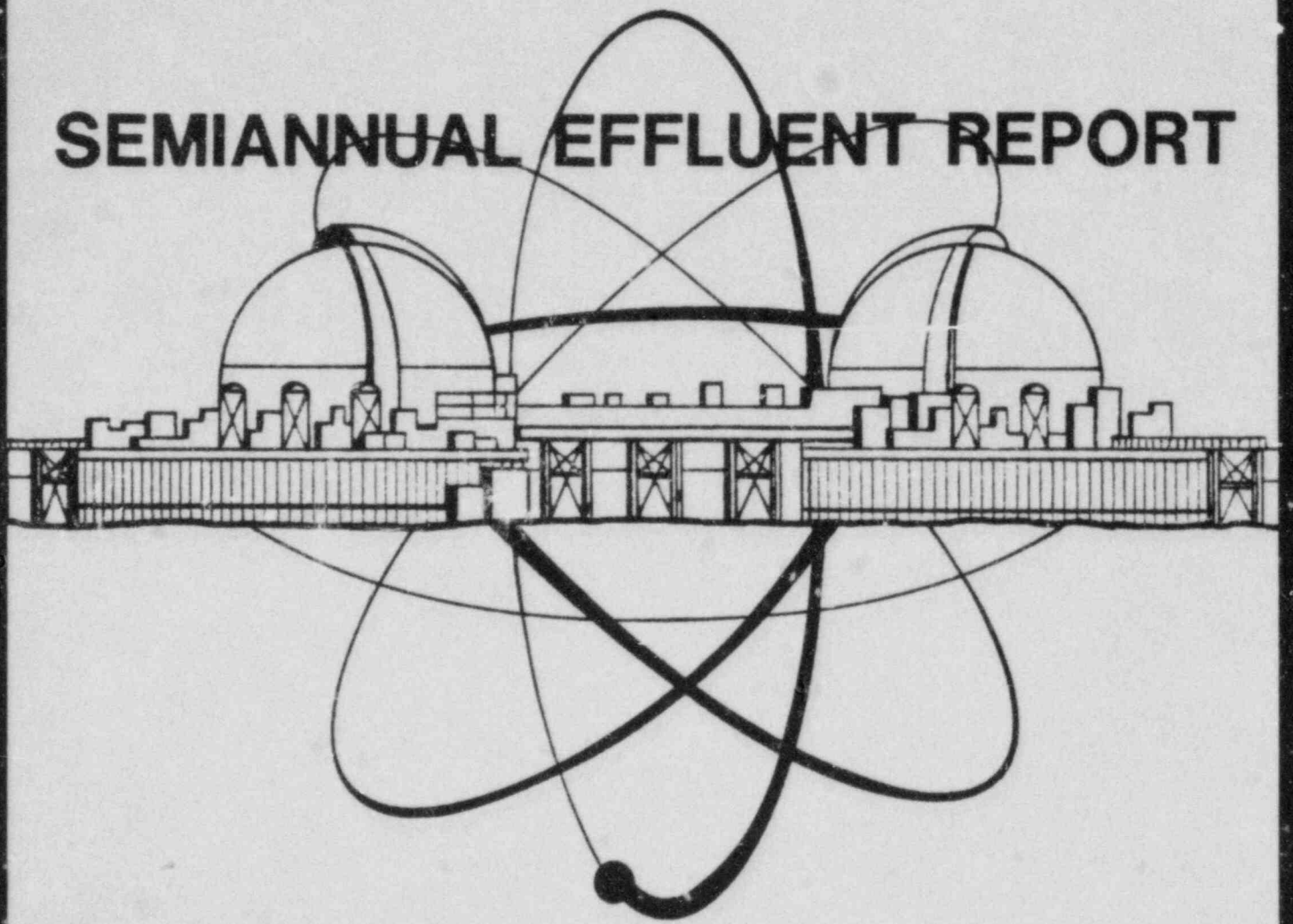
SAN ONOFRE

NUCLEAR GENERATING STATION

UNITS 2 & 3

SEMIANNUAL EFFLUENT REPORT



SONGS - 2 & 3

JANUARY - JUNE 1984

SEMIANNUAL EFFLUENT REPORT

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SEMIANNUAL EFFLUENT REPORT

January - June 1984

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, Units 2 and 3. 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," 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 are the total releases of each category, the average release rate for the quarter, and the percent of Technical Specification Limit (TSL).

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 1B, "Gaseous Effluents - Elevated Release," has not been included in this report since it is assigned to elevated releases and San Onofre Nuclear Generating Station Units 2 and 3 do not have 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 purges, steam jet air ejector and plant stack releases are considered to be "continuous" releases.

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

Table 1E, "Gaseous Effluents - Radiation Doses at Site Boundary," provides a summary of doses at the site boundary for this reporting period, by quarter.

The values for the composite gross alpha, Sr-89 and Sr-90, (Tables 1A and Table 1C Gaseous Effluents), for the July - December 1983 Semiannual Report were incomplete because data was not available prior to reporting time. The Fe-55 values are for the months of November and December; the October values were reported in the last Semiannual Report. The values not reported were for the fourth quarter, 1983. The values not reported are as follows:

	Unit	
Gross alpha	Ci	6.66E-7
FE-55	Ci	5.37E-5
Sr-89	Ci	5.19E-6
Sr-90	Ci	4.12E-7

TABLE 1A
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

		Unit	Quarter First	Quarter Second	Est. Total Error, %
A.	Fission & activation gases				
1.	Total release	Ci	6.34E+3	1.28E+4	2.50E+1
2.	Average release rate for period	µCi/sec	8.07E+2	1.63E+3	
3.	Percent of technical specification limit	%	6.55E+0	1.31E+1	
B.	Iodines				
1.	Total iodine-131	Ci	9.32E-2	3.25E-1	1.90E+1
2.	Average release rate for period	µCi/sec	1.19E-2	4.13E-2	
3.	Percent of technical specification limit	%	2.38E-1	8.76E-1	
C.	Particulates				
1.	Particulates with half-lives > 8 days	Ci	1.01E-3	8.30E-4	1.60E+1
2.	Average release rate for period	µCi/sec	1.28E-4	1.06E-4	
3.	Percent of technical specification limit	%	1.22E-3	2.21E-3	
4.	Gross alpha radioactivity	Ci	1.08E-6	*	5.00E+1
D.	Tritium				
1.	Total release	Ci	1.79E+2	2.76E-1	2.50E+1
2.	Average release rate for period	µCi/sec	2.28E+1	3.51E-2	
3.	Percent of technical specification limit	%	2.73E-1	4.22E-4	

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

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TABLE 1C
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
GASEOUS EFFLUENTS - GROUND-LEVEL RELEASES

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter First	Quarter Second	Quarter First	Quarter Second
1. Fission Gases					
argon-41	Ci	2.25E+0	4.39E+0	LLD	LLD
krypton-85	Ci	LLD	LLD	5.68E+0	1.87E+1
krypton-85m	Ci	3.41E+0	3.60E-1	2.53E-2	9.87E-3
krypton-87	Ci	LLD	7.66E-3	1.54E-3	LLD
krypton-88	Ci	2.69E-9	1.20E-1	1.69E-2	LLD
xenon-131m	Ci	1.18E+1	1.71E+1	1.09E+1	2.90E+1
xenon-133	Ci	5.97E+3	1.23E+4	2.62E+2	4.90E+2
xenon-133m	Ci	3.64E+1	1.64E+1	1.93E-1	6.09E-1
xenon-135	Ci	4 04E+1	6.80E+0	1.28E-1	5.04E-1
xenon-135m	Ci	LLD	LLD	LLD	LLD
xenon-138	Ci	LLD	LLD	LLD	LLD
Total	Ci	6.06E+3	1.23E+4	2.79E+2	5.39E+2
2. Iodines					
iodine-131	Ci	7.31E-2	2.77E-1	LLD	LLD
iodine-132	Ci	1.46E-4	8.02E-4	LLD	LLD
iodine-133	Ci	1.85E-2	4.40E-2	LLD	LLD
iodine-135	Ci	1.44E-3	3.28E-3	LLD	LLD
Total	Ci	9.32E-2	3.25E-1	LLD	LLD

TABLE 1C (Continued)
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
GASEOUS EFFLUENTS - GROUND-LEVEL RELEASES

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter First	Quarter Second	Quarter First	Quarter Second
3. Particulates					
barium-139	Ci	LLD	6.14E-6	LLD	LLD
barium-140	Ci	LLD	LLD	LLD	LLD
bromine-82	Ci	1.99E-4	5.91E-5	LLD	LLD
cerium-139	Ci	LLD	7.00E-7	LLD	LLD
cesium-134	Ci	1.77E-7	3.68E-5	LLD	LLD
cesium-136	Ci	1.70E-7	6.16E-5	LLD	LLD
cesium-137	Ci	5.12E-6	2.07E-4	LLD	LLD
cesium-138	Ci	3.76E-6	4.33E-5	LLD	LLD
chromium-51	Ci	1.80E-4	LLD	LLD	LLD
cobalt-58	Ci	7.75E-4	4.88E-4	LLD	LLD
cobalt-60	Ci	2.23E-5	1.40E-5	LLD	LLD
iron-55	Ci	4.32E-5	**	*	*
lanthanum-140	Ci	LLD	LLD	LLD	LLD
lanthanum-142	Ci	6.01E-6	LLD	LLD	LLD
manganese-54	Ci	2.55E-5	9.48E-8	LLD	LLD
molybdenum-99	Ci	1.10E-5	5.28E-4	LLD	LLD
niobium-94	Ci	LLD	2.45E-6	LLD	LLD
niobium-95	Ci	1.94E-4	4.33E-5	LLD	LLD
rubidium-88	Ci	4.56E-3	3.80E-3	LLD	LLD
scandium-47	Ci	8.73E-5	LLD	LLD	LLD
sodium-24	Ci	5.15E-5	8.91E-5	LLD	LLD
strontium-89	Ci	7.65E-6	**	*	*
strontium-90	Ci	LLD	**	*	*
strontium-92	Ci	LLD	8.25E-6	LLD	LLD
technetium-99m	Ci	1.97E-5	6.15E-4	LLD	LLD
tellurium-132	Ci	LLD	1.32E-6	LLD	LLD
zirconium-95	Ci	LLD	1.90E-5	LLD	LLD
zirconium-97	Ci	3.17E-5	1.72E-6	LLD	LLD

*Batch releases are not reported separately. All batch releases are vented through the Plant Vent Stack, therefore Sr89, Sr90 and Fe55 are analyzed by the "Continuous" mode only.
**Second quarter analyses were not available at time of report and will be reported in the following Semiannual report.
LLD - Lower Limit of Detection; See Table 1D.

TABLE 1D

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

NUCLIDE	CONTINUOUS MODE (µCi/cc)	BATCH MODE (µCi/cc)
argon-41	*	<7.53E-6
barium-139	<9.95E-13	NA
barium-140	<1.57E-12	NA
bromine-82	*	NA
cerium-139	<1.00E-11	NA
cesium-134	*	NA
cesium-136	*	NA
cesium-137	*	NA
cesium-138	*	NA
chromium-51	<1.00E-11	NA
cobalt-58	*	NA
cobalt-60	*	NA
iodine-131	*	NA
iodine-132	*	NA
iodine-133	*	NA
iodine-135	*	NA
krypton-85	<1.07E-5	*
krypton-87	<7.45E-8	<2.10E-6
krypton-88	*	<4.76E-5
lanthanum-140	<6.11E-12	NA
lanthanum-142	<1.00E-11	NA
manganese-54	*	NA
molybdenum-99	*	NA
niobium-94	<1.00E-11	NA
niobium-95	*	NA
rubidium-88	*	NA
scandium-47	<5.40E-13	NA
sodium-24	*	NA
strontium-90	<2.50E-16	NA
strontium-92	<5.80E-13	NA
technetium-99m	*	NA
tellurium-132	<4.57E-13	NA
xenon-135m	<1.19E-5	<5.91E-6
xenon-138	<9.70E-8	<8.01E-6

* - Nuclide detected in Table 1C.

NA - Iodines and particulates are not analyzed prior to release.

