SAN ONOFRE NUCLEAR GENERATING STATION UNIT 1 SEMI-ANNUAL EFFLUENT REPORT

JANUARY — JUNE 1981

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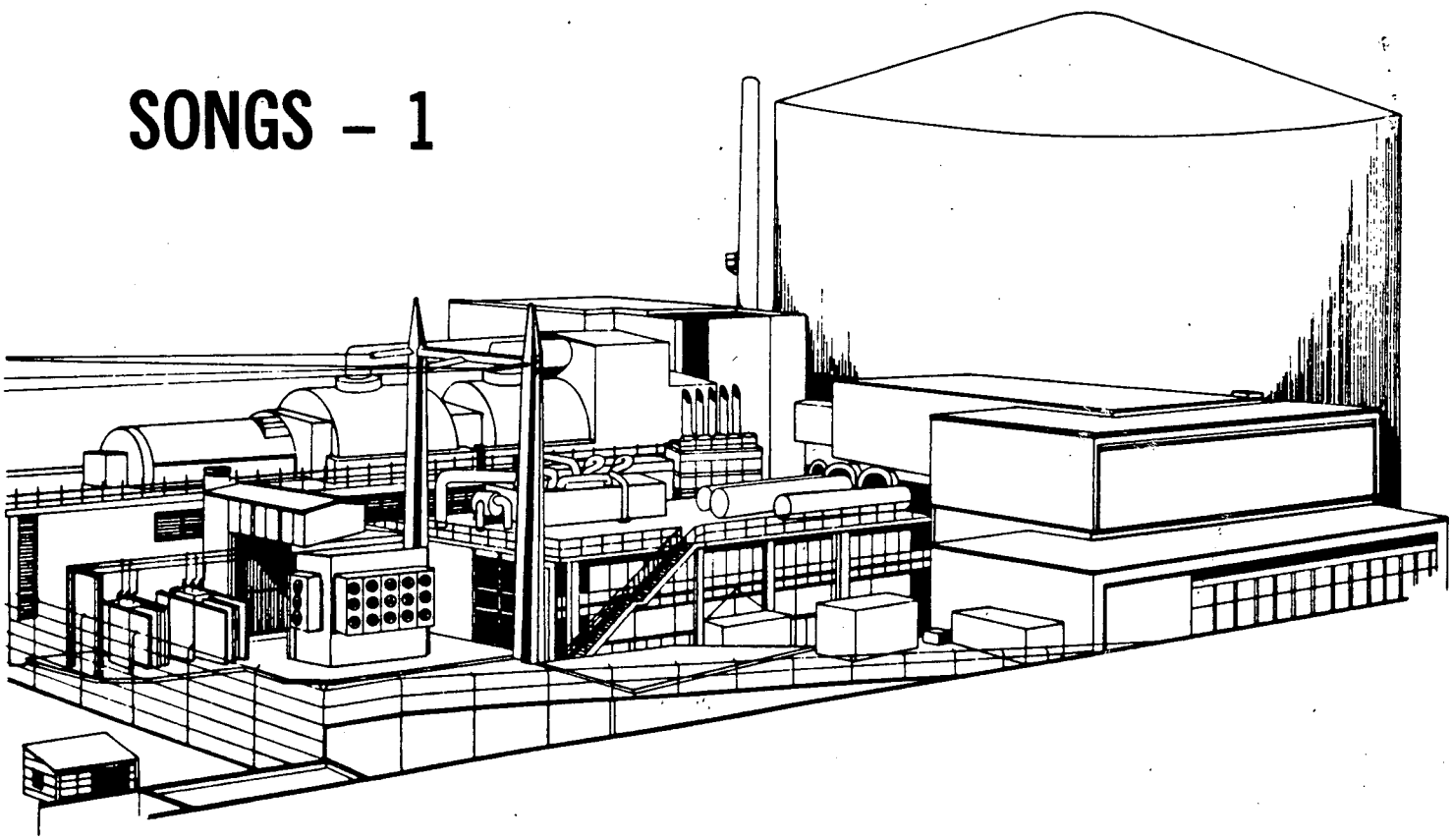

Southern California Edison Company

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

H. B. RAY
STATION MANAGER

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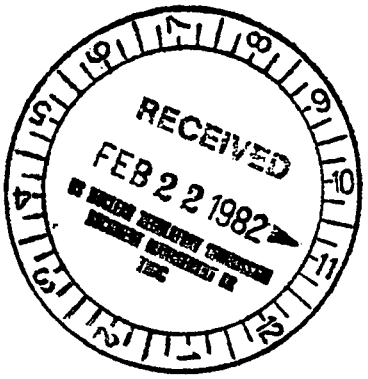
(714) 492-7700

February 19, 1982



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

Docket No. 50-206
San Onofre Unit No. I

Attention: Mr. R. H. Engelken, Director

Dear Mr. Engelken:

Subject: Semi-annual report

The revised and expanded semi-annual report for the period January 1, 1981 through June 30, 1981 is enclosed. This report is submitted in accordance with Section 5.6.2.a and 5.6.2.b of Appendix B to Provisional Operating License No. DPR-13, as amended.

This report has been prepared in the general format of US NRC Regulatory Guide 1.21; sections pertinent to SONGS-I. It is the corrected version of the report submitted previously for the January through June 1981 semi-annual period. Included in this report are quarterly effluent summaries; percent of Technical Specification Limits; estimated total percent error; radionuclides release rates based on lower limit of detection concentrations; and meteorological data.

This report also considers the results of "Surveys" being performed to assure compliance with 10 CFR 20, Appendix B limits for continuous releases. This item was identified by Mr. Yuhas in inspection report No. 50-206/81-36. We have substantially improved this report to conform with NRC objectives and guidance identified in Regulatory Guide 1.21.

Sincerely,

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Enclosures (2)

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Washington, D.C. (40 enclosures)

TABLE OF CONTENTS

SEMI-ANNUAL EFFLUENT REPORT (REVISED)

January - June 1981

SECTION A. INTRODUCTION

This semi-annual effluent report summarizes the gaseous and liquid radioactive effluent releases and the solid waste shipments made from the San Onofre Nuclear Generating Station. This report replaces the previous report and provides additional data summaries and analyses not performed in the previous report. 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. Numerical values of isotopic releases resulting from measurements at the lower limit of detection; and
5. Meteorological data.

SECTION B. GASEOUS EFFLUENTS

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

Containment sphere purges and waste gas decay tank releases are considered to be "batch" releases. "Continuous" releases result from the heat, ventilation, and air conditioning system exhausting the auxiliary building and condenser air ejector system through the plant stack. These releases are monitored continuously by radiation analog monitor R-1214 for noble gas activity, and sampled by charcoal and particulate filters for iodines and particulates, respectively. Since November, 1981, surveys have been performed via daily grab sample collection and analyses to monitor for this gaseous activity. Analyses of these daily grab samples indicate that the activity in these types of samples is normally less than detectable concentrations. These highly diluted releases result in minimal concentrations at unrestricted areas. This type of continuous releases from the plant stack exhaust is estimated to result in concentrations at the unrestricted area which are less than 3.9E-5% of the Technical Specification Limit.

In analyses when isotopes were not detected, the value of the lower limit of detection was used to determine the "less than" value of activity released that is listed in the tables. These "less than" values for gases, iodines, and particulates represent the upper limit of the quantity of undetected activity released via the batch modes (waste gas decay tanks only; i.e. they do not include the activity released from containment sphere purges or from continuous plant stack releases). The "less than" values for particulates and iodines have been listed for continuous releases since these values can be determined from charcoal and particulate filter analyses. The inclusion of "less than" values for radioactive gases from containment sphere purges and plant stack continuous releases have not been included, since these would falsely represent artificially high estimates of releases because of the high volume of air released (i.e. 1E8 - 1E9 cubic feet).

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

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 E of this report.