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TABLE 1E

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
GASEOUS EFFLUENTS-RADIATION DOSES AT THE SITE BOUNDARY

		Unit	First Quarter	Second Quarter
A.	Noble Gas			
	1. Gamma air dose	mrad	1.71E+0	7.22E-1
	2. Percent Technical Specification Limit	%	1.17E+1	7.22E+0
	3. Beta air dose	mrad	3.39E+0	2.10E+0
	4. Percent Technical Specification Limit	%	1.70E+1	1.05E+1
B.	Tritium, Iodine, Particulate			
	1. Organ dose	mrem	9.00E-1	1.79E+0
	2. Percent Technical Specification Limit	%	6.00E+0	1.19E+1

NOTE: Calculations performed in accordance with the ODCM utilizing the historical X/Q.

SECTION C. LIQUID EFFLUENTS

Table 2A, "Liquid Effluents - Summation of All Releases," provides a detailed listing of liquid effluent releases in three categories: Fission and activation products, tritium, and dissolved and entrained gases. 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 (the volume of circulating water) used to dilute the batch releases.

The methodology used in calculating the percent of applicable limit is presented in Section E of this report. The percent estimated total error is listed in Table 2A for each of the three liquid effluent categories. The methodology used for error analysis is described in Section F 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 2B.

Table 2D, "Liquid Effluents - Radiation Doses at Site Boundary," provides a summary of doses at the site boundary for this reporting period, by quarter.

The values for the composite gross alpha, Fe-55, Sr-89 and Sr-90 in Table 2A and Table 2B Liquid Effluents, for the July - December Semiannual Report were incomplete because data was not available at reporting time. The values not reported were for the fourth quarter, 1983. The values not reported are as follows:

	Unit	
Gross alpha	Ci	LLD
Fe-55	Ci	2.24E-2
Sr-89	Ci	4.36E-4
Sr-90	Ci	2.18E-5

Gross alpha LLD = < 3.00E-8 µCi/ml

TABLE 2A

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

	Unit	First Quarter	Second Quarter	Estimated Total Error,%
A. Fission and activation products				
1. Total release (not including tritium, gases, alpha)	Ci	1.93E+0	2.59E+0	1.90E+1
2. Average diluted concentration during period	µCi/ml	8.94E-8	3.92E-8	
3. Percent of applicable limit	%	1.89E+0	2.11E+0	
B. Tritium				
1. Total release	Ci	1.15E+2	1.63E+2	1.90E+1
2. Average diluted concentration during period	µCi/ml	5.32E-6	2.47E-6	
3. Percent of applicable limit	%	1.77E-1	8.23E-2	
C. Dissolved and entrained gases				
1. Total release	Ci	8.84E+0	2.92E+2	1.90E+1
2. Average diluted concentration during period	µCi/ml	4.09E-7	4.42E-6	
3. Percent of applicable limit	%	2.05E-1	2.21E+0	
D. Gross alpha radioactivity				
1. Total release	Ci	LLD	*	5.00E+1
E. Volume of waste released (prior to dilution)	liters	6.04E+6	7.83E+6	5.00E+0
F. Volume of dilution water used during period	liters	2.16E+10	6.61E+10	5.00E+0

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

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

TABLE 2B

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
LIQUID EFFLUENTS

		Continuous Mode		Batch Mode	
Nuclides Released	Unit	First Quarter	Second Quarter	First Quarter	Second Quarter
antimony-122	Ci	LLD	LLD	LLD	6.73E-3
antimony-124	Ci	LLD	LLD	5.46E-3	LLD
antimony-125	Ci	LLD	LLD	LLD	8.83E-5
barium-140	Ci	LLD	LLD	2.56E-3	2.36E-4
cerium-141	Ci	LLD	LLD	5.37E-5	1.53E-4
cerium-144	Ci	LLD	LLD	8.44E-4	1.73E-4
cesium-134	Ci	LLD	7.30E-5	4.49E-3	1.23E-1
cesium-136	Ci	LLD	3.60E-5	3.33E-3	2.37E-2
cesium-137	Ci	LLD	1.28E-4	1.79E-1	6.95E-1
chromium-51	Ci	LLD	LLD	4.88E-1	3.74E-1
cobalt-57	Ci	LLD	LLD	8.60E-4	3.28E-4
cobalt-58	Ci	LLD	1.22E-4	6.60E-1	5.15E-1
cobalt-60	Ci	LLD	LLD	1.11E-1	7.31E-2
iodine-131	Ci	LLD	1.53E-3	1.11E-1	3.91E-1
iodine-132	Ci	LLD	LLD	8.28E-4	LLD
iodine-133	Ci	LLD	4.66E-5	1.12E-2	2.11E-2
iodine-135	Ci	LLD	LLD	LLD	9.37E-4
iron-55	Ci	LLD	LLD	*	**
iron-59	Ci	LLD	LLD	9.81E-2	4.33E-2
lanthanum-140	Ci	LLD	LLD	1.64E-3	2.34E-3
manganese-54	Ci	LLD	1.52E-4	4.83E-2	3.15E-2
molybdenum-99	Ci	LLD	2.39E-4	2.14E-2	7.70E-2
neptunium-239	Ci	LLD	LLD	7.93E-4	4.85E-5
niobium 95	Ci	LLD	LLD	6.50E-2	4.79E-2
niobium 97	Ci	LLD	LLD	2.37E-2	2.12E-4
ruthenium-103	Ci	LLD	LLD	4.57E-3	7.31E-4
sodium-24	Ci	LLD	3.69E-5	2.40E-3	3.85E-3
strontium-89	Ci	LLD	LLD	1.29E-4	**
strontium-90	Ci	LLD	LLD	LLD	**
technetium-99m	Ci	LLD	1.59E-4	2.79E-2	1.02E-1
tellurium-132	Ci	LLD	LLD	LLD	1.62E-4
tin-113	Ci	LLD	LLD	LLD	5.15E-4
zinc-65	Ci	LLD	LLD	4.05E-3	1.64E-3
zirconium-95	Ci	LLD	LLD	5.73E-2	5.10E-2
zirconium-97	Ci	LLD	LLD	LLD	1.66E-5
Total for period	Ci	LLD	2.52E-3	1.93E+0	2.59E+0

TABLE 2B (Continued)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1983)
LIQUID EFFLUENTS

		Continuous Mode		Batch Mode	
Nuclides Released	Unit	First Quarter	Second Quarter	First Quarter	Second Quarter
argon-41	Ci	LLD	LLD	8.02E-3	2.14E-5
krypton-85	Ci	LLD	LLD	LLD	4.47E-3
krypton-85m	Ci	LLD	LLD	LLD	3.90E-3
krypton-88	Ci	LLD	LLD	LLD	6.55E-4
xenon-131m	Ci	LLD	LLD	7.12E-2	1.33E+0
xenon-133	Ci	LLD	8.69E-4	8.66E+0	2.82E+2
xenon-133m	Ci	LLD	LLD	8.31E-2	5.05E+0
xenon-135	Ci	LLD	7.41E-6	2.19E-2	3.91E+0
xenon-135m	Ci	LLD	LLD	LLD	2.36E-5

* - First quarter analysis not available at report time; analysis will be reported in the following semiannual report.

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

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

TABLE 2C

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

RADIONUCLIDES	CONTINUOUS MODE (μCi/ml)	BATCH MODE (μCi/ml)
antimony-122	<2.58E-7	<6.12E-8
antimony-124	<1.09E-7	<8.00E-8
antimony-125	<2.24E-7	<1.85E-7
argon-41	<4.00E-8	*
barium-140	<2.27E-7	*
cerium-141	<2.33E-7	*
cerium-144	<1.00E-6	*
cesium-134	<1.09E-7	*
cesium-136	<1.13E-7	*
cesium-137	<1.11E-7	*
chromium-51	<1.14E-6	*
cobalt-57	<1.28E-7	*
cobalt-58	<1.17E-7	*
cobalt-60	<9.42E-8	*
krypton-85	<1.69E-5	<1.11E-5
krypton-88	<1.63E-7	*
iodine-131	<4.09E-8	*
iodine-132	<5.01E-8	<8.13E-8
iodine-133	<1.11E-6	*
iodine-135	<1.31E-5	*
iron-55	<3.00E-8	<3.00E-8
iron-59	<6.07E-8	*

TABLE 2C (Continued)

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

RADIONUCLIDES	CONTINUOUS MODE (μCi/ml)	BATCH MODE (μCi/ml)
lanthanum-140	<1.99E-7	*
manganese-54	<4.39E-8	*
molybdenum-99	<3.31E-7	*
neptunium-239	<1.54E-6	*
niobium-95	<5.00E-8	*
niobium-97	<9.53E-8	*
ruthenium-103	<6.14E-8	*
sodium-24	<3.20E-8	*
strontium-89	<4.00E-8	*
strontium-90	<1.00E-8	<1.00E-8
tellurium-132	<2.43E-7	<1.12E-7
tin-113	<1.02E-7	<5.01E-8
zinc-65	<6.45E-8	*
zirconium-95	<8.65E-7	*
zirconium-97	<2.11E-6	<5.22E-8
xenon-131m	<7.46E-6	*
xenon-133m	<3.21E-6	*
xenon-135	<3.81E-7	<1.90E-6
xenon-135m	<6.08E-7	<5.10E-6
gross-alpha	<1.50E-7	*

* - Nuclide detected in Table 1C

TABLE 2D

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
LIQUID EFFLUENT-RADIATION DOSES AT THE SITE BOUNDARY

		Unit	First Quarter	Second Quarter
A. 1.	Total body dose	mrem	1.01E-1	7.81E-2
2.	Percent Technical Specification Limit	%	3.37E+0	2.60E+0
B. 1.	Limiting organ dose	mrem	2.05E+0	8.40E-1
2.	Percent Technical Specification Limit	%	2.05E+1	8.40E+0

NOTE: The limiting organ for this reporting period is GI-LLI.

SECTION D RADWASTE SHIPMENTS

TABLE 3

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

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	4.93E+0 9.99E+1	3.00E+1
b. Dry compressible waste, contaminated equip., etc.	m^3 Ci	3.19E+1* 7.07E-1	3.00E+1
c. Irradiated components, control rods, etc.	m^3 Ci	0.00E+0 0.00E+0	3.00E+1
d. Other (filters, sludge, sand/ rubble, wet trash)	m^3 Ci	0.00E+0 0.00E+0	3.00E+1

*Material shipped in 55 gal. D.O.T. 7A Type A Drums (7.5 ft^3 ea.) and steel boxes (strong tight containers - 98 ft^3 ea.)

SECTION F. RADWASTE SHIPMENTS (Continued)

A. Solid Waste Shipped Offsite for Burial or Disposal (Continued)

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

a.	carbon-14	%	1.46E-1
	cesium-134	%	3.61E+0
	cesium-137	%	2.86E+1
	cobalt-57	%	1.27E-1
	cobalt-58	%	4.03E+1
	cobalt-60	%	7.54E+0
	hydrogen-3	%	7.64E-4
	iodine-129	%	1.65E-5
	iron-59	%	2.26E-1
	manganese-54	%	1.62E+1
	nickel-63	%	3.25E+0
	strontium-90	%	1.17E-2
	technetium-99	%	8.93E-5
b.	carbon-14	%	1.37E+1
	cesium-137	%	1.20E-2
	chromium-51	%	1.48E+1
	cobalt-58	%	4.31E+1
	cobalt-60	%	6.22E+0
	hydrogen-3	%	2.30E+0
	iodine-129	%	1.94E-4
	iron-59	%	2.50E+0
	manganese-54	%	2.49E+0
	nickel-63	%	4.03E+0
	niobium-95	%	6.77E+0
	technetium-99	%	6.25E-4
	zirconium-95	%	4.07E+0
c.	Not Applicable	%	0.00E+0
d.	Not Applicable	%	0.00E+0

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
2	Chem-Nuclear Systems Inc. Truck	Richland, WA

B. Irradiated Fuel Shipments (Disposition)

Number of Shipments	Mode of Transportation	Destination
None	N/A	N/A

SECTION E. TECHNICAL SPECIFICATION LIMITS

Gaseous Effluents

The percent of Technical Specification Limit, tabulated in Table 1A, was determined by calculation of the following parameter:

$$\% \text{ TSL} = \frac{(\text{Rel Rate})(X/Q)(100)}{MPC_{eff}}$$

Where: Rel Rate = total curies released in each category and each quarter, divided by the seconds in a quarter; this is the value in Parts A.2, B.2, C.2 and D.2 of Table 1A divided by 1E6.