TABLE 1A

January - June 1981
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	Quarter First	Quarter Second	
A. Fission & activation gases				12 % Estimated Total Error
1. Total release	Ci	<6.06E-3	*<1.10E+1	
2. Average release rate for period	Ci/sec	<7.79E-10	*<1.40E-6	
3. Maximum hourly release rate	Ci/sec	<1.74E-7	1.96E-4	
4. Percent of Technical Specificaton Limit	%	<3.90E-5	*<5.70E-2	
B. Iodines				12 % Estimated Total Error
1. Total Iodine	%	<1.48E-4	*<4.11E-3	
2. Average release rate for period	Ci/sec	<1.90E-11	*<5.28E-10	
3. Maximum hourly release rate	Ci/sec	<3.10E-9	1.70E-7	
4. Percent of Technical Specification Limit	%	<5.20E-4	*<9.50E-2	
C. Particulates				16 % Estimated Total Error
1. Particulates with half-lives > 8 days	Ci	*<1.02E-3	*<1.91E-2	
2. Average release rate for period	Ci/sec	*<1.31E-10	*<2.46E-9	
3. Maximum hourly release rate	Ci/sec	*<5.55E-9	*<5.87E-7	
4. Percent of Technical Specification Limit	%	*<5.30E-4	*<4.10E-4	
5. Gross alpha radioactivity	Ci	<2.80E-8	<8.00E-8	
D. Tritium				15 % Estimated Total Error
1. Total release	Ci	3.93E-0	5.58E-0	
2. Average release rate for period	Ci/sec	5.05E-7	7.17E-7	
3. Maximum hourly release rate	Ci/sec	1.28E-6	2.34E-6	
4. Percent of Technical Specification Limit	%	3.60E-4	6.50E-4	

E. Total Releases - Percent of Technical Specification Limit 1.5E-1%

*< Indicates that value is the sum of measured releases and calculated releases based on LLD values.

TABLE 1B
January - June 1981
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
GASEOUS EFFLUENTS

Nuclides Released	Unit	Continuous Mode* First Quarter	Continuous Mode* Second Quarter	Batch Mode** First Quarter	Batch Mode** Second Quarter
1. Fission gases					
krypton-85	Ci	LLD	LLD	<4.81E-3	*<1.26E-1
krypton-85m	Ci	LLD	LLD	<2.08E-5	3.13E-1
krypton-87	Ci	LLD	LLD	<3.01E-5	*<3.85E-2
krypton-88	Ci	LLD	LLD	<5.01E-5	*<2.55E-1
xenon-131	Ci	LLD	LLD	<4.92E-5	<1.20E-3
xenon-131m	Ci	LLD	LLD	<7.67E-4	<1.87E-3
xenon-133	Ci	LLD	LLD	<5.46E-5	5.35E-0
xenon-133m	Ci	LLD	LLD	<1.51E-4	*<1.64E-1
xenon-135	Ci	LLD	LLD	<1.64E-5	4.54E-0
xenon-135m	Ci	LLD	LLD	<2.82E-5	*<9.47E-3
xenon-138	Ci	LLD	LLD	<4.92E-5	<1.20E-3
argon-41	Ci	LLD	LLD	<3.80E-5	*<1.97E-1
Total for period	Ci	LLD	LLD	<6.06E-3	*<1.10E+1
2. Iodines					
iodine-131	Ci	<1.12E-5	<1.12E-5	<2.11E-5	*<1.94E-3
iodine-133	Ci	<8.84E-6	<8.84E-6	<1.73E-5	<4.21E-4
iodine-135	Ci	<2.00E-5	<2.00E-5	<6.98E-5	<1.71E-3
Total for period	Ci	<4.00E-5	<4.00E-5	<1.08E-4	*<4.07E-3
3. Particulates					
cobalt-57	Ci	<8.06E-6	<8.06E-6	*<4.72E-4	<4.72E-4
cobalt-58	Ci	<8.84E-6	<8.84E-6	*<2.10E-5	<5.10E-4
cobalt-60	Ci	<1.27E-5	<1.27E-5	*<4.67E-5	*<1.13E-3
strontium-89	Ci	<4.00E-8	<8.00E-8	N/A	N/A
strontium-90	Ci	<4.00E-8	<6.00E-8	N/A	N/A
cesium-134	Ci	<1.22E-5	<1.22E-5	<2.85E-5	<6.96E-4
cesium-137	Ci	<1.27E-5	<1.27E-5	<2.67E-5	*<6.54E-4
barium-lanthanum-140	Ci	<3.38E-5	<3.38E-5	<6.83E-5	<1.67E-3
manganese-54	Ci	<1.25E-5	<1.25E-5	*<3.02E-5	<7.35E-4
chromium-51	Ci	<7.80E-5	<7.80E-5	<1.49E-4	*<1.30E-2
Total for period	Ci	<1.79E-4	<1.79E-4	*<8.42E-4	*<1.89E-2
4. Tritium	Ci	NA	NA	3.83E-0	5.58E-0

*LLD - High volume, low activity concentrations prevent listing of less than indicated activity values because they would indicate artificially high or false values.
** - Less than indicated activity values have been determined for waste gas decay tank releases.
*< - Indicates that value is the sum of measured releases and calculated releases based on LLD values.
NA - Not analyzed.

SECTION C. LIQUID EFFLUENTS

Table 2A, "Liquid Effluents-Summation of All Releases" and Table 2B, "Liquid Effluents", provide a detailed listing of liquid effluent releases in four categories: Particulates, Tritium, Iodines and Gases. Table 2B provides the systematic listing by isotope of the quantity of radioactivity released in each category. The total activity of each isotope released is listed for each quarterly period and also is separated into continuous and batch modes of release. When an isotope was not detected, the value of the lower limit of detection was used to determine the "less than" values listed in the tables.

Table 2A, "Liquid Effluents-Summation of All Releases", provides a summary of all liquid effluents for each quarter. Listed are (1) the total release of each category, (2) the average diluted concentration at the point of discharge during each quarterly period, (3) the maximum concentration of diluted effluent that occurred during an hourly period during the quarter (this is determined by averaging over the time period of the batch release when maximum releases and/or concentrations occurred for each quarter), and (4) the percent of Technical Specification Limit. Also listed are the gross alpha radioactivity, the volume of actual liquid waste released (prior to dilution by the circulating water), and the volume of dilution water (i.e. the volume of circulating water) used to dilute the batch releases.

The percent of TSL was calculated according to the intent of the existing Technical Specifications. The methodology used in calculating TSL is presented in Section D of this report. The methodology used for error analyses is presented in Section E of this report.

TABLE 2A
January - June 1981
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	Unit	First Quarter	Second Quarter	
A. Particulates				
1. Total release	Ci	*<5.01E-1	*<2.48E-0	12 % Estimated Total Error
2. Average diluted concentration during period	µCi/ml	*<1.01E-7	*<5.34E-8	
3. Maximum diluted concentration averaged over period of release	µCi/ml	3.13E-7	7.16E-7	
4. Percent of Technical Specification Limit	%	1.60E-2	6.58E-2	
B. Tritium				
1. Total release	Ci	1.25E-0	1.20E+1	12 % Estimated Total Error
2. Average diluted concentration during period	µCi/ml	2.53E-7	2.59E-7	
3. Maximum diluted concentration averaged over period of release	µCi/ml	6.07E-7	1.72E-6	
4. Percent of Technical Specification Limit	%	2.02E-2	5.73E-2	
C. Iodines				
1. Total release	Ci	<2.68E-4	<2.55E-2	12 % Estimated Total Error
2. Average diluted concentration during period	µCi/ml	<5.43E-11	<5.49E-10	
3. Maximum diluted concentration averaged over period of release	µCi/ml	<1.25E-10	<6.03E-9	
4. Percent of Technical Specification Limit	%	<1.91E-2	<9.31E-1	
D. Gases (Dissolved and entrained)				
1. Total release	Ci	<7.29E-4	<6.95E-2	12 % Estimated Total Error
2. Average diluted concentration during period	µCi/ml	<1.99E-10	<1.49E-9	
3. Maximum diluted concentration averaged over period of release	µCi/ml	<1.99E-10	<1.49E-9	
4. Percent of Technical Specification Limit	%	*	*	
E. Gross alpha radioactivity	Ci	7.24E-4	*<2.85E-3	12 % Estimated Total Error
F. Volume of waste released (prior to dilution)	liters	2.55E+5	2.42E+7	
G. Volume of dilution water used during period	liters	4.94E+9	4.64E+10	

*10 CFR 20 does not specify MPC's for gases dissolved in liquid effluents.

TABLE 2B

January - June 1981

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
LIQUID EFFLUENTS

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		First Quarter*	Second Quarter	First Quarter	Second Quarter
A. Particulates					
strontium-89	Ci	0	<6.57E-4	*<6.01E-4	<1.07E-3
strontium-90	Ci	0	<4.38E-4	4.32E-3	1.45E-2
cesium-134	Ci	0	*<2.62E-2	3.04E-2	1.00E-1
cesium-137	Ci	0	*<3.68E-2	9.43E-2	2.16E-1
cobalt-57	Ci	0	<1.59E-2	*<6.07E-4	*<4.42E-3
cobalt-58	Ci	0	<5.24E-3	2.99E-2	7.73E-2
cobalt-60	Ci	0	*<1.03E-2	2.79E-1	1.49E-0
iron-59	Ci	0	<1.50E-2	<1.69E-4	<9.94E-4
zinc-65	Ci	0	<2.12E-2	<2.37E-4	*<1.15E-2
manganese-54	Ci	0	<6.16E-3	5.35E-2	1.16E-1
chromium-51	Ci	0	<2.28E-2	<2.55E-4	<1.50E-3
silver-110m	Ci	0	<2.28E-2	<2.55E-4	*<1.10E-2
zirconium-niobium-95	Ci	0	<2.28E-2	*<1.35E-3	*<5.58E-3
molybdenum-99	Ci	0	<5.24E-2	<5.87E-4	<3.46E-3
technetium-99m	Ci	0	<2.28E-2	<2.55E-4	<1.50E-3
antimony-122	Ci	0	<2.28E-2	<2.55E-4	<1.50E-3
barium-lanthanum-140	Ci	0	<2.28E-2	<2.55E-4	<1.50E-3
cerium-141	Ci	0	<1.00E-2	<1.12E-4	<6.62E-4
cerium-144	Ci	0	<4.10E-2	*<5.05E-3	*<4.55E-2
Total for period	Ci	0	*<3.78E-1	*<5.01E-1	*<2.10
B. Tritium	Ci	0	7.82E-2	1.25	11.87
C. Iodines					
iodine-131	Ci	0	<7.97E-3	<8.94E-5	<5.27E-4
iodine-133	Ci	0	<7.97E-3	<8.94E-5	<5.27E-4
iodine-135	Ci	0	<7.97E-3	<8.94E-5	<5.27E-4
Total for period	Ci	0	<2.39E-2	<2.68E-4	<1.58E-3
D. Dissolved and entrained gases					
krypton-85m	Ci	0	<2.28E-2	<2.55E-4	<1.50E-3
krypton-85	Ci	0	<2.28E-2	<2.55E-4	<1.50E-3
xenon-133	Ci	0	<1.25E-2	<1.40E-4	<8.26E-4
xenon-135	Ci	0	<7.07E-3	<7.91E-5	<4.67E-4
Total for period	Ci		<6.53E-2	<7.29E-4	<4.29E-3

*There were no continuous liquid releases during the first quarter, 1981.

SECTION D. RADWASTE SHIPMENTS

Radwaste shipments totaled 73 shipments during this semi-annual period; 61 solid waste shipments and 12 resin shipments. There were 47,784 cubic feet of solid waste shipped containing 620 curies of radioactivity. Resin shipments were made to Richland, Washington by Chem-Nuclear on January 26, February 18, 26, March 9, 23, April 7, 13, 14, 25, May 4, and June 16, and by Southwest Nuclear on March 11, 1981. Solid waste shipments were made to Richland, Washington by Southwest Nuclear on January 9, 10, 13, 14, 15, 16, 23; February 3, 10, 18, 20, 28; March 3, 12, 20; April 2, 13, 24, 30; May 12, 18, 23, 24, 27, 28, 29, 30, 31, and June 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24, 25, 26, and 30. Solid waste shipments were made by Chem-Nuclear to Richland, Washington on February 5, 21, 23, 28, March 4, 8, 19, 28, April 13, and June 16.

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

$$\sum_i Ci/MPCi \leq 1$$ for concentrations averaged over a year; and $$\sum_i Ci/MPCi \leq 10$$ for concentrations averaged over an hour. SCE has developed revised Technical Specifications 4.5.A and 4.6.A. This semi-annual 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.

$$\sum_i Ci/MPCi \leq 1$$

where: Ci = concentration of radionuclide i in the circulating water discharge at the point of release to unrestricted areas; in µCi/ml.

MPCi = maximum permissible concentration of radionuclide i, as defined in 10 CFR 20, Appendix B, Table II, Column 2; in µCi/ml.

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

$$\frac{1}{V_T} \sum_i \frac{Ai}{MPCi} \times 100\%$$

where: Ai = activity of radionuclide i released over a year; in Ci.

V_T = total volume of liquid effluent released to the unrestricted area during the year; in ml.

$$V_T = V_{DW} + V_{LW}$$

T = subscript to indicate total volume of both dilution water and liquid waste prior to dilution.

DW = subscript to indicate dilution water.

LW = subscript to indicate liquid waste prior to dilution.

V_{DW} = total volume of dilution water used to dilute liquid waste during the year; in ml.

V_{LW} = total volume of liquid waste released prior to dilution; in ml.

MPCi = as defined above.

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

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

$$\sum_i Ci/MPCi \leq 10$$

where: 10 = maximum value of the summation of the ratios of Ci/MPCi averaged over hourly time periods; dimensionless.

Ci = as defined above.

MPCi = as defined above.

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

$$\frac{1}{10\ V_{T,h}} \sum_i \frac{Ai,h}{MPCi} \times 100\%$$

where: 10 = as defined above.

h = subscript used to indicate the hourly period when maximum releases occurred.

$A_{i,h}$ = 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.

MPCi = as defined above.

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

Proposed Technical Specification 4.6.A (Gaseous Effluents)

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

$$\sum_i Ci/MPCi \leq 1$$

where: Ci = concentration of radionuclide i at the unrestricted area.

MPCi = maximum permissible concentrations of radionuclide i as defined in 10 CFR 10, Appendix B, Table II, Column 1; in μCi/cc.

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

$$[5.56E\text{-}6 \sum_i Qi/MPCi] \times 100\%$$

where: 5.56E-6 = atmosphere dispersion factor, in $\frac{sec}{m^3}$.

Qi = release rate of nuclide i averaged over a year; in Ci/sec.

MPCi = as defined above.

The licensee shall be provided the flexibility of averaging over the semi-annual 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:

$$[5.56E\text{-}7 \sum_i Qi,h/MPCi] \times 100\%$$

where 5.56E-7 = atmospheric dispersion factor divided by 10, in $\frac{sec}{m^3}$.

h = subscript used to indicate the hourly period when maximum releases occurred.

Qi,h = release rate of nuclide i averaged over the hour during which the highest releases occurred.

MPCi = as defined above.

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

SECTION F. ESTIMATION OF ERROR

Estimations of the error in reported values of gaseous and liquid 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 error, (2) sampling errors, (3) counting errors, and (4) calibration errors.

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

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

where: σi = error associated with each component.

SECTION G. METEOROLOGY

The meteorology of the SONGS-1 site for the quarterly periods January-March and April-June, 1981 is described in this section. Meteorological measurements have been made according to the guidance set forth in USNRC Regulatory Guide 1.23, "Onsite Meteorological Programs". A summary report of the meteorological measurements taken during each calendar quarter are presented in Tables 3A and 3B as joint frequency distributions (JFD) of wind direction and wind speed by atmospheric stability class.

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

Table 3A, "JFD's First Quarter 1981" and Table 3B, "JFD's Second Quarter 1981" list the joint frequency distributions for the first and second quarters of 1981. Each page of the tables represents the data that is classified as stability class A, B, C, D, E, F, and G; and the last page of each table is the JFD with all stability classes combined. Each page is divided into two parts; the upper part lists the number of hourly periods when each meteorology condition occurred; and the lower part of each page lists the frequency of each classification by percent. The wind speeds have been measured at the 10 meter level and the stability classes are defined by the temperature differential between the 10 and 40 meter levels.