X/Q = 2.4E-5 sec/M³ and is the annual average atmosphere dispersion defined in the ODCM, Rev. 12.

The MPC_{eff} is defined in the ODCM, Rev. 12 as:

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

Where: F_i = fractional abundance of the ith radionuclide obtained by dividing the activity in curies for each radionuclide, C_i, by the sum of all such activities, C_T.

n = total number of radionuclides identified

MPC_i = MPC of the ith radionuclide

The % TSL is placed in Parts A.3, B.3, C.3 and D.3 of Table 1A.

Liquid Effluents

The percent of applicable limit, tabulated in Table 2A, was determined by calculation of the following parameter:

$$\% \text{ TSL} = \frac{(\text{Dil Conc})(100)}{\text{MPC}_{eff}}$$

Where: Dil Conc = total curies released in each category and each quarter, converted to microcuries, divided by the total volume released (sum of Part E and F in Table 2A) converted to milliliters. This number is the value in Part A.2, B.2 and C.2 of Table 2A.

The MPC_{eff} is defined:

$$\frac{1}{\sum_{i=1}^{n} \frac{F_i}{\text{MPC}_i}}$$

Where: F_i = fractional abundance of the ith radionuclide obtained by dividing the activity in curies for each radionuclide, C_i, by the sum of all such activities, C_T.

n = total number of radionuclides identified

MPC_i = MPC of the ith radionuclide

The % TSL is placed in Parts A.3, B.3 and C.3 of Table 2A.

SECTION F. ESTIMATION OF ERROR

Estimations 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 formula:

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

Where: σ_i = Error associated with each component

SECTION G. METEOROLOGY

The meteorology of the SONGS-2/3 site for the first and second quarter of 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 distribution (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 the Semiannual report, but has not been included in this report because of the bulk of data recorded.

Table 4A lists the joint frequency distribution for the first and second quarter of 1984. Each page of Table 4A represents the data for the Stability Classes: A, B, C, D, E, F, and 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 the stability classes are defined by the temperature differential between the 10- and 40-meter levels.

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER, 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 01/01/84 TO 03/31/84
STABILITY CLASS #A# (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) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0	0	0	0	0	1	0	1	1	0	0	1	4	8 20
NE	0	0	0	0	0	0	0	1	0	0	0	0	1	7 40
ENE	0	0	0	0	0	0	1	0	0	0	0	0	1	6 90
E	0	0	0	0	0	0	0	0	0	0	0	1	1	12 40
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0 00
SE	0	0	0	0	0	1	1	1	2	0	0	0	5	7 16
SSE	0	0	0	3	5	1	3	4	4	3	0	0	23	6 53
S	0	0	3	8	5	11	14	13	4	1	3	0	62	6 23
SSW	0	0	0	8	10	11	6	4	9	2	0	1	51	6 09
SW	0	0	6	14	20	15	7	8	0	0	0	0	70	4 98
WSW	0	0	2	19	26	19	16	4	1	0	0	4	91	5 46
W	0	0	1	10	32	45	28	20	7	5	4	2	154	6 15
WNW	0	0	0	3	7	13	16	9	7	10	3	9	77	7 88
NW	0	0	0	0	0	0	0	1	0	0	1	1	3	10 13
NNW	0	0	0	0	1	0	0	0	0	0	0	0	1	4 20
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0 00
VARIABLE													0	0 00
CALM													0	0 00
TOTAL	0	0	12	65	106	117	92	66	35	21	11	19	544	6 20

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0 00	0 00	0 00	0 00	0 00	0 05	0 00	0 05	0 05	0 00	0 00	0 05	0 19	8 20
NE	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 40
ENE	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 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 05	0 05	12 40
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 05	0 05	0 09	0 00	0 00	0 00	0 23	7 16
SSE	0 00	0 00	0 00	0 14	0 23	0 05	0 14	0 19	0 19	0 14	0 00	0 00	1 07	6 53
S	0 00	0 00	0 14	0 37	0 23	0 51	0 65	0 60	0 19	0 05	0 14	0 00	2 80	6 23
SSW	0 00	0 00	0 00	0 37	0 46	0 51	0 28	0 19	0 42	0 09	0 00	0 05	2 37	6 09
SW	0 00	0 00	0 28	0 65	0 93	0 70	0 33	0 37	0 00	0 00	0 00	0 00	3 25	4 98
WSW	0 00	0 00	0 09	0 88	1 21	0 88	0 74	0 19	0 05	0 00	0 00	0 19	4 23	5 46
W	0 00	0 00	0 05	0 46	1 49	2 09	1 30	0 93	0 33	0 23	0 19	0 09	7 16	6 15
WNW	0 00	0 00	0 00	0 14	0 33	0 60	0 74	0 42	0 33	0 46	0 14	0 42	3 56	7 88
NW	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 05	0 00	0 00	0 05	0 05	0 14	10 13
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 20
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
CALM													0 00	0 00
TOTAL	0 00	0 00	0 56	3 02	4 93	5 44	4 28	3 07	1 63	0 98	0 51	0 88	25 29	6 20

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2152

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER. 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 01/01/84 TO 03/31/84
STABILITY CLASS **** (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) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0	0	0	0	0	0	0	0	1	0	0	1	2	17 40
NE	0	0	0	0	0	0	0	0	1	0	0	0	1	8 60
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	2	0	0	0	2	0	0	0	1	0	5	5 72
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0 00
SSW	0	0	1	0	0	0	0	0	0	0	0	0	1	3 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	1	0	1	0	0	0	0	0	2	5 45
WNW	0	0	0	0	1	0	1	1	0	0	0	0	3	6 43
NW	0	0	0	0	0	0	0	0	0	0	0	0	0	0 00
NNW	0	0	0	1	0	0	0	1	0	0	0	0	2	5 90
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0 00
VARIABLE													0	0 00
CALM													0	0 00
TOTAL	0	0	3	1	2	0	4	2	2	0	1	1	16	7 31

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 05	0 00	0 00	0 05	0 09	17 40
NE	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 05	0 00	0 00	0 00	0 05	8 60
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 09	0 00	0 00	0 00	0 09	0 00	0 00	0 00	0 00	0 00	0 23	5 72
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 05	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 05	3 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 05	0 00	0 05	0 00	0 00	0 00	0 00	0 00	0 09	5 45
WNW	0 00	0 00	0 00	0 00	0 05	0 00	0 05	0 05	0 00	0 00	0 00	0 00	0 14	6 43
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 05	0 00	0 00	0 00	0 05	0 00	0 00	0 00	0 00	0 09	5 90
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
CALM													0 00	0 00
TOTAL	0 00	0 00	0 14	0 05	0 09	0 00	0 19	0 09	0 09	0 00	0 05	0 05	0 74	7 31

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2152

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER. 1984
DAMES AND MOORE JOB NO. - 00377-084-09
DATA PERIOD- 01/01/84 TO 03/31/84
STABILITY CLASS #C# (10-40 METERS)
WINDS AT 10 METER LEVEL

25-JUL-84

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN NUMBER OF OCCURRENCES)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0	0	0	0	0	0	2	0	0	0	0	1	3	10.27
NE	0	0	0	0	0	1	0	0	0	0	0	0	1	5.10
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	1	2	0	0	3	9.53
SSE	0	0	1	1	0	2	1	1	3	0	0	0	9	6.78
S	0	0	1	0	1	0	0	1	0	1	0	0	4	6.43
SSW	0	0	1	0	1	0	1	2	1	0	0	1	7	7.21
SW	0	0	1	1	1	0	0	0	0	0	0	0	3	3.47
WSW	0	0	0	0	2	0	0	0	0	0	0	0	2	4.30
W	0	0	2	0	0	1	0	0	0	0	0	1	4	7.08
WNW	0	0	0	1	1	3	1	1	1	0	1	1	10	7.37
NW	0	0	0	1	1	2	1	0	0	0	0	0	5	5.04
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
N	0	0	0	0	1	0	0	0	0	0	0	1	2	8.50
VARIABLE													0	0.00
CALM													0	0.00
TOTAL	0	0	6	4	8	9	6	5	6	3	1	5	53	6.82

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.05	0.14	10.27
NE	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
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	0.05	0.09	0.00	0.00	0.14	9.53
SSE	0.00	0.00	0.05	0.05	0.00	0.09	0.05	0.05	0.14	0.00	0.00	0.00	0.42	6.78
S	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.17	6.43
SSW	0.00	0.00	0.05	0.00	0.05	0.00	0.05	0.09	0.05	0.00	0.00	0.05	0.33	7.21
SW	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	3.47
WSW	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	4.30
W	0.00	0.00	0.09	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.17	7.08
WNW	0.00	0.00	0.00	0.00	0.05	0.14	0.05	0.05	0.05	0.00	0.05	0.05	0.46	7.37
NW	0.00	0.00	0.00	0.05	0.05	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.23	5.04
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	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.09	8.50
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.00	0.28	0.19	0.37	0.42	0.28	0.23	0.28	0.14	0.05	0.23	2.46	6.82

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OC OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2152

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER, 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 01/01/84 TO 03/31/84
STABILITY CLASS *D* (10-40 METERS)
WINDS AT 10 MEIER LEVEL

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN NUMBER OF OCCURRENCES)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0	1	2	5	2	0	3	3	2	0	0	5	23	7 09
NE	0	0	0	2	0	0	1	0	1	0	0	3	7	8 10
ENE	0	0	0	0	1	1	1	0	0	0	0	0	3	5 50
E	1	0	0	0	2	2	4	2	0	0	0	1	12	6 07
ESE	1	0	0	1	0	0	5	5	1	0	0	0	13	6 53
SE	0	0	0	8	4	8	7	6	4	6	4	1	48	6 87
SSE	0	0	3	6	5	5	2	3	0	6	0	0	30	5 77
S	0	0	3	1	5	3	1	4	1	1	1	0	20	5 89
SSW	0	0	1	1	2	1	0	1	0	0	0	0	6	4 55
SW	0	2	2	2	2	1	0	0	0	0	0	0	9	3 26
WSW	0	0	3	3	0	0	1	0	0	3	1	2	13	7 06
W	0	0	2	3	6	2	1	0	0	0	0	2	16	6 01
WNW	0	1	1	4	4	6	2	0	1	1	0	4	24	6 91
NW	0	0	4	6	4	4	6	3	0	0	0	1	28	5 27
NNW	0	0	2	4	5	7	1	1	0	0	0	0	20	4 79
N	0	3	0	0	4	1	0	0	0	1	0	0	9	4 28
VARIABLE													0	0 00
CALM													0	0 00
TOTAL	2	7	23	46	46	41	35	28	10	18	6	19	281	6 07