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER 1981
DAMES AND MOORE JOB NO.- 0377-067-09
DATA PERIOD- 01/01/81 TO 03/31/81
STABILITY CLASS WAS (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	0	0	1	0	0	0	1	0	3	6.83
NE	0	0	0	0	0	0	0	0	0	0	0	3	3	17.37
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
ESE	0	0	0	0	0	0	0	0	0	0	0	2	2	16.95
SE	0	0	0	0	0	1	1	0	0	0	1	0	3	7.50
SSE	0	0	0	0	0	0	3	3	2	3	3	2	16	9.02
S	0	0	1	4	7	11	12	8	7	5	1	0	56	6.51
SSW	0	0	0	2	8	5	5	8	1	1	0	0	30	6.18
SW	0	0	0	10	13	12	7	0	1	2	0	0	45	5.24
WSW	0	0	0	5	9	13	13	5	3	4	2	1	55	6.39
W	0	0	0	1	7	20	26	21	19	7	3	12	116	8.11
WNW	0	0	0	2	3	4	8	11	14	13	6	17	78	9.56
NW	0	0	0	0	0	1	0	0	1	0	1	2	5	10.22
NNW	0	0	0	0	0	1	0	0	0	0	0	0	1	5.30
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	0	1	25	47	68	76	56	48	35	18	39	413	7.64

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.	0.	0.	.05	0.	0.	.05	0.	0.	0.	.05	0.	.14	6.83
NE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.14	.14	17.37
ENE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ESE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.09	.09	16.95
SE	0.	0.	0.	0.	.05	.05	0.	0.	0.	.05	0.	.14	.14	7.50
SSE	0.	0.	0.	0.	0.	0.	.14	.14	.09	.14	.14	.09	.76	9.02
S	0.	0.	.05	.19	.33	.52	.57	.38	.33	.24	.05	0.	2.65	6.51
SSW	0.	0.	0.	.09	.38	.24	.24	.38	.05	.05	0.	0.	1.42	6.18
SW	0.	0.	0.	.47	.62	.57	.33	0.	.05	.09	0.	0.	2.13	5.24
WSW	0.	0.	0.	.24	.43	.62	.62	.24	.14	.19	.09	.05	2.60	6.39
W	0.	0.	0.	.05	.33	.95	1.23	.99	.90	.33	.14	.57	5.49	8.11
WNW	0.	0.	0.	.09	.14	.19	.38	.52	.66	.62	.28	.80	3.69	9.56
NW	0.	0.	0.	0.	0.	.05	0.	0.	.05	0.	.05	.09	.24	10.22
NNW	0.	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	.05	5.30
N	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	0.	.05	1.18	2.23	3.22	3.60	2.65	2.27	1.66	.85	1.85	19.55	7.64

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2112

TABLE 3A. JFD's FIRST QUARTER 1981

STABILITY CLASS A

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER 1981
DAMES AND MOORE JOB NO.- 0377-067-09
DATA PERIOD- 01/01/81 TO 03/31/81
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	1	0	0	1	0	1	0	0	3	7.20
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
E	0	0	0	0	0	0	0	0	0	0	0	2	2	17.15
ESE	0	0	0	0	0	0	0	1	0	0	0	3	4	12.72
SE	0	0	0	0	0	0	0	1	0	1	3	5	10	11.12
SSE	0	0	0	0	0	0	0	1	0	1	0	2	4	9.07
S	0	0	1	0	0	1	0	0	0	0	0	0	1	2.50
SSW	0	0	1	0	0	0	0	0	0	0	0	0	2	3.75
SW	0	0	1	0	1	0	0	0	0	0	0	0	6	5.73
WSW	0	0	0	2	0	2	1	0	0	1	0	2	13	7.21
W	0	0	0	2	2	3	4	0	0	0	0	3	11	9.38
WNW	0	0	0	0	1	3	3	0	1	0	0	1	1	12.10
NW	0	0	0	0	0	0	0	0	0	0	0	0	1	5.80
NNW	0	0	0	0	0	1	0	0	0	0	0	0	1	7.90
N	0	0	0	0	0	0	0	1	0	0	0	0	0	0.
VARIABLE													0	0.
CALM														
TOTAL	0	0	3	4	5	10	8	4	1	3	3	18	59	8.84

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.	0.	0.	0.	.05	0.	0.	.05	0.	.05	0.	0.	.14	7.20
NE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ENE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.09	.09	17.15
ESE	0.	0.	0.	0.	0.	0.	0.	.05	0.	0.	0.	.14	.19	12.72
SE	0.	0.	0.	0.	0.	0.	0.	.05	0.	.05	.14	.24	.47	11.12
SSE	0.	0.	0.	0.	0.	0.	0.	.05	0.	.05	0.	.09	.19	9.07
S	0.	0.	.05	0.	0.	.05	0.	0.	0.	0.	0.	0.	.05	2.50
SSW	0.	0.	.05	0.	0.	0.	0.	0.	0.	0.	0.	0.	.09	3.75
SW	0.	0.	.05	0.	.05	0.	0.	0.	0.	0.	0.	0.	.09	5.73
WSW	0.	0.	0.	.09	0.	.09	.05	0.	0.	.05	0.	0.	.28	7.21
W	0.	0.	0.	.09	.09	.14	.19	0.	0.	0.	0.	.09	.62	9.38
WNW	0.	0.	0.	0.	.05	.14	.14	0.	.05	0.	0.	.14	.52	12.10
NW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.05	.05	5.80
NNW	0.	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	.05	5.80
N	0.	0.	0.	0.	0.	0.	0.	.05	0.	0.	0.	0.	.05	7.90
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	0.	.14	.19	.24	.47	.38	.19	.05	.14	.14	.85	2.79	8.84

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2112

TABLE 3A. JFD's FIRST QUARTER 1981

STABILITY CLASS B

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER 1981
DAMES AND MOORE JOB NO.- 0377-0n7-09
DATA PERIOD- 01/01/81 TO 03/31/81
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.
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
ESE	0	0	0	0	0	0	0	0	0	0	0	2	2	16.95
SE	0	0	0	0	0	0	0	0	0	1	0	2	3	12.40
SSE	0	0	0	0	1	0	1	1	0	0	0	1	4	8.57
S	0	0	0	0	0	1	0	0	0	0	0	0	1	5.60
SSW	0	0	0	0	1	0	0	0	0	0	0	0	1	4.50
SW	0	0	1	0	0	1	0	0	0	0	0	0	2	3.75
WSW	0	0	0	0	1	0	0	0	0	0	0	0	1	5.00
W	0	0	0	0	1	0	0	0	0	0	0	1	2	7.80
WNW	0	0	0	0	0	1	0	3	1	1	0	0	6	7.45
NW	0	0	0	0	0	0	0	0	0	0	1	0	1	10.90
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	0	1	0	4	3	1	4	1	2	1	6	23	8.66

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.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ENE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ESE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.09	.09	16.95
SE	0.	0.	0.	0.	0.	0.	0.	0.	0.	.05	0.	.09	.14	12.40
SSE	0.	0.	0.	0.	.05	0.	.05	.05	0.	0.	0.	.05	.19	8.57
S	0.	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	.05	5.60
SSW	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	0.	.05	4.50
SW	0.	0.	.05	0.	0.	.05	0.	0.	0.	0.	0.	0.	.09	3.75
WSW	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	0.	.05	5.00
W	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	.05	.09	7.80
WNW	0.	0.	0.	0.	0.	.05	0.	.14	.05	.05	0.	0.	.28	7.45
NW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.05	0.	.05	10.90
NNW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
N	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	0.	.05	0.	.19	.14	.05	.19	.05	.09	.05	.28	1.09	8.66

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2112

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER 1981
DAMES AND MOORE JOB NO.- 0377-067-09
DATA PERIOD- 01/01/81 TO 03/31/81
STABILITY CLASS 4UB (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	6	2	5	1	0	3	1	0	1	24	5.32
NE	0	1	0	0	0	0	1	0	0	0	0	2	4	16.00
ENE	0	0	0	0	0	1	1	1	0	0	0	0	3	6.47
E	0	1	0	0	0	0	0	0	0	3	0	5	9	11.00
ESE	0	0	1	0	0	1	2	0	2	1	6	19	32	11.62
SE	0	0	0	1	1	3	1	2	1	6	6	20	41	11.63
SSE	0	0	2	2	3	5	2	5	1	1	2	14	37	10.67
S	0	0	2	1	2	1	0	2	2	1	1	12	24	12.67
SSW	0	1	2	0	0	1	0	0	1	0	1	1	7	7.31
SW	0	0	5	3	0	2	0	1	0	0	0	4	15	7.07
WSW	0	0	3	3	2	1	2	0	1	2	1	7	22	8.10
W	0	0	3	10	4	6	3	2	0	2	0	5	35	6.34
WNW	0	0	1	1	6	6	1	3	5	3	3	7	36	8.37
NW	0	0	4	6	4	8	4	8	5	5	2	6	52	6.98
NNW	0	0	2	2	4	5	5	1	0	0	1	0	20	5.49
N	0	0	1	4	7	2	4	1	1	0	1	2	23	6.42
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	4	30	39	35	47	27	26	22	25	24	105	384	8.69

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.	.05	.19	.28	.09	.24	.05	0.	.14	.05	0.	.05	1.14	5.32
NE	0.	.05	0.	0.	0.	0.	.05	0.	0.	0.	0.	.09	.19	16.00
ENE	0.	0.	0.	0.	0.	.05	.05	.05	0.	0.	0.	0.	.14	6.47
E	0.	.05	0.	0.	0.	0.	0.	0.	0.	.14	0.	.24	.43	11.00
ESE	0.	0.	.05	0.	0.	.05	.09	0.	.09	.05	.28	.90	1.52	11.62
SE	0.	0.	0.	.05	.05	.14	.05	.09	.05	.28	.28	.95	1.94	11.63
SSE	0.	0.	.09	.09	.14	.24	.09	.24	.05	.05	.09	.66	1.75	10.67
S	0.	0.	.09	.05	.09	.05	0.	.09	.09	.05	.05	.57	1.14	12.67
SSW	0.	.05	.09	0.	0.	.05	0.	0.	.05	0.	.05	.05	.33	7.31
SW	0.	0.	.24	.14	0.	.09	0.	.05	0.	0.	0.	.19	.71	7.07
WSW	0.	0.	.14	.14	.09	.05	.09	0.	.05	.09	.05	.33	1.04	8.10
W	0.	0.	.14	.47	.19	.28	.14	.09	0.	.09	0.	.24	1.66	6.34
WNW	0.	0.	.05	.05	.28	.28	.05	.14	.24	.14	.14	.33	1.70	8.37
NW	0.	0.	.19	.28	.19	.38	.19	.38	.24	.24	.09	.28	2.46	6.98
NNW	0.	0.	.09	.09	.14	.24	.24	.05	0.	0.	.05	0.	.95	5.49
N	0.	0.	.05	.19	.33	.09	.19	.05	.05	0.	.05	.09	1.09	6.42
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	.19	1.42	1.85	1.66	2.23	1.28	1.23	1.04	1.18	1.14	4.97	18.18	8.69

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2112

TABLE 3A. FIRST QUARTER 1981
STABILITY CLASS D

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER 1981
DAMES AND MOORE JOB NO.- 0377-067-09
DATA PERIOD- 01/01/81 TO 03/31/81
STABILITY CLASS #E# (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	6	15	18	18	9	11	6	5	0	0	91	5.42
NE	0	0	8	5	1	2	0	0	0	0	0	13	29	13.21
ENE	0	0	0	2	0	1	3	0	1	0	0	0	7	5.99
E	0	0	2	2	2	1	3	0	1	2	1	2	16	7.36
ESE	0	0	1	3	3	4	2	0	2	1	1	3	20	7.29
SE	0	1	4	3	4	5	1	1	2	0	0	3	24	5.94
SSE	0	3	2	6	1	2	0	0	0	1	0	1	16	4.18
S	0	1	3	0	4	1	0	0	1	0	0	0	10	4.12
SSW	0	0	1	3	0	0	0	0	0	0	0	0	4	3.12
SW	0	0	1	1	1	0	0	0	0	1	0	0	4	5.00
WSW	0	0	0	2	0	1	0	1	1	0	0	0	5	5.72
W	0	1	1	5	4	5	3	2	1	1	1	0	24	5.44
WNW	0	0	0	2	4	7	9	2	1	0	0	0	25	5.88
NW	0	0	1	5	5	5	4	6	3	1	2	2	34	6.51
NNW	0	0	2	2	4	3	5	2	1	2	2	0	23	6.35
N	0	1	7	17	14	10	6	8	7	1	0	0	71	5.17
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	10	39	73	65	65	45	33	27	15	7	24	403	6.22

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.	.14	.28	.71	.85	.85	.43	.52	.28	.24	0.	0.	4.31	5.42
NE	0.	0.	.38	.24	.05	.09	0.	0.	0.	0.	0.	.62	1.37	13.21
ENE	0.	0.	0.	.09	0.	.05	.14	0.	.05	0.	0.	0.	.33	5.99
E	0.	0.	.09	.09	.09	.05	.14	0.	.05	.09	.05	.09	.76	7.36
ESE	0.	0.	.05	.14	.14	.19	.09	0.	.09	.05	.05	.14	.95	7.29
SE	0.	.05	.19	.14	.19	.24	.05	.05	.09	0.	0.	.14	1.14	5.94
SSE	0.	.14	.09	.28	.05	.09	0.	0.	0.	.05	0.	.05	.76	4.18
S	0.	.05	.14	0.	.19	.05	0.	0.	.05	0.	0.	0.	.47	4.12
SSW	0.	0.	.05	.14	0.	0.	0.	0.	0.	0.	0.	0.	.19	3.12
SW	0.	0.	.05	.05	.05	0.	0.	0.	0.	.05	0.	0.	.19	5.00
WSW	0.	0.	0.	.09	0.	.05	0.	.05	.05	0.	0.	0.	.24	5.72
W	0.	.05	.05	.24	.19	.24	.14	.09	.05	.05	.05	0.	1.14	5.44
WNW	0.	0.	0.	.09	.19	.33	.43	.09	.05	0.	0.	0.	1.18	5.88
NW	0.	0.	.05	.24	.24	.24	.19	.28	.14	.05	.09	.09	1.61	6.51
NNW	0.	0.	.09	.09	.19	.14	.24	.09	.05	.09	.09	0.	1.09	6.35
N	0.	.05	.33	.80	.66	.47	.28	.38	.33	.05	0.	0.	3.36	5.17
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	.47	1.85	3.46	3.08	3.08	2.13	1.56	1.28	.71	.33	1.14	19.08	6.22

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2160
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2112

TABLE 3A. FIRST QUARTER 1981
STABILITY CLASS E

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER 1981
JAMES AND ROOME JOB NO.- 0377-067-09
DATA PERIOD- 01/01/81 TO 03/31/81
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	0	11	27	43	61	39	28	16	10	8	7	250	6.11
NE	0	2	11	12	3	5	0	1	0	0	0	1	35	3.80
ENE	0	1	3	3	2	1	1	0	0	0	0	0	11	3.85
E	0	0	0	6	1	0	1	0	0	0	0	0	8	3.94
ESE	0	0	1	2	0	0	0	0	0	0	0	0	3	3.23
SE	0	1	0	5	4	2	2	0	0	0	0	0	14	4.33
SSE	0	0	1	1	2	2	0	1	0	0	0	0	7	4.86
S	0	0	0	1	0	0	1	0	0	0	0	0	2	4.95
SSW	0	0	1	0	0	0	0	0	0	0	0	0	1	2.20
SW	0	0	1	1	0	1	0	0	0	0	0	0	3	3.83
WSW	0	1	1	1	2	0	0	0	0	0	0	0	5	3.48
W	0	0	1	2	5	1	0	0	0	0	0	0	9	4.26
WNW	0	1	2	0	1	3	2	2	0	0	0	1	12	5.81
NW	0	0	0	2	0	0	1	1	0	1	0	0	5	6.12
NNW	0	0	0	2	3	3	3	0	1	0	0	0	12	5.50
N	0	3	4	3	5	5	6	3	4	0	0	2	35	5.58
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	9	37	68	71	84	56	36	21	11	8	11	412	5.53