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0 00	0 05	0 09	0 23	0 09	0 00	0 14	0 14	0 09	0 00	0 00	0 23	1 07	7 09
NE	0 00	0 00	0 00	0 09	0 00	0 00	0 05	0 00	0 05	0 00	0 00	0 14	0 33	8 10
ENE	0 00	0 00	0 00	0 00	0 05	0 05	0 05	0 00	0 00	0 00	0 00	0 00	0 14	5 50
E	0 05	0 00	0 00	0 00	0 09	0 09	0 19	0 09	0 00	0 00	0 00	0 05	0 56	6 07
ESE	0 05	0 00	0 00	0 05	0 00	0 00	0 23	0 23	0 05	0 00	0 00	0 00	0 60	6 53
SE	0 00	0 00	0 00	0 37	0 19	0 37	0 33	0 28	0 19	0 28	0 19	0 05	2 23	6 87
SSE	0 00	0 00	0 14	0 28	0 23	0 23	0 09	0 14	0 00	0 28	0 00	0 00	1 39	5 77
S	0 00	0 00	0 14	0 05	0 23	0 14	0 05	0 19	0 05	0 05	0 05	0 00	0 93	5 89
SSW	0 00	0 00	0 05	0 05	0 09	0 05	0 00	0 05	0 00	0 00	0 00	0 00	0 28	4 55
SW	0 00	0 09	0 09	0 09	0 09	0 05	0 00	0 00	0 00	0 00	0 00	0 00	0 42	3 26
WSW	0 00	0 00	0 14	0 14	0 00	0 00	0 05	0 00	0 00	0 14	0 05	0 09	0 60	7 06
W	0 00	0 00	0 09	0 14	0 28	0 09	0 05	0 00	0 00	0 00	0 00	0 09	0 74	6 01
WNW	0 00	0 05	0 05	0 19	0 19	0 28	0 09	0 00	0 05	0 05	0 00	0 19	1 12	6 91
NW	0 00	0 00	0 19	0 28	0 19	0 19	0 28	0 14	0 00	0 00	0 00	0 05	1 30	5 27
NNW	0 00	0 00	0 09	0 19	0 23	0 33	0 05	0 05	0 00	0 00	0 00	0 00	0 93	4 79
N	0 00	0 14	0 00	0 00	0 19	0 05	0 00	0 00	0 00	0 05	0 00	0 00	0 42	4 28
VARIABLE													0 00	0 00
CALM													0 00	0 00
TOTAL	0 09	0 33	1 07	2 14	2 14	1 91	1 63	1 30	0 46	0 84	0 28	0 88	13 06	6 07

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OC OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2152

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER, 1984
DAMES AND MOORE JOB NO. - 00377-084-09
DATA PERIOD- 01/01/84 TO 03/31/84
STABILITY CLASS **E** (10-40 METERS)
WINDS AT 10 METER LEVEL

25-JUL-84

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN NUMBER OF OCCURRENCES)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0	2	18	18	22	16	5	1	0	4	1	5	92	4 99
NE	0	2	3	3	2	3	0	0	1	0	0	8	22	7 99
ENE	0	1	2	2	1	1	2	0	1	1	0	0	11	5 00
E	0	0	2	0	4	3	0	0	0	1	0	0	10	4 98
ESE	0	0	1	2	1	2	1	0	0	0	0	0	7	4 47
SE	0	0	0	1	4	3	1	0	0	0	0	0	9	5 01
SSE	0	0	1	2	3	4	1	0	0	0	0	0	11	4 77
S	0	0	2	1	0	0	1	0	0	0	0	0	4	3 75
SSW	0	0	2	0	0	0	0	0	0	0	0	0	2	2 95
SW	0	0	3	0	1	0	1	0	0	0	0	0	5	3 70
WSW	0	0	1	0	1	0	0	0	1	0	0	0	3	5 20
W	0	0	0	4	1	4	0	0	0	0	0	0	9	4 48
WNW	0	0	1	2	6	3	3	1	1	0	0	0	17	5 18
NW	0	0	1	0	1	3	4	0	0	1	0	0	10	5 80
NNW	0	1	1	7	1	4	7	2	1	1	0	1	26	5 55
N	0	3	1	8	4	4	7	1	1	0	1	1	31	5 14
VARIABLE													0	0 00
CALM													0	0 00
TOTAL	0	9	39	50	52	50	33	5	6	8	2	15	269	5 25

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0 00	0 09	0 84	0 84	1 02	0 74	0 23	0 05	0 00	0 19	0 05	0 23	4 28	4 99
NE	0 00	0 09	0 14	0 14	0 09	0 14	0 00	0 00	0 05	0 00	0 00	0 37	1 02	7 99
ENE	0 00	0 05	0 09	0 09	0 05	0 05	0 09	0 00	0 05	0 05	0 00	0 00	0 51	5 00
E	0 00	0 00	0 09	0 00	0 19	0 14	0 00	0 00	0 00	0 05	0 00	0 00	0 46	4 98
ESE	0 00	0 00	0 05	0 09	0 05	0 09	0 05	0 00	0 00	0 00	0 00	0 00	0 33	4 47
SE	0 00	0 00	0 00	0 05	0 19	0 14	0 05	0 00	0 00	0 00	0 00	0 00	0 42	5 01
SSE	0 00	0 00	0 00	0 05	0 09	0 14	0 19	0 05	0 00	0 00	0 00	0 00	0 51	4 77
S	0 00	0 00	0 09	0 05	0 00	0 00	0 05	0 00	0 00	0 00	0 00	0 00	0 19	3 75
SSW	0 00	0 00	0 09	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 09	2 95
SW	0 00	0 00	0 14	0 00	0 05	0 00	0 05	0 00	0 00	0 00	0 00	0 00	0 23	3 70
WSW	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 20
W	0 00	0 00	0 00	0 19	0 05	0 19	0 00	0 00	0 00	0 00	0 00	0 00	0 42	4 48
WNW	0 00	0 00	0 05	0 09	0 28	0 14	0 14	0 05	0 05	0 00	0 00	0 00	0 79	5 18
NW	0 00	0 00	0 05	0 00	0 05	0 14	0 19	0 00	0 00	0 05	0 00	0 00	0 46	5 80
NNW	0 00	0 05	0 05	0 33	0 05	0 19	0 33	0 09	0 05	0 05	0 00	0 05	1 21	5 55
N	0 00	0 14	0 05	0 37	0 19	0 19	0 33	0 05	0 05	0 00	0 05	0 05	1 44	5 14
VARIABLE													0 00	0 00
CALM													0 00	0 00
TOTAL	0 00	0 42	1 81	2 32	2 42	2 32	1 53	0 23	0 28	0 37	0 09	0 70	12 50	5 25

TOTAL NUMBER OF POSSIBLE OBSERVATIONS = 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY = 2152

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER, 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 01/01/84 TO 03/31/84
STABILITY CLASS #F# (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) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0	3	13	34	37	37	28	11	5	5	6	8	187	5 59
NE	0	0	11	6	4	4	2	1	0	1	1	4	34	5 76
ENE	0	4	1	4	2	1	1	1	0	0	0	0	14	3 91
E	0	0	1	1	1	1	0	0	0	0	0	0	4	3 93
ESE	0	1	4	1	0	2	2	0	0	0	0	0	10	3 79
SE	0	0	0	0	1	1	0	0	0	0	0	0	2	5 30
SSE	0	1	2	2	0	0	0	0	0	0	0	0	5	2 98
S	0	0	4	0	0	0	0	0	0	0	0	0	4	2 53
SSW	0	0	2	0	0	0	0	0	0	0	0	0	2	2 55
SW	0	0	1	0	1	0	0	0	0	0	0	0	2	3 50
WSW	0	1	1	0	0	0	0	0	0	0	0	0	2	2 05
W	0	0	0	2	1	1	0	0	0	0	0	0	4	4 00
WNW	0	0	0	0	0	2	2	0	0	0	0	0	4	6 05
NW	0	0	1	1	0	2	0	1	0	0	0	0	5	5 08
NNW	0	0	1	1	3	0	1	0	0	0	0	0	6	4 15
N	0	0	2	5	9	8	5	6	1	4	0	0	40	5 86
VARIABLE													0	0 00
CALM													0	0 00
TOTAL	0	10	44	57	59	59	41	20	6	10	7	12	325	5 27

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0 00	0 14	0 60	1 58	1 72	1 72	1 30	0 51	0 23	0 23	0 28	0 37	8 69	5 59
NE	0 00	0 00	0 51	0 28	0 19	0 19	0 09	0 05	0 00	0 05	0 05	0 19	1 58	5 76
ENE	0 00	0 19	0 05	0 19	0 09	0 05	0 05	0 05	0 00	0 00	0 00	0 00	0 65	3 91
E	0 00	0 00	0 05	0 05	0 05	0 05	0 00	0 00	0 00	0 00	0 00	0 00	0 19	3 93
ESE	0 00	0 05	0 19	0 05	0 00	0 09	0 09	0 00	0 00	0 00	0 00	0 00	0 46	3 79
SE	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 09	5 30
SSE	0 00	0 05	0 09	0 09	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 23	2 98
S	0 00	0 00	0 19	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 19	2 53
SSW	0 00	0 00	0 09	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 09	2 55
SW	0 00	0 0	0 05	0 00	0 05	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 09	3 50
WSW	0 00	0 05	0 05	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 09	2 05
W	0 00	0 00	0 00	0 09	0 05	0 05	0 00	0 00	0 00	0 00	0 00	0 00	0 19	4 00
WNW	0 00	0 00	0 00	0 00	0 00	0 09	0 09	0 00	0 00	0 00	0 00	0 00	0 19	6 05
NW	0 00	0 00	0 05	0 05	0 00	0 09	0 00	0 05	0 00	0 00	0 00	0 00	0 23	5 08
NNW	0 00	0 00	0 05	0 05	0 14	0 00	0 05	0 00	0 00	0 00	0 00	0 00	0 28	4 15
N	0 00	0 00	0 09	0 23	0 42	0 37	0 23	0 28	0 05	0 19	0 00	0 00	1 86	5 86
VARIABLE													0 00	0 00
CALM													0 00	0 00
TOTAL	0 00	0 46	2 04	2 65	2 74	2 74	1 91	0 93	0 28	0 46	0 33	0 56	15 10	5 27

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2152

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER, 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 01/01/84 TO 03/31/84
STABILITY CLASS #G# (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) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0	1	4	15	14	46	71	90	80	111	72	79	583	8.63
NE	0	1	1	4	1	6	4	4	0	2	0	3	26	6.62
ENE	0	1	0	0	2	0	1	0	0	0	0	0	4	4.47
E	0	0	1	1	1	0	0	0	0	0	0	0	3	3.63
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	1	0	0	0	0	0	0	1	5.80
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	2	0	1	0	0	0	0	0	3	5.20
NW	0	0	0	0	0	0	2	0	0	0	0	0	2	6.50
NNW	0	1	0	0	0	0	1	0	0	0	0	0	2	4.50
N	0	0	0	2	1	3	6	4	10	6	3	4	39	8.30
VARIABLE													0	0.00
CALM													0	0.00
TOTAL	0	4	7	22	21	56	86	98	90	119	75	86	664	8.43

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0.00	0.05	0.19	0.70	0.65	2.14	3.30	4.18	3.72	5.16	3.35	3.67	27.09	8.63
NE	0.00	0.05	0.05	0.19	0.05	0.28	0.19	0.19	0.00	0.09	0.00	0.14	1.21	6.62
ENE	0.00	0.05	0.00	0.00	0.09	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.19	4.47
E	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	3.63
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	2.90
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05	5.80
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	0.09	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.14	5.20
NW	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.09	6.50
NNW	0.00	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.09	4.50
N	0.00	0.00	0.00	0.09	0.05	0.14	0.28	0.19	0.46	0.28	0.14	0.19	1.81	8.30
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.19	0.33	1.02	0.98	2.60	4.00	4.55	4.18	5.53	3.49	4.00	30.86	8.43

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2152

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER, 1984
DAMES AND MOORE JOB NO. - 00377-084-09
DATA PERIOD- 01/01/84 TO 03/31/84
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) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0.	7.	37.	72.	79.	100.	109.	106.	89.	120.	79.	100.	894.	7.60
NE	0.	3.	15.	15.	7.	14.	7.	6.	3.	3.	1.	18.	92.	6.61
ENE	0.	6.	3.	6.	6.	3.	6.	1.	1.	1.	0.	0.	33.	4.54
E	1.	0.	4.	2.	8.	6.	4.	2.	0.	1.	0.	2.	30.	5.39
ESE	1.	1.	6.	4.	1.	4.	8.	5.	1.	0.	0.	0.	31.	5.06
SE	0.	0.	0.	9.	9.	13.	9.	7.	8.	8.	4.	1.	68.	6.75
SSE	0.	1.	9.	15.	14.	12.	9.	8.	7.	9.	1.	0.	85.	5.70
S	0.	0.	13.	10.	12.	15.	16.	16.	5.	3.	4.	0.	96.	5.89
SSW	0.	0.	7.	9.	13.	12.	7.	7.	10.	2.	0.	2.	69.	5.83
SW	0.	2.	13.	17.	25.	16.	8.	8.	0.	0.	0.	0.	89.	4.65
WSW	0.	2.	7.	22.	30.	19.	17.	4.	2.	3.	1.	6.	113.	5.51
W	0.	0.	5.	19.	41.	53.	30.	20.	7.	5.	4.	5.	189.	6.02
WNW	0.	1.	3.	10.	21.	27.	26.	12.	10.	11.	4.	14.	139.	7.16
NW	0.	0.	6.	8.	6.	11.	13.	5.	0.	1.	1.	2.	53.	5.65
NNW	0.	2.	4.	12.	10.	11.	10.	4.	1.	1.	0.	1.	57.	5.09
N	0.	6.	3.	15.	19.	16.	18.	11.	12.	11.	4.	6.	121.	6.39
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	2.	31.	135.	246.	297.	332.	297.	224.	156.	179.	103.	157.	2159.	6.63