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.	.52	1.28	2.04	2.89	1.85	1.33	.76	.47	.38	.33	11.84	6.11	
NE	0.	.09	.52	.57	.14	.24	0.	.05	0.	0.	0.	.05	1.66	3.80
ENE	0.	.05	.14	.14	.09	.05	.05	0.	0.	0.	0.	0.	.52	3.85
E	0.	0.	0.	.28	.05	0.	.05	0.	0.	0.	0.	0.	.38	3.94
ESE	0.	0.	.05	.09	0.	0.	0.	0.	0.	0.	0.	0.	.14	3.23
SE	0.	.05	0.	.24	.14	.09	.09	0.	0.	0.	0.	0.	.66	4.33
SSE	0.	0.	.05	.05	.09	.09	0.	.05	0.	0.	0.	0.	.33	4.86
S	0.	0.	0.	.05	0.	0.	.05	0.	0.	0.	0.	0.	.09	4.95
SSW	0.	0.	.05	0.	0.	0.	0.	0.	0.	0.	0.	0.	.05	2.20
SW	0.	0.	.05	.05	0.	.05	0.	0.	0.	0.	0.	0.	.14	3.83
WSW	0.	.05	.05	.05	.09	0.	0.	0.	0.	0.	0.	0.	.24	3.48
W	0.	0.	.05	.09	.24	.05	0.	0.	0.	0.	0.	0.	.43	4.26
WNW	0.	.05	.09	0.	.05	.14	.09	.09	0.	0.	0.	.05	.57	5.81
NW	0.	0.	0.	.09	0.	0.	.05	.05	0.	.05	0.	0.	.24	6.12
NNW	0.	0.	0.	.09	.14	.14	.14	0.	.05	0.	0.	0.	.57	5.50
N	0.	.14	.19	.14	.24	.24	.28	.14	.19	0.	0.	.09	1.66	5.58
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	.43	1.75	3.22	3.36	3.98	2.65	1.70	.99	.52	.38	.52	19.51	5.53

TOTAL NUMBER OF POSSIBLE OBSERVATIONS = 2160
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY = 2112

TABLE 3A. FIRST QUARTER 1981

STABILITY CLASS F

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER,1981
DAMES AND MOORE JOB NO.= 0377-067-09
DATA PERIOD= 01/01/81 TO 03/31/81
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	1	2	11	18	42	48	55	52	59	65	353	8.98
NE	0	0	4	5	3	2	4	0	0	1	0	0	19	4.72
ENE	0	0	1	2	0	1	0	0	0	0	0	0	4	3.72
E	0	0	0	2	0	0	0	0	0	0	0	0	2	3.55
ESE	0	0	1	0	2	0	0	0	0	0	0	0	3	3.73
SE	0	0	1	1	0	0	0	0	0	0	0	0	2	2.90
SSE	0	1	1	0	0	0	0	0	0	0	0	0	2	2.10
S	0	0	0	1	0	0	0	0	0	0	0	0	1	3.20
SSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
SW	0	0	1	0	0	0	0	0	0	0	0	0	1	2.70
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
W	0	0	0	0	1	0	0	0	0	0	0	0	1	4.90
WNW	0	0	0	0	0	1	0	0	0	0	0	0	1	5.70
NW	0	0	0	0	1	1	2	0	0	0	0	0	4	5.85
NNW	0	0	1	0	0	0	1	0	0	0	0	0	2	4.55
N	0	0	0	2	1	3	5	3	0	3	4	2	23	7.77
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	1	11	15	19	26	54	51	55	56	63	67	418	8.44

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.	0.	.05	.09	.52	.85	1.99	2.27	2.60	2.46	2.79	3.08	16.71	8.98
NE	0.	0.	.19	.24	.14	.09	.19	0.	0.	.05	0.	0.	.90	4.72
ENE	0.	0.	.05	.09	0.	.05	0.	0.	0.	0.	0.	0.	.19	3.72
E	0.	0.	0.	.09	0.	0.	0.	0.	0.	0.	0.	0.	.09	3.55
ESE	0.	0.	.05	0.	.09	0.	0.	0.	0.	0.	0.	0.	.14	3.73
SE	0.	0.	.05	.05	0.	0.	0.	0.	0.	0.	0.	0.	.09	2.90
SSE	0.	.05	.05	0.	0.	0.	0.	0.	0.	0.	0.	0.	.09	2.10
S	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	0.	0.	.05	3.20
SSW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
SW	0.	0.	.05	0.	0.	0.	0.	0.	0.	0.	0.	0.	.05	2.70
WSW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
W	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	0.	.05	4.90
WNW	0.	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	.05	5.70
NW	0.	0.	0.	0.	.05	.05	.09	0.	0.	0.	0.	0.	.19	5.85
NNW	0.	0.	.05	0.	0.	0.	.05	0.	0.	0.	0.	0.	.09	4.55
N	0.	0.	0.	.09	.05	.14	.24	.14	0.	.14	.19	.09	1.09	7.77
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	.05	.52	.71	.90	1.23	2.56	2.41	2.60	2.65	2.98	3.17	19.79	8.44

TOTAL NUMBER OF POSSIBLE OBSERVATIONS = 2160
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY = 2112

TABLE 3A. FIRST QUARTER 1981
STABILITY CLASS G

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
1ST QUARTER(1981
DAMES AND MOORE JOB NO.- 0377-067-04
DATA PERIOD- 01/01/81 TO 03/31/81
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	4	22	53	77	104	92	89	80	69	68	73	731	7.38
NE	0	3	23	24	7	11	5	1	0	1	0	14	94	7.88
ENE	0	1	5	7	2	4	5	1	1	0	0	0	26	4.68
E	0	1	2	10	3	1	4	0	1	5	1	7	35	7.30
ESE	0	0	4	5	6	5	4	0	4	2	7	28	65	9.93
SE	0	2	5	10	9	11	5	4	3	7	7	28	91	8.75
SSE	0	4	6	9	7	10	6	11	3	6	8	23	93	8.55
S	0	1	7	8	13	16	13	10	10	6	2	14	100	7.74
SSW	0	1	5	6	10	8	5	8	2	1	1	1	48	5.79
SW	0	0	11	16	17	18	8	1	1	3	0	4	79	5.35
WSW	0	1	4	13	15	17	16	7	5	7	3	8	96	6.53
W	0	1	5	22	26	37	36	25	20	10	4	20	206	7.15
WNW	0	1	3	5	15	26	23	22	22	17	9	28	171	8.36
NW	0	0	5	13	10	15	11	15	9	7	6	11	102	6.99
NNW	0	0	5	6	11	13	14	3	2	2	3	0	59	5.80
N	0	4	13	26	27	20	21	16	12	4	5	6	154	5.84
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	24	125	233	255	316	268	213	175	147	124	270	2150	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.	.19	1.02	2.47	3.58	4.84	4.28	4.14	3.72	3.21	3.16	3.40	34.00	7.38
NE	0.	.14	1.07	1.12	.33	.51	.23	.05	0.	.05	0.	.88	4.37	7.88
ENE	0.	.05	.23	.33	.09	.19	.23	.05	.05	0.	0.	0.	1.21	4.68
E	0.	.05	.09	.47	.14	.05	.19	0.	.05	.23	.05	.33	1.63	7.30
ESE	0.	0.	.19	.23	.28	.23	.19	0.	.19	.09	.33	1.30	3.02	9.93
SE	0.	.09	.23	.47	.42	.51	.23	.19	.14	.33	.33	1.30	4.23	8.75
SSE	0.	.19	.28	.42	.33	.47	.28	.51	.14	.28	.37	1.07	4.33	8.55
S	0.	.05	.33	.37	.60	.74	.60	.47	.47	.28	.09	.65	4.65	7.74
SSW	0.	.05	.23	.28	.47	.37	.23	.37	.09	.05	.05	.05	2.23	5.79
SW	0.	0.	.51	.74	.74	.84	.37	.05	.05	.14	0.	.19	3.67	5.35
WSW	0.	.05	.19	.60	.70	.79	.74	.33	.23	.33	.14	.37	4.47	6.53
W	0.	.05	.23	1.02	1.21	1.72	1.67	1.16	.93	.47	.19	.93	9.58	7.15
WNW	0.	.05	.14	.23	.70	1.21	1.07	1.02	1.02	.79	.42	1.30	7.95	8.36
NW	0.	0.	.23	.60	.47	.70	.51	.70	.42	.33	.28	.51	4.74	6.99
NNW	0.	0.	.23	.28	.51	.60	.65	.14	.09	.09	.14	0.	2.74	5.80
N	0.	.19	.60	1.21	1.26	.93	.98	.74	.56	.19	.23	.28	7.16	5.84
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	1.12	5.81	10.84	11.86	14.70	12.47	9.91	8.14	6.84	5.77	12.56	100.00	7.31