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0.00	0.32	1.71	3.33	3.47	4.63	5.05	4.91	4.12	5.56	3.66	4.63	41.41	7.60
NE	0.00	0.14	0.69	0.69	0.32	0.65	0.32	0.28	0.14	0.14	0.05	0.83	4.26	6.61
ENE	0.00	0.28	0.14	0.28	0.28	0.14	0.28	0.05	0.05	0.05	0.00	0.00	1.53	4.54
E	0.05	0.00	0.19	0.09	0.37	0.28	0.19	0.09	0.00	0.05	0.00	0.09	1.39	5.39
ESE	0.05	0.05	0.28	0.19	0.05	0.19	0.37	0.23	0.05	0.00	0.00	0.00	1.44	5.06
SE	0.00	0.00	0.00	0.42	0.42	0.60	0.42	0.32	0.37	0.37	0.19	0.05	3.15	6.75
SSE	0.00	0.05	0.42	0.69	0.65	0.56	0.42	0.37	0.32	0.42	0.05	0.00	3.94	5.70
S	0.00	0.00	0.60	0.46	0.56	0.69	0.74	0.83	0.23	0.14	0.19	0.00	4.45	5.89
SSW	0.00	0.00	0.32	0.42	0.60	0.56	0.32	0.32	0.46	0.09	0.00	0.09	3.20	5.83
SW	0.00	0.09	0.60	0.79	1.16	0.74	0.37	0.37	0.00	0.00	0.00	0.00	4.12	4.65
WSW	0.00	0.09	0.32	1.02	1.39	0.88	0.79	0.19	0.09	0.14	0.05	0.28	5.23	5.51
W	0.00	0.00	0.23	0.88	1.90	2.45	1.39	0.93	0.32	0.23	0.19	0.23	8.75	6.02
WNW	0.00	0.05	0.14	0.46	0.97	1.25	1.20	0.56	0.46	0.51	0.19	0.65	6.44	7.16
NW	0.00	0.00	0.28	0.37	0.28	0.51	0.60	0.23	0.00	0.05	0.05	0.09	2.45	5.65
NNW	0.00	0.09	0.19	0.60	0.46	0.51	0.46	0.19	0.05	0.05	0.00	0.05	2.64	5.09
N	0.00	0.28	0.14	0.69	0.88	0.74	0.83	0.51	0.56	0.51	0.19	0.28	5.60	6.39
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.09	1.44	6.25	11.39	13.76	15.38	13.76	10.38	7.23	8.29	4.77	7.27	100.00	6.63

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OC OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2152

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 04/01/84 TO 06/30/84
STABILITY CLASS **A** (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) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	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 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	1	0	1	0	1	4	8 57
SSE	0	0	0	0	0	3	2	5	6	2	3	20	41	11 17
S	0	0	2	4	8	9	11	16	21	20	9	21	121	8 54
SSW	0	0	1	5	13	19	23	25	28	9	2	4	129	7 17
SW	0	0	2	11	22	32	42	32	13	5	2	1	162	6 41
WSW	0	0	1	6	17	39	45	25	12	7	3	1	156	6 53
W	0	0	0	1	20	27	27	19	26	15	8	12	155	7 64
WNW	0	0	0	0	0	3	2	2	4	2	2	21	36	11 25
NW	0	0	0	0	0	0	0	0	1	0	0	1	2	11 80
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	0 00
CALM													0	0 00
TOTAL	0	0	6	27	80	132	153	125	111	61	29	82	806	7 59

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
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
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 05	0 00	0 05	0 00	0 05	0 19	8 57
SSE	0 00	0 00	0 00	0 00	0 00	0 14	0 09	0 24	0 28	0 09	0 14	0 94	1 93	11 17
S	0 00	0 00	0 09	0 19	0 38	0 42	0 52	0 75	0 99	0 94	0 42	0 99	5 71	8 54
SSW	0 00	0 00	0 05	0 24	0 61	0 90	1 08	1 18	1 32	0 42	0 09	0 19	6 08	7 17
SW	0 00	0 00	0 09	0 52	1 04	1 51	1 98	1 51	0 61	0 24	0 09	0 05	7 64	6 41
WSW	0 00	0 00	0 05	0 28	0 80	1 84	2 12	1 18	0 57	0 33	0 14	0 05	7 36	6 53
W	0 00	0 00	0 00	0 05	0 94	1 27	1 27	0 90	1 23	0 71	0 38	0 57	7 31	7 64
WNW	0 00	0 00	0 00	0 00	0 00	0 14	0 09	0 09	0 19	0 09	0 09	0 99	1 70	11 25
NW	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 05	0 00	0 00	0 05	0 09	11 80
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 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
CALM													0 00	0 00
TOTAL	0 00	0 00	0 28	1 27	3 77	6 23	7 22	5 90	5 24	2 88	1 37	3 87	38 02	7 59

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OC OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2120

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 04/01/84 TO 06/30/84
STABILITY CLASS **B** (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) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	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	0.00
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	2	0	0	1	3	9.63
SSE	0	0	0	0	0	1	1	2	0	1	0	3	8	9.61
S	0	0	0	0	1	1	1	1	0	0	0	1	5	7.16
SSW	0	0	0	0	0	0	2	1	0	0	0	0	3	7.13
SW	0	0	1	0	1	0	2	0	0	1	0	0	5	6.00
WSW	0	0	0	1	0	0	0	0	0	0	0	0	1	3.70
W	0	0	0	0	0	0	0	1	0	0	0	0	1	7.60
WNW	0	0	0	0	0	0	0	1	0	0	0	0	1	7.70
NW	0	0	0	0	0	0	0	0	0	0	0	1	1	12.40
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	0.00
CALM													0	0.00
TOTAL	0	0	1	1	2	2	6	6	2	2	0	6	28	8.02

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
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
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	0.09	0.00	0.00	0.05	0.14	9.63
SSE	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.09	0.00	0.05	0.00	0.14	0.38	9.61
S	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.05	0.24	7.16
SSW	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.14	7.13
SW	0.00	0.00	0.05	0.00	0.05	0.00	0.09	0.00	0.00	0.05	0.00	0.00	0.24	6.00
WSW	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
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	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.05	7.70
NW	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	12.40
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	0.00	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
CALM													0.00	0.00
TOTAL	0.00	0.00	0.05	0.05	0.09	0.09	0.28	0.28	0.09	0.09	0.00	0.28	1.32	8.02

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OC OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2120

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 04/01/84 TO 06/30/84
STABILITY CLASS #C# (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) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	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.	0.00
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.	1.	0.	2.	1.	0.	0.	2.	6.	9.78
SSE	0.	0.	0.	2.	1.	3.	1.	4.	0.	2.	1.	5.	19.	9.03
S	0.	0.	1.	1.	3.	1.	0.	2.	2.	1.	2.	1.	14.	7.20
SSW	0.	0.	1.	1.	1.	3.	2.	2.	0.	0.	0.	0.	10.	5.70
SW	0.	0.	1.	1.	0.	1.	0.	0.	0.	0.	1.	0.	4.	5.65
WSW	0.	0.	1.	4.	5.	1.	1.	0.	0.	0.	0.	0.	12.	4.28
W	0.	0.	3.	3.	3.	0.	2.	0.	0.	0.	0.	0.	11.	4.08
WNW	0.	0.	0.	3.	3.	0.	3.	2.	1.	1.	0.	0.	13.	6.06
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.	1.	0.	1.	10.60
N	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.00
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	0.	7.	15.	16.	10.	9.	12.	4.	4.	5.	8.	90.	6.63

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
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
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	0.05	0.00	0.09	0.05	0.00	0.00	0.09	0.28	9.78
SSE	0.00	0.00	0.00	0.09	0.05	0.14	0.05	0.19	0.00	0.09	0.05	0.24	0.90	9.03
S	0.00	0.00	0.05	0.05	0.14	0.05	0.00	0.09	0.09	0.05	0.09	0.05	0.66	7.20
SSW	0.00	0.00	0.05	0.05	0.05	0.14	0.09	0.09	0.00	0.00	0.00	0.00	0.47	5.70
SW	0.00	0.00	0.05	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.19	5.65
WSW	0.00	0.00	0.05	0.19	0.24	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.57	4.28
W	0.00	0.00	0.14	0.14	0.14	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.52	4.08
WNW	0.00	0.00	0.00	0.14	0.14	0.00	0.14	0.09	0.05	0.05	0.00	0.00	0.61	6.06
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	0.05	0.05	10.60
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
CALM													0.00	0.00
TOTAL	0.00	0.00	0.33	0.71	0.75	0.47	0.42	0.57	0.19	0.19	0.24	0.38	4.25	6.63

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OC OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2120

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 04/01/84 TO 06/30/84
STABILITY CLASS #D# (10-40 METERS)
WINDS AT 10 METER LEVEL

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN NUMBER OF OCCURRENCES)

WIND	UPPER CLASS INTERVALS OF WIND SPEED (MPH)													MEAN
DIRECTION	1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	SPEED
NNE	0	0	2	6	6	4	2	2	0	0	0	0	22	4.72
NE	0	0	1	5	2	1	0	0	0	0	0	0	9	3.90
ENE	0	0	1	2	2	6	1	0	0	0	0	0	12	4.98
E	0	0	1	2	10	1	2	1	0	0	0	0	17	4.79
ESE	0	0	1	7	4	13	12	6	9	4	0	0	56	6.34
SE	0	0	4	13	16	20	23	32	25	18	13	19	183	7.67
SSE	0	0	1	10	8	10	4	10	9	6	3	7	68	7.27
S	0	0	8	7	10	7	6	4	6	3	3	1	55	5.94
SSW	0	1	2	6	8	7	1	3	2	1	2	2	35	5.82
SW	0	0	2	4	5	5	3	5	2	1	1	0	28	5.04
WSW	0	1	5	4	2	2	2	0	0	1	0	1	18	4.90
W	0	1	6	3	5	2	1	0	1	1	0	2	22	5.32
WNW	0	0	1	2	4	2	1	4	2	0	1	4	21	7.64
NW	0	0	2	3	2	3	2	2	2	2	0	6	24	8.02
NNW	0	0	1	5	0	1	0	0	0	0	0	0	7	3.66
N	0	3	5	9	5	3	2	1	0	0	0	0	28	3.94
VARIABLE													0	0.00
CALM													0	0.00
TOTAL	0	6	43	88	89	87	62	70	58	37	23	42	605	6.48

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND	UPPER CLASS INTERVALS OF WIND SPEED (MPH)													MEAN
DIRECTION	1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	SPEED
NNE	0.00	0.00	0.09	0.28	0.28	0.19	0.09	0.09	0.00	0.00	0.00	0.00	1.04	4.72
NE	0.00	0.00	0.05	0.24	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.42	3.90
ENE	0.00	0.00	0.05	0.09	0.09	0.28	0.05	0.00	0.00	0.00	0.00	0.00	0.57	4.98
E	0.00	0.00	0.05	0.09	0.47	0.05	0.09	0.05	0.00	0.00	0.00	0.00	0.80	4.79
ESE	0.00	0.00	0.05	0.33	0.19	0.61	0.57	0.28	0.42	0.19	0.00	0.00	2.64	6.34
SE	0.00	0.00	0.19	0.61	0.75	0.94	1.08	1.51	1.18	0.85	0.61	0.90	8.63	7.67
SSE	0.00	0.00	0.05	0.47	0.38	0.47	0.19	0.47	0.42	0.28	0.14	0.33	3.21	7.27
S	0.00	0.00	0.38	0.33	0.47	0.33	0.28	0.19	0.28	0.14	0.14	0.05	2.57	5.94
SSW	0.00	0.05	0.09	0.28	0.38	0.33	0.05	0.14	0.09	0.05	0.09	0.09	1.65	5.02
SW	0.00	0.00	0.09	0.19	0.24	0.24	0.14	0.24	0.09	0.05	0.05	0.00	1.32	5.94
WSW	0.00	0.05	0.24	0.19	0.09	0.09	0.09	0.00	0.00	0.05	0.00	0.05	0.85	4.90
W	0.00	0.05	0.28	0.14	0.24	0.09	0.05	0.00	0.05	0.05	0.00	0.09	1.04	5.32
WNW	0.00	0.00	0.05	0.09	0.19	0.09	0.05	0.19	0.09	0.00	0.05	0.19	0.99	7.64
NW	0.00	0.00	0.09	0.14	0.09	0.14	0.09	0.09	0.09	0.09	0.00	0.28	1.13	8.02
NNW	0.00	0.00	0.05	0.24	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.33	3.66
N	0.00	0.14	0.24	0.42	0.24	0.14	0.09	0.05	0.00	0.00	0.00	0.00	1.32	3.94
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.28	2.03	4.15	4.20	4.10	2.92	3.30	2.74	1.75	1.08	1.98	28.54	6.48

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OC OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2120

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 04/01/84 TO 06/30/84
STABILITY CLASS #E# (10-40 METERS)
WINDS AT 10 METER LEVEL

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN NUMBER OF OCCURRENCES)

WIND	UPPER CLASS INTERVALS OF WIND SPEED (MPH)													MEAN
DIRECTION	1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	SPEED
NNE	0.	2.	6.	18.	8.	4.	5.	5.	0.	2.	0.	0.	50.	4.65
NE	0.	1.	2.	1.	3.	0.	0.	0.	0.	0.	0.	0.	7.	3.49
ENE	0.	0.	1.	3.	2.	1.	0.	0.	0.	0.	0.	0.	7.	3.99
E	0.	0.	2.	2.	3.	4.	1.	1.	1.	1.	0.	0.	15.	5.33
ESE	0.	0.	3.	3.	4.	6.	1.	0.	1.	0.	0.	0.	18.	4.64
SE	0.	0.	3.	10.	6.	6.	7.	2.	2.	0.	0.	0.	36.	5.13
SSE	0.	1.	6.	9.	2.	5.	2.	2.	0.	0.	0.	0.	27.	4.20
S	0.	0.	3.	2.	2.	1.	3.	0.	0.	0.	0.	0.	11.	4.55
SSW	0.	0.	0.	0.	0.	2.	1.	1.	0.	0.	0.	0.	4.	6.30
SW	0.	0.	1.	2.	1.	1.	1.	0.	0.	0.	0.	0.	6.	4.52
WSW	0.	0.	0.	2.	0.	0.	0.	1.	0.	1.	0.	0.	4.	5.78
W	0.	0.	1.	3.	2.	0.	0.	0.	0.	0.	0.	0.	6.	3.68
WNW	0.	1.	1.	1.	2.	1.	2.	1.	0.	0.	0.	1.	10.	5.86
NW	0.	1.	3.	1.	2.	2.	1.	0.	1.	0.	1.	5.	17.	7.07
NNW	0.	1.	2.	3.	0.	0.	1.	1.	1.	0.	0.	0.	9.	4.63
N	0.	2.	12.	5.	3.	2.	2.	2.	0.	1.	0.	0.	29.	3.99
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	9.	46.	65.	40.	35.	27.	16.	6.	5.	1.	6.	256.	4.91

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND	UPPER CLASS INTERVALS OF WIND SPEED (MPH)													MEAN
DIRECTION	1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	SPEED
NNE	0.00	0.09	0.28	0.85	0.38	0.19	0.24	0.24	0.00	0.09	0.00	0.00	2.36	4.65
NE	0.00	0.05	0.09	0.05	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	3.49
ENE	0.00	0.00	0.05	0.14	0.09	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.33	3.99
E	0.00	0.00	0.09	0.09	0.14	0.19	0.05	0.05	0.05	0.05	0.00	0.00	0.71	5.33
ESE	0.00	0.00	0.14	0.14	0.19	0.28	0.05	0.00	0.05	0.00	0.00	0.00	0.85	4.64
SE	0.00	0.00	0.14	0.47	0.28	0.28	0.33	0.09	0.09	0.00	0.00	0.00	1.70	5.13
SSE	0.00	0.05	0.28	0.42	0.09	0.24	0.09	0.09	0.00	0.00	0.00	0.00	1.27	4.20
S	0.00	0.00	0.14	0.09	0.09	0.05	0.14	0.00	0.00	0.00	0.00	0.00	0.52	4.55
SSW	0.00	0.00	0.00	0.00	0.00	0.09	0.05	0.05	0.00	0.00	0.00	0.00	0.19	6.30
SW	0.00	0.00	0.05	0.09	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.28	4.52
WSW	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.19	5.78
W	0.00	0.00	0.00	0.14	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	3.68
WNW	0.00	0.05	0.05	0.05	0.09	0.05	0.09	0.05	0.00	0.00	0.00	0.05	0.47	5.06
NW	0.00	0.05	0.14	0.05	0.09	0.09	0.05	0.00	0.05	0.00	0.05	0.24	0.80	7.07
NNW	0.00	0.05	0.09	0.14	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00	0.42	4.63
N	0.00	0.09	0.57	0.24	0.14	0.09	0.09	0.09	0.00	0.05	0.00	0.00	1.37	3.99
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.42	2.17	3.07	1.89	1.65	1.27	0.75	0.28	0.24	0.05	0.28	12.08	4.81

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2120

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER. 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 04/01/84 TO 06/30/84
STABILITY CLASS #F# (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) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0.	1.	7.	25.	42.	28.	22.	5.	5.	1.	0.	0.	136.	5.12
NE	0.	1.	3.	6.	3.	2.	0.	0.	0.	0.	0.	0.	15.	3.75
ENE	0.	0.	2.	1.	0.	0.	1.	0.	0.	0.	0.	0.	4.	3.93
E	0.	1.	3.	0.	1.	1.	0.	0.	0.	0.	0.	0.	6.	3.10
ESE	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.	0.	0.	3.	2.73
SE	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.80
SSE	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.95
S	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.10
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.	3.	1.	0.	0.	0.	0.	0.	0.	0.	0.	4.	2.85
W	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.00
WNW	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	7.00
NW	0.	0.	0.	1.	0.	0.	0.	0.	1.	1.	1.	0.	4.	8.15
NNW	0.	0.	1.	1.	1.	1.	0.	1.	0.	0.	0.	0.	5.	4.58
N	0.	0.	4.	8.	4.	3.	2.	2.	2.	0.	1.	0.	26.	4.90
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	3.	28.	45.	51.	35.	26.	8.	8.	2.	2.	0.	208.	4.95

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0.00	0.05	0.33	1.18	1.98	1.32	1.04	0.24	0.24	0.05	0.00	0.00	6.42	5.12
NE	0.00	0.05	0.14	0.28	0.14	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.71	3.75
ENE	0.00	0.00	0.09	0.05	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.19	3.93
E	0.00	0.05	0.14	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.28	3.10
ESE	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	2.73
SE	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	2.80
SSE	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	2.95
S	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	2.10
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	0.14	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	2.85
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	0.05	0.00	0.00	0.00	0.00	0.00	0.05	7.00
NW	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.00	0.19	8.15
NNW	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.24	4.58
N	0.00	0.00	0.19	0.38	0.19	0.14	0.09	0.09	0.09	0.00	0.05	0.00	1.23	4.90
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.14	1.32	2.12	2.41	1.65	1.23	0.38	0.38	0.09	0.09	0.00	7.81	4.85

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OC OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2120

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY 25-JUL-84
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 04/01/84 TO 06/30/84
STABILITY CLASS *G* (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) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0.	0.	0.	1.	9.	19.	19.	27.	21.	8.	4.	0.	108.	7.19
NE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.00
ENE	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	1.	5.40
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.	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.	1.	0.	0.	1.	0.	0.	1.	1.	4.	8.85
NW	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	3.	0.	4.	9.33
NNW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.00
N	0.	0.	0.	1.	0.	1.	5.	3.	0.	0.	0.	0.	10.	6.50
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	0.	0.	2.	10.	22.	24.	31.	21.	8.	8.	1.	127.	7.24

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0.00	0.00	0.00	0.05	0.42	0.90	0.90	1.27	0.99	0.38	0.19	0.00	5.09	7.19
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05	5.40
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	0.00	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	0.05	0.00	0.00	0.05	0.00	0.00	0.05	0.05	0.19	8.85
NW	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.14	0.00	0.19	9.33
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	0.00	0.05	0.24	0.14	0.00	0.00	0.00	0.00	0.47	6.50
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.00	0.00	0.09	0.47	1.04	1.13	1.46	0.99	0.38	0.38	0.05	5.99	7.24

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OC OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2120

TABLE 4A

SOUTHERN CALIFORNIA EDISON COMPANY
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1984
DAMES AND MOORE JOB NO - 00377-084-09
DATA PERIOD- 04/01/84 TO 06/30/84
STABILITY CLASS ALL (10-40 METERS)
WINDS AT 10 METER LEVEL

25-JUL-84

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN NUMBER OF OCCURRENCES)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0.	3.	16.	52.	65.	57.	48.	39.	26.	11.	4.	0.	321.	5.70
NE	0.	2.	6.	12.	8.	3.	0.	0.	0.	0.	0.	0.	31.	3.74
ENE	0.	0.	4.	6.	4.	8.	2.	0.	0.	0.	0.	0.	24.	4.48
E	0.	1.	6.	4.	14.	6.	3.	2.	1.	1.	0.	0.	38.	4.74
ESE	0.	0.	6.	11.	8.	19.	13.	6.	10.	4.	0.	0.	77.	5.81
SE	0.	0.	8.	23.	22.	27.	31.	37.	30.	19.	13.	23.	233.	7.35
SSE	0.	1.	8.	22.	11.	22.	10.	23.	16.	11.	7.	35.	166.	8.00
S	0.	0.	15.	14.	24.	19.	21.	23.	29.	25.	14.	24.	208.	7.49
SSW	0.	1.	4.	12.	22.	31.	30.	32.	30.	10.	4.	6.	182.	6.91
SW	0.	0.	7.	19.	29.	44.	50.	38.	15.	7.	4.	1.	214.	6.23
WSW	0.	1.	11.	18.	28.	42.	50.	26.	13.	9.	3.	2.	203.	6.10
W	0.	1.	11.	10.	30.	32.	32.	22.	28.	18.	8.	15.	207.	7.06
WNW	0.	1.	2.	6.	10.	6.	9.	11.	7.	3.	4.	27.	86.	8.75
NW	0.	1.	5.	6.	4.	6.	3.	2.	5.	3.	5.	13.	53.	7.76
NNW	0.	1.	4.	11.	1.	2.	1.	2.	1.	0.	1.	0.	24.	4.49
N	0.	5.	21.	24.	12.	9.	11.	8.	2.	1.	1.	0.	94.	4.49
VARIABLE													0.	0.00
CALM													0.	0.00
TOTAL	0.	18.	134.	250.	292.	333.	314.	271.	213.	122.	68.	146.	2161.	6.60

WIND FREQUENCY DISTRIBUTION
(FREQUENCY IN PERCENT OF TOTAL)