TOTAL NUMBER OF POSSIBLE OBSERVATIONS = 2160
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY = 2112

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER, 1981
DAMES AND MOORE JOB NO.- 0377-067-09
DATA PERIOD- 04/01/81 TO 06/30/81
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	1	1	11.90
NE	0	0	0	0	0	0	0	0	0	0	0	2	2	15.75
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
SSE	0	0	0	0	0	2	2	1	0	2	2	20	29	12.06
S	0	0	0	2	3	6	9	15	7	14	6	12	74	8.44
SSW	0	0	1	4	11	16	19	16	18	5	3	1	94	6.87
SW	0	0	0	1	18	24	31	34	13	4	0	1	126	6.72
WSW	0	0	0	4	15	35	33	51	31	16	3	10	198	7.36
W	0	0	0	0	3	12	24	31	36	28	8	4	146	8.05
WNW	0	0	0	0	1	4	7	6	12	3	1	10	44	8.93
NW	0	0	0	0	0	0	0	1	0	0	0	0	1	7.10
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	0	1	11	51	99	125	155	117	72	23	61	715	7.75

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.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.05	.05	11.90
NE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.09	.09	15.75
ENE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ESE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
SE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
SSE	0.	0.	0.	0.	0.	.09	.09	.05	0.	.09	.09	.92	1.33	12.06
S	0.	0.	0.	.09	.14	.28	.41	.69	.32	.64	.28	.55	3.40	8.44
SSW	0.	0.	.05	.18	.51	.74	.87	.74	.83	.23	.14	.05	4.32	6.87
SW	0.	0.	0.	.05	.83	1.10	1.43	1.56	.60	.18	0.	.05	5.80	6.72
WSW	0.	0.	0.	.18	.69	1.61	1.52	2.35	1.43	.74	.14	.46	9.11	7.36
W	0.	0.	0.	0.	.14	.55	1.10	1.43	1.66	1.29	.37	.18	6.72	8.05
WNW	0.	0.	0.	0.	.05	.18	.32	.28	.55	.14	.05	.46	2.02	8.93
NW	0.	0.	0.	0.	0.	0.	0.	.05	0.	0.	0.	0.	.05	7.10
NNW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
N	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	0.	.05	.51	2.35	4.55	5.75	7.13	5.38	3.31	1.06	2.81	32.89	7.75

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2174

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER,1981
DAMES AND MOORE JOB NO.- 0377-067-09
DATA PERIOD- 04/01/81 TO 06/30/81
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	1	0	0	0	0	0	0	0	1	4.10
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
SE	0	0	0	0	0	0	0	1	0	0	0	0	1	7.30
SSE	0	0	0	1	0	1	3	0	1	1	1	5	13	9.47
S	0	0	0	0	1	2	2	2	2	1	2	0	12	7.56
SSW	0	0	2	1	2	2	0	1	1	0	0	0	9	5.11
SW	0	0	0	4	5	3	3	1	1	0	1	0	18	5.49
WSW	0	0	0	1	6	4	1	0	0	2	1	1	16	6.47
W	0	0	0	2	1	5	7	1	0	1	0	1	18	6.50
WNW	0	0	0	0	0	3	0	0	2	0	0	0	5	6.82
NW	0	0	0	0	0	0	0	0	1	1	0	1	3	10.10
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	0	2	9	16	20	16	6	8	6	5	8	96	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.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	0.	.05	4.10
NE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ENE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ESE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
SE	0.	0.	0.	0.	0.	0.	0.	.05	0.	0.	0.	0.	.05	7.30
SSE	0.	0.	0.	.05	0.	.05	.14	0.	.05	.05	.05	.23	.60	9.47
S	0.	0.	0.	0.	.05	.09	.09	.09	.09	.05	.09	0.	.55	7.56
SSW	0.	0.	.09	.05	.09	.09	0.	.05	.05	0.	0.	0.	.41	5.11
SW	0.	0.	0.	.18	.23	.14	.14	.05	.05	0.	.05	0.	.83	5.49
WSW	0.	0.	0.	.05	.28	.18	.05	0.	0.	.09	.05	.05	.74	6.47
W	0.	0.	0.	.09	.05	.23	.32	.05	0.	.05	0.	.05	.83	6.50
WNW	0.	0.	0.	0.	0.	.14	0.	0.	.09	0.	0.	0.	.23	6.82
NW	0.	0.	0.	0.	0.	0.	0.	0.	.05	.05	0.	.05	.14	10.10
NNW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
N	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	0.	.09	.41	.74	.92	.74	.28	.37	.28	.23	.37	4.42	6.82

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2174

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER-1981
DAMES AND MOORE JOB NO.- 0377-067-09
DATA PERIOD- 04/01/81 TO 06/30/81
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	0	0	0	0	0	0	0	0	0	0	0.
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
SE	0	0	0	0	0	0	0	0	0	1	0	1	2	11.10
SSE	0	0	0	0	1	0	0	1	1	2	0	2	7	9.17
S	0	0	0	0	3	1	0	1	0	0	0	0	5	5.34
SSW	0	0	1	0	3	0	1	0	0	0	0	0	5	4.58
SW	0	0	0	1	3	0	0	0	0	0	0	0	4	4.55
WSW	0	0	0	0	2	1	4	0	1	0	0	1	9	6.82
W	0	0	0	1	0	2	0	1	0	0	0	1	5	6.96
WNW	0	0	0	0	1	3	2	1	0	0	0	1	8	6.52
NW	0	0	0	0	0	0	0	1	0	0	0	0	1	7.20
NNW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
N	0	0	0	0	0	1	0	0	0	0	0	0	1	6.00
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	0	1	2	13	8	7	5	2	3	0	6	47	6.72

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.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
NE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ENE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ESE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
SE	0.	0.	0.	0.	0.	0.	0.	0.	0.	.05	0.	.05	.09	11.10
SSE	0.	0.	0.	0.	.05	0.	0.	.05	.05	.09	0.	.09	.32	9.17
S	0.	0.	0.	0.	.14	.05	0.	.05	0.	0.	0.	0.	.23	5.34
SSW	0.	0.	.05	0.	.14	0.	.05	0.	0.	0.	0.	0.	.23	4.58
SW	0.	0.	0.	.05	.14	0.	0.	0.	0.	0.	0.	0.	.18	4.55
WSW	0.	0.	0.	0.	.09	.05	.18	0.	.05	0.	0.	.05	.41	6.82
W	0.	0.	0.	.05	0.	.09	0.	.05	0.	0.	0.	.05	.23	6.96
WNW	0.	0.	0.	0.	.05	.14	.09	.05	0.	0.	0.	.05	.37	6.52
NW	0.	0.	0.	0.	0.	0.	0.	.05	0.	0.	0.	0.	.05	7.20
NNW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
N	0.	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	.05	6.00
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	0.	.05	.09	.60	.37	.32	.23	.09	.14	0.	.28	2.16	6.72