WIND DIRECTION	UPPER CLASS INTERVALS OF WIND SPEED (MPH) 1	2	3	4	5	6	7	8	9	10	11	>11	TOTAL	MEAN SPEED
NNE	0.00	0.14	0.74	2.41	3.01	2.64	2.22	1.80	1.20	0.51	0.19	0.00	14.85	5.70
NE	0.00	0.09	0.28	0.56	0.37	0.14	0.00	0.00	0.00	0.00	0.00	0.00	1.43	3.74
ENE	0.00	0.00	0.19	0.28	0.19	0.37	0.09	0.00	0.00	0.00	0.00	0.00	1.11	4.48
E	0.00	0.05	0.28	0.19	0.65	0.28	0.14	0.09	0.05	0.05	0.00	0.00	1.76	4.74
ESE	0.00	0.00	0.28	0.51	0.37	0.88	0.60	0.28	0.46	0.19	0.00	0.00	3.56	5.81
SE	0.00	0.00	0.37	1.06	1.02	1.25	1.43	1.71	1.39	0.88	0.60	1.06	10.78	7.35
SSE	0.00	0.05	0.37	1.02	0.51	1.02	0.46	1.06	0.74	0.51	0.32	1.62	7.68	8.00
S	0.00	0.00	0.69	0.65	1.11	0.88	0.97	1.06	1.34	1.16	0.65	1.11	9.63	7.49
SSW	0.00	0.05	0.19	0.56	1.02	1.43	1.39	1.48	1.39	0.46	0.19	0.28	8.42	6.01
SW	0.00	0.00	0.32	0.88	1.34	2.04	2.31	1.76	0.69	0.32	0.19	0.05	9.90	6.23
WSW	0.00	0.05	0.51	0.83	1.30	1.94	2.31	1.20	0.60	0.42	0.14	0.09	9.39	6.10
W	0.00	0.05	0.51	0.46	1.57	1.48	1.48	1.02	1.30	0.83	0.37	0.69	9.58	7.06
WNW	0.00	0.05	0.09	0.28	0.46	0.28	0.42	0.51	0.32	0.14	0.19	1.25	3.98	8.75
NW	0.00	0.05	0.23	0.28	0.19	0.28	0.14	0.09	0.23	0.14	0.23	0.60	2.45	7.96
NNW	0.00	0.05	0.19	0.51	0.05	0.09	0.05	0.09	0.05	0.00	0.05	0.00	1.11	4.49
N	0.00	0.23	0.97	1.11	0.56	0.42	0.51	0.37	0.09	0.05	0.05	0.00	4.35	4.49
VARIABLE													0.00	0.00
CALM													0.00	0.00
TOTAL	0.00	0.83	6.20	11.57	13.51	15.41	14.53	12.54	9.86	5.65	3.15	6.76	100.00	6.60

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OC OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2120

SECTION H. 10 CFR 50 APPENDIX I AND 40 CFR 190 CONSIDERATIONS

The table in Section H presents the maximum dose to an individual for the first and second quarters. Six different categories are presented: (1) Liquid Effluents - Whole Body, (2) Liquid Effluents - Organ, (3) Airborne Effluents - Iodines and Particulates, (4) Noble Gases - Gamma, (5) Noble Gases - Beta, and (6) Direct Radiation.

The doses for categories 1 and 2 were calculated using the methodology of the ODCM, this data is also presented in Table 2D for the first and second quarters. Categories 3, 4, and 5 were calculated utilizing RRRGS (Radioactive Release Report Generating System) software, Reg. Guide 1.109 methodology, and concurrent meteorology. Table 1E lists data similar to categories 3, 4, and 5 covering the first and second quarters using methods described in the ODCM and the historical meteorology (X/Q). Category 6 presents direct dose data measured by TLD dosimeters. Each portion of each category is footnoted to briefly describe each maximum individual dose presented.

10 CFR 50 APPENDIX I AND 40 CFR 190 CONSIDERATIONS

SOURCE		Dose* (millirems) 1st Q	2nd Q	3rd Q	4th Q	YEAR
Liquid Effluents	WHOLE BODY	1) 1.01E-1	2) 7.81E-2	3)	4)	5)
	ORGAN	6) 2.05E+0	7) 8.40E-1	8)	9)	10)
Airborne Effluents Iodines and Particulates		11) 3.24E-2	12) 5.64E-2	13)	14)	15)
Noble Gases**	GAMMA	16) 1.03E-1	17) 5.48E-1	18)	19)	20)
	BETA	21) 3.08E-1	22) 1.54E+0	23)	24)	25)
Direct Radiation		26) 2.02E-1	27) 1.64E-1	28)	29)	30)

* The numbered footnotes below briefly explain how each maximum dose was calculated, including the organ and the predominant pathway(s).

** Noble gas doses due to airborne effluents are in units of mrad reflecting the air dose.

1. This data was calculated using the methodology of the ODCM.

2. This data was calculated using the methodology of the ODCM.

3. This data to be evaluated during the third and fourth quarters.

4. This data to be evaluated during the third and fourth quarters.

5. This data to be evaluated during the third and fourth quarters.

6. This data was calculated using the methodology of the ODCM; the GI-LLI received the maximum dose primarily by the saltwater fish pathway.

7. This data was calculated using the methodology of the ODCM; the GI-LLI received the maximum dose primarily by the saltwater fish pathway.

8. This data to be evaluated during the third and fourth quarters.

9. This data to be evaluated during the third and fourth quarters.

10. This data to be evaluated during the third and fourth quarters.

11. The maximum organ dose was to a child's thyroid and was located in the NNW sector. This was calculated using the activity reported in the January - June 1984 Semiannual Report with the assumptions of USNRC Regulatory Guide 1.109.

12. The maximum organ dose was to a child's thyroid and was located in the NNW sector. This was calculated using the activity reported in the January - June 1984 Semiannual Report with the assumptions of USNRC Regulatory Guide 1.109.

13. This data to be evaluated during the third and fourth quarters.

14. This data to be evaluated during the third and fourth quarters.

15. This data to be evaluated during the third and fourth quarters.

16. A maximum air dose of 2.79E-1 mrad for gamma radiation was located in the SSW sector, a seaward direction. The reported maximum air dose for gamma radiation was located in the ENE sector, a landward sector, at the exclusion area boundary and calculated with the assumptions of USNRC Regulatory Guide 1.109.

17. The maximum air dose for gamma radiation was located in the E sector at the exclusion area boundary and calculated with the assumptions of USNRC Regulatory Guide 1.109.

18. This data to be evaluated during the third and fourth quarters.

19. This data to be evaluated during the third and fourth quarters.

20. This data to be evaluated during the third and fourth quarters.

21. A maximum air dose of 8.33E-1 mrad for beta radiation was located in the SSW sector, a seaward direction. The reported maximum air dose for beta radiation was located in the ENE sector, a landward sector, at the exclusion area boundary and calculated with the assumptions of the USNRC Regulatory Guide 1.109.

22. The maximum air dose for beta radiation was located in the E sector at the exclusion area boundary and calculated with the assumptions of the USNRC Regulatory Guide 1.109.

23. This data to be evaluated during the third and fourth quarters.

24. This data to be evaluated during the third and fourth quarters.

25. This data to be evaluated during the third and fourth quarters.

26. Measurements were made using TLD dosimeters; values were prorated to 300 hours per year; highest dose was measured at the San Onofre State Beach (Unit 1 North location).

27. Measurements were made using TLD dosimeters; values were prorated to 300 hours per year; highest dose was measured at the San Onofre State Beach (Unit 1 North location).

28. This data to be evaluated during the third and fourth quarters.

29. This data to be evaluated during the third and fourth quarters.

30. This data to be evaluated during the third and fourth quarters.

SECTION I. 10 CFR 50 APPENDIX I AND 40 CFR 190, PERCENT TECHNICAL SPECIFICATION LIMITS

The table in Section I corresponds to the table in Section H. Each dose presented in Section H is related to the percent of Technical Specification Limits and this value listed in Section I.

10 CFR 50 APPENDIX I AND 40 CFR 190,
PERCENT TECHNICAL SPECIFICATION LIMITS

		% TSL				
SOURCE		1st Q	2nd Q	3rd Q	4th Q	YEAR
Liquid Effluents	WHOLE BODY	3.40E+0	2.6E+0			
	ORGAN	2.05E+1	8.40E+0			
Airborne Effluents Iodines and Particulates		2.16E-1	3.76E-1			
Noble Gases	GAMMA	1.03E+0	5.48E-1			
	BETA	1.54E+0	7.70E+0			
Direct Radiation		*	*			

* These sections were left intentionally blank since the 40 CFR 190 limit is based on a "per year" basis only.

SECTION J. MISCELLANEOUS

I. UNPLANNED RELEASES

On January 1, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 84 Curies Xe-133 equivalent was released when the Waste Gas Header was drained of water. The release is described in full detail in Unit 2 LER #84-001.

On January 12, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 23 Curies of Xe-133 equivalent was released as a release inside the Radwaste Building was cleared. This was reported via telephone to the NRC per 50.72 reporting requirements.

On March 24, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 7.6 Curies of Xe-133 equivalent was released when a Unit 3 degassification line was cleared. This was reported via telephone to the NRC per 50.72 reporting requirements.

On March 26, 1984, two unplanned but monitored gaseous releases occurred via the Plant Vent Stack. The first release occurred when Unit 3 letdown control valve leaked and released approximately 5.7 Curies of Xe-133 equivalent. The second release occurred when the Waste Gas Decay tanks were sampled and approximately 5.5 Curies of Xe-133 equivalent was released. This was reported via telephone to the NRC per 50.72 reporting requirements.

On March 27, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 3.1 Curies of Xe-133 equivalent was released as a sample was drawn off the Chemical Volume Control ion-exchanger. This was reported via telephone to the NRC per 50.72 reporting requirements.

On March 28, 1984, several unplanned but monitored gaseous releases occurred via the Plant Vent Stack. A total of approximately 12 Curies of Xe-133 equivalent was released during sampling and relief valves lifting on the Waste Gas Header. These were reported via telephone to the NRC per 50.72 reporting requirements.

On March 30, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 0.2 Curies of Xe-133 equivalent was released while dewatering a Crud Tank. This was reported via telephone to the NRC per 50.72 reporting requirements.

On April 1, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 0.1 Curies of Xe-133 equivalent was released while backflushing a radwaste filter. This was reported via telephone to the NRC per 50.72 reporting requirements.

On April 4, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 0.27 Curies of Xe-133 equivalent was released while backflushing a radwaste filter. This was reported via telephone to the NRC per 50.72 reporting requirements.

On April 5, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 1.4 Curies of Xe-133 equivalent was released while backflushing a radwaste filter. This was reported via telephone to the NRC per 50.72 reporting requirements.

On April 6, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 0.33 Curies of Xe-133 equivalent was released while pumping liquid radwaste into the Miscellaneous Radwaste tank. This was reported via telephone to the NRC per 50.72 reporting requirements.

On April 12, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 3.7 Curies of Xe-133 equivalent was released while utilizing the Volume Control Tank sample line. This was reported via telephone to the NRC per 50.72 reporting requirements.

On April 17, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 0.36 Curies of Xe-133 equivalent was released while utilizing the Pressurizer Degas System. This was reported via telephone to the NRC per 50.72 reporting requirements.

On April 19, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 0.1 Curies of Xe-133 equivalent was released while draining the Pressurizer Vapor Space. This was reported via telephone to the NRC per 50.72 reporting requirements.

On April 23, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 22.7 Curies of Xe-133 equivalent was released while backflushing a radwaste filter. This was reported via telephone to the NRC per 50.72 reporting requirements.

On April 30, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 1.8 Curies of Xe-133 equivalent was released while backflushing a radwaste filter. This was reported via telephone to the NRC per 50.72 reporting requirements.

On May 1, 1984, an unplanned but monitored gaseous release occurred via the Plant Vent Stack. A total of approximately 2.1 Curies of Xe-133 equivalent was released while backflushing a radwaste filter. This was reported via telephone to the NRC per 50.72 reporting requirements.

On May 2, 1984, an unplanned but monitored release occurred via the Plant Vent Stack. A total of approximately 107 Curies of Xe-133 equivalent was released when a rupture disc on a Waste Gas Compressor check valve failed. An UNUSUAL EVENT was declared per the Emergency Preparedness Procedure. The release is described in full detail in Unit 2 LER #84-027.

On May 5, 1984, an unplanned but monitored release occurred via the Plant Vent Stack. A total of approximately 405 Curies of Xe-133 equivalent was released when a Waste Gas Sampling System pressure control valve failed open. An UNUSUAL EVENT was declared per the Emergency Preparedness Procedure. The release is described in full detail in Unit 2 LER #84-028.

On May 8, 1984, an unplanned but monitored release occurred via the Plant Vent Stack. A total of approximately 1.7 Curies of Xe-133 equivalent was released while flushing a Reactor Coolant System sample line. This was reported via telephone to the NRC per 50.72 reporting requirements.

On May 13, 1984, an unplanned but monitored release occurred via the Plant Vent Stack. A total of approximately 1.4 Curies of Xe-133 equivalent was released when a Waste Gas Header Relief valve lifted. This was reported via telephone to the NRC per 50.72 reporting requirements.

On June 2, 1984, an unplanned but monitored release occurred via the Plant Vent Stack. A total of approximately 427 Curies of Xe-133 equivalent was released when safety relief valves on the Nuclear Sampling System lifted. The release is described in full detail in Unit 3 LER #84-021.

SUMMARY

During the 1st quarter, unplanned but monitored releases by the plant vent stack were evaluated from computer recorded monitor data for the plant vent stack monitors and totaled 3.38E+3 Curies of Xe-133. This activity has been included in the total releases and has been included in the appropriate dose calculations.

During the 2nd quarter, unplanned but monitored releases by the plant vent stack were evaluated from computer recorded monitor data for the plant vent stack monitors and totaled 9.34E+3 Curies of Xe-133. This activity has been included in the total releases and has been included in the appropriate dose calculations.

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11. UNIT 2 AND 3 EFFLUENT RADIATION MONITORS OUT OF SERVICE FOR GREATER THAN 30 DAYS

MONITOR	INOPERABILITY DATE	INOPERABILITY CAUSE	EXPLANATION
2RI-7870	3/17 - 5/4	DETECTOR WATER DAMAGE VELOCITY PROBE AND AMPLIFIER CALIBRATION, MAIN VACUUM PUMP SECURED.	COMPLETE REWORK/RECAL OF DETECTOR, OFF-SITE VENDOR CALIBRATION REQUIRED ON PROBE AND AMPLIFIER. SUBSTITUTE PROCESS FLOW VALUE INSERTED INTO MONITOR TO COMPENSATE FOR LOW STACK FLOW RATE THEREBY RENDERING THE PROCESS FLOW RATE MONITOR INOPERABLE FOR AN EXTENDED PERIOD OF TIME.
2RI-7818 A, B	3/12 - 5/19	INSTRUMENT FAILURE, WATER DAMAGE TO DETECTOR, GAS METER, PHOTOHELIC.	COMPLETE REWORK/RECAL OF DETECTOR AND ASSOCIATED EQUIPMENT.
2RI-7821	4/14 - 5/30	PERFORM CORRECTIVE MAINT. ON MODULE, INCORPORATE DCP 911.1N.	DESIGN CHANGE PACKAGE TURN-OVER PROCESSING.
2RI-6759	3/10 - 4/20	INCORRECT ROTOMETER, FLOW SWITCH INOPERABLE, DCP 1370SJ INCORPORATED	MANUFACTURER UNABLE TO SUPPLY REPLACEMENT PART IN A TIMELY MANNER, DESIGN CHANGE PACKAGE TURN-OVER PROCESSING.
3RI-7865	1/15 - 3/4	PERFORM 18 MOS. CALIBRATION INCORPORATE DCP 3-1391, DCP 3-64N, DCP 3-1074N.	ROUTINE 18 MONTH SURVEILLANCE, DESIGN CHANGE PACKAGE TURN-OVER PROCESSING.
3RI-7870	1/7 - 3/4	PERFORM 18 MOS. CALIBRATION INCORPORATE DCP 3-1391, DCP 3-64N, DCP 3-1074N, DCP 3-223J.	ROUTINE 18 MONTH SURVEILLANCE, DESIGN CHANGE PACKAGE TURN-OVER PROCESSING.
3RI-7818A B	3/4 - 7/1 3/7 - 7/1	INSTRUMENT FAILURE, WATER DAMAGE TO DETECTOR, PHOTOHELIC, INCORPORATE DCP 3.911.1N. INSTRUMENT FAIL ALARM INOPERABLE. CONSTRUCTION/PROJECT IS PRESENTLY WORKING DCP 3-911.4N.	COMPLETE REWORK/RECAL OF DETECTOR, SPARE PARTS UNAVAILABLE FROM NORMAL STOCK, ORDERED FROM MANUFACTURER. DUE TO REPEATED FAILURES FROM WATER DAMAGE, THIS MONITOR IS BEING HELD OUT OF SERVICE UNTIL A DCP TO PROVIDE SAMPLE SYSTEM MOISTURE REMOVAL IS INSTALLED.
3RI-7804 A, B	1/15 - 2/26	PERFORM 18 MOS. CALIBRATION, INCORPORATE DCP 3-1116.0E	ROUTINE 18 MONTH SURVEILLANCE. DESIGN CHANGE PACKAGE TURN-OVER PROCESSING.
3RI-7807A B, C	1/15 - 3/2 1/15 - 2/26	PERFORM 18 MOS. CALIBRATION, INCORPORATE DCP 3-911.1N, DCP 3-1116.0E	ROUTINE 18 MONTH SURVEILLANCE. DESIGN CHANGE PACKAGE TURN-OVER PROCESSING.
3RI-7807A	5/24 - 6/28	INSTRUMENT FAILURE, DETECTOR NOT FUNCTIONING AND CONTAMINATED.	COMPLETE REWORK/RECAL OF DETECTOR, PERFORM PREVENTIVE MAINTENANCE, RESOLVE NCR ON ELECTRONIC COMPONENT.
3RI-7817	1/12 - 3/18	PERFORM 18 MOS. CALIBRATION, CORRECTIVE MAINTENANCE TO REPLACE ELECTRONIC COMPONENT.	ROUTINE 18 MONTH SURVEILLANCE.
3RI-7817	6/6 - 7/1	INCORPORATE DCP 3-911.1N.	DESIGN CHANGE PACKAGE TURN-OVER PROCESSING.
3RI-6753	5/30 - 7/1	INCORPORATE DCP 3-1370SJ	DESIGN CHANGE PACKAGE TURN-OVER PROCESSING.
3RI-6759	5/24 - 7/1	INCORPORATE DCP 3-1370SJ	DESIGN CHANGE PACKAGE TURN-OVER PROCESSING.

11. UNIT 2 AND 3 EFFLUENT RADIATION MONITORS OUT OF SERVICE FOR GREATER THAN 30 DAYS (Continued)

MONITOR	INOPERABILITY DATE	INOPERABILITY CAUSE	EXPLANATION
2/3RI-7813	1/17 - 3/17	HIGH BACKGROUND DUE TO CONTAMINATION	DECONTAMINATE, REWORK/RECAL.
2/3RI-7814 A, B	11/18 - 7/1	HELD OUT OF SERVICE, WAITING ON DCP 3-1385.ON.	HELD OUT OF SERVICE FOR DEVELOPMENT OF DCP TO PREVENT MONITOR OVERPRESSURIZATION. MONITOR HAS BEEN REPEATEDLY DAMAGED BY OVERPRESSURIZATION.
2/3RI-7808 A, B	3/9 - 5/9	PERFORM CORRECTIVE AND SURVEILLANCE MAINTENANCE INCORPORATE DCP 3-911.1N	EXTENSIVE CORRECTIVE MAINTENANCE, DESIGN CHANGE PACKAGE TURN-OVER PROCESSING.

III. CHANGES TO THE PROCESS CONTROL PROGRAM FOR SAN ONOFRE UNIT 2 AND UNIT 3

Interim approval for the Process Control Program for San Onofre Unit 2 and Unit 3 (Health Physics Procedure SO23-VII-8.5.1, Revision 1) was received on April 24, 1984. There was one revision made to the Process Control Program between the approval date of 4/24/84 and 6/30/84. On May 9, 1984, a revision of the Process Control Program (Health Physics Procedure SO23-VII-8.5.1, Revision 2) was submitted to the Onsite Review Committee for approval in accordance with the Unit 2 and Unit 3 Technical Specifications. Most of the changes were done to comply with step 3.5 of the Process Control Program. The changes for this requirement reflect the new method for transporting the additive material M-5 to the disposable liner and the required change to the sample test/preparation requirements. These changes ensure the formula used for solidification is in compliance with the Chem-Nuclear Topical Report CNSI-WF-C-01-NP, "10 CFR 61 Waste Form Certification - Cement," November 30, 1983, and the latest cement solidification technology. The balance of the changes were a result of an April 13, 1984, meeting between SCE and the NRC. The Unit 2 and Unit 3 Process Control Program was modified to specifically state that the Process Control Program complies with 20.311 requirements for shipment and disposal. In addition changes were made to the Process Control Program to further clarify compliance with 10 CFR 61 and the specifically required sampling program. All the above described changes were reviewed and approved by the Onsite Review Committee as documented in Reference 4. The identified changes do not alter the logic or intent of the primary submittal of the Process Control Program.

REFERENCES

1. Unit 2 and Unit 3 Technical Specifications, Section 6.13.2

2. Letter dated April 24, 1984 from the Nuclear Regulating Commission to Kenneth P. Baskin of SCE and James C. Holcombe of SDG&E, relating to interim approval of the Unit 2 and Unit 3 Process Control Program.

3. Letter dated April 19, 1984 from Southern California Edison Company (SCE) to George W. Knighton of USNRC relating to a meeting between SCE and NRC in Bethesda, Maryland concerning approval of the Unit 2 and Unit 3 Process Control Program.

4. Memorandum dated May 9, 1984 to W. W. Strom of Nuclear Safety Group from W. C. Moody, Acting Chairman, Onsite Review Committee relating to Special Onsite Review Committee meeting No. 84-012.

SECTION K. CONCLUSION

- Radioactive releases totaled 1.93E+4 Curies for gaseous effluents and 5.29E2 Curies for liquid effluents.

- Gaseous releases were primarily noble gases and totaled 1.93E+4 Curies of which 94.8% of the noble gases was Xe-133.

- Liquid releases were primarily tritium and accounted for 2.78E+2 Curies or 52.6% of the total liquid releases.

- There were 2 radwaste shipments for SONGS 2/3 to Richland, Washington. There were 536.8 cubic meters of solid radwaste shipped containing 100.6 Curies of radioactivity.

- Meteorological conditions during the year were typical of the meteorology at SONGS 2/3. Meteorological dispersion was good 36% of the time, fair 33% of the time, and poor 31% of the time.

- Compliance with 40 CRF 190 dose limits have been demonstrated in Section H of this report and there are no other fuel cycle facilities within 8 kilometers.

- For liquid releases, marine sample analyses will indicate if any radioactive material has concentrated in marine life. However, 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.

- The net results from the analysis of these effluent releases indicate the operation of SONGS 2/3 has not produced any detrimental effect on the environment.

Southern California Edison Company

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J. G. HAYNES
STATION MANAGER

TELEPHONE
(714) 492-7700

August 29, 1984

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

Attention: Mr. J. B. Martin, Regional Administrator

Dear Sir:

Subject: Docket Nos. 50-361 and 50-362
Semiannual Radioactive Effluent Release Report
San Onofre Nuclear Generating Station, Units 2 and 3

In accordance with Sections 6.9.1.8 and 6.9.1.9 of Appendix A to Technical Specifications for Facility Operating License Nos. NPF-10 and NPF-15 for San Onofre Nuclear Generating Station, Units 2 and 3, respectively, enclosed is the semiannual report of the radioactive content of effluents released to unrestricted areas and shipments of solid waste during the period January 1 to June 30, 1984.

This report has been prepared in the general format of NRC Regulatory Guide 1.21, sections pertinent to SONGS 2 and 3. Included in this report are quarterly effluent summaries, percent of Technical Specification Limits, estimated total percent error, lower limit of detection concentrations, 40 CFR 190 considerations, meteorological data and 50 mile radius population doses.

Please contact us if we can be of further assistance.

Sincerely,

J. G. Haynes

Enclosure

IE-17

Units 2 and 3
San Onofre Nuclear Generating Station

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

U.S. Nuclear Regulatory Commission
Document Control Desk

Institute of Nuclear Power Operations (INPO)