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2174

TABLE 3B. JFD's; SECOND QUARTER 1981
STABILITY CLASS G

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER-1981
DAMES AND MOORE JOB NO.- 0377-067-09
DATA PERIOD- 04/01/81 TO 06/30/81
STABILITY CLASS #D# (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	10	10	9	7	4	0	1	1	0	0	45	4.33
NE	0	0	2	3	0	5	3	1	0	0	1	0	15	5.37
ENE	0	1	2	3	4	5	1	0	0	0	0	0	21	4.39
E	0	0	0	2	7	6	7	0	0	0	0	0	22	5.26
ESE	0	0	3	5	8	13	11	2	2	0	0	0	44	5.44
SE	0	0	3	8	23	16	32	24	12	2	5	9	134	6.77
SSE	0	0	5	8	22	24	27	10	20	14	11	9	150	6.48
S	0	0	7	15	20	14	16	13	2	5	3	6	101	6.11
SSW	0	1	5	9	9	13	4	7	5	5	2	3	63	6.19
SW	0	1	9	11	9	8	2	6	2	3	2	7	60	6.08
WSW	0	1	6	10	6	5	2	1	8	3	3	4	49	6.33
W	0	0	8	7	7	8	3	3	2	2	2	14	56	7.22
WNW	0	0	1	9	3	0	2	1	3	1	0	8	28	7.45
NW	0	1	9	8	11	6	2	6	2	1	5	1	52	5.52
NNW	0	1	4	6	5	0	2	1	0	0	0	0	19	4.04
N	0	1	5	9	6	1	1	0	0	0	0	0	23	3.64
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	10	79	123	154	131	119	75	59	37	34	61	882	6.15

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.	.14	.46	.46	.41	.32	.18	0.	.05	.05	0.	0.	2.07	4.33
NE	0.	0.	.09	.14	0.	.23	.14	.05	0.	0.	.05	0.	.69	5.37
ENE	0.	.05	.09	.14	.41	.23	.05	0.	0.	0.	0.	0.	.97	4.39
E	0.	0.	0.	.09	.32	.28	.32	0.	0.	0.	0.	0.	1.01	5.26
ESE	0.	0.	.14	.23	.37	.60	.51	.09	.09	0.	0.	0.	2.02	5.44
SE	0.	0.	.14	.37	1.06	.74	1.47	1.10	.55	.09	.23	.41	6.16	6.77
SSE	0.	0.	.23	.37	1.01	1.10	1.24	.46	.92	.64	.51	.41	6.90	6.98
S	0.	0.	.32	.69	.92	.64	.74	.60	.09	.23	.14	.28	4.65	6.11
SSW	0.	.05	.23	.41	.41	.60	.18	.32	.23	.23	.09	.14	2.90	6.19
SW	0.	.05	.41	.51	.41	.37	.09	.28	.09	.14	.09	.32	2.76	6.08
WSW	0.	.05	.28	.46	.28	.23	.09	.05	.37	.14	.14	.18	2.25	6.33
W	0.	0.	.37	.32	.32	.37	.14	.14	.09	.09	.09	.64	2.58	7.22
WNW	0.	0.	.05	.41	.14	0.	.09	.05	.14	.05	0.	.37	1.29	7.45
NW	0.	.05	.41	.37	.51	.28	.09	.28	.09	.05	.23	.05	2.39	5.52
NNW	0.	.05	.18	.28	.23	0.	.09	.05	0.	0.	0.	0.	.87	4.04
N	0.	.05	.23	.41	.28	.05	.05	0.	0.	0.	0.	0.	1.06	3.64
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	.46	3.63	5.66	7.08	6.03	5.47	3.45	2.71	1.70	1.56	2.81	40.57	6.15

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2174

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER-1981
DAMES AND MOORE JOH NO.- 0377-067-09
DATA PERIOD- 04/01/81 TO 06/30/81
STABILITY CLASS BY (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	5	13	14	21	11	1	0	1	0	0	66	4.98
NE	0	0	3	3	2	2	0	1	0	0	0	1	12	4.81
ENE	0	1	1	0	1	0	0	0	0	0	0	0	3	3.17
E	0	0	2	3	5	3	0	0	0	0	1	0	14	4.71
ESE	0	0	3	2	1	2	0	0	0	1	0	0	9	4.44
SE	0	0	0	0	4	4	2	1	0	2	1	0	14	6.44
SSE	0	0	0	0	1	0	0	0	0	0	0	1	2	9.05
S	0	0	0	2	1	0	0	0	1	0	0	0	4	5.07
SSW	0	1	0	0	0	0	0	0	0	0	0	0	1	1.90
SW	0	0	0	0	1	0	0	0	0	0	0	0	1	4.10
WSW	0	0	1	1	1	0	0	0	0	0	0	0	3	3.43
W	0	0	3	2	0	3	0	0	0	0	0	0	8	3.91
WNW	0	2	0	2	0	0	0	0	1	1	0	0	6	4.70
NW	0	0	1	0	0	0	1	1	2	0	0	0	5	6.84
NNW	0	0	2	1	0	0	0	1	1	0	0	0	5	5.12
N	0	1	3	4	6	3	1	0	0	0	0	0	18	3.98
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	5	24	33	37	38	15	5	5	5	2	2	171	4.90

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.	0.	.23	.60	.64	.97	.51	.05	0.	.05	0.	0.	3.04	4.98
NE	0.	0.	.14	.14	.09	.09	0.	.05	0.	0.	0.	.05	.55	4.81
ENE	0.	.05	.05	0.	.05	0.	0.	0.	0.	0.	0.	0.	.14	3.17
E	0.	0.	.09	.14	.23	.14	0.	0.	0.	0.	.05	0.	.64	4.71
ESE	0.	0.	.14	.09	.05	.09	0.	0.	0.	.05	0.	0.	.41	4.44
SE	0.	0.	0.	0.	.18	.18	.09	.05	0.	.09	.05	0.	.64	6.44
SSE	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	.05	.09	9.05
S	0.	0.	0.	.09	.05	0.	0.	0.	.05	0.	0.	0.	.18	5.07
SSW	0.	.05	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.05	1.90
SW	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	0.	.05	4.10
WSW	0.	0.	.05	.05	.05	0.	0.	0.	0.	0.	0.	0.	.14	3.43
W	0.	0.	.14	.09	0.	.14	0.	0.	0.	0.	0.	0.	.37	3.91
WNW	0.	.09	0.	.09	0.	0.	0.	0.	.05	.05	0.	0.	.28	4.70
NW	0.	0.	.05	0.	0.	0.	.05	.05	.09	0.	0.	0.	.23	6.84
NNW	0.	0.	.09	.05	0.	0.	.05	.05	.05	0.	0.	0.	.23	5.12
N	0.	.05	.14	.18	.28	.14	.05	0.	0.	0.	0.	0.	.83	3.98
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	.23	1.10	1.52	1.70	1.75	.69	.23	.23	.23	.09	.09	7.87	4.90

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2174

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER,1981
DAMES AND MOORE JOB NO.- 0377-067-09
DATA PERIOD- 04/01/81 TO 06/30/81
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	0	2	10	15	18	10	12	5	2	2	0	76	5.96
NE	0	0	3	5	4	2	0	1	0	0	0	0	15	4.23
ENE	0	3	1	2	0	1	0	1	0	0	0	0	8	3.59
E	0	0	1	0	2	0	1	0	0	0	0	0	4	4.80
ESE	0	0	0	3	0	0	0	0	0	0	0	0	3	3.63
SE	0	0	0	0	1	0	0	0	0	0	1	0	2	7.65
SSE	0	0	0	0	1	0	0	1	0	0	0	0	2	6.20
S	0	0	0	0	2	0	0	0	0	0	0	0	2	4.55
SSW	0	0	0	0	0	0	0	0	0	0	1	0	1	10.20
SW	0	0	0	4	1	0	0	0	0	0	0	0	5	3.76
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
W	0	0	0	2	0	0	0	0	0	0	0	0	2	3.40
WNW	0	0	0	0	2	0	0	0	0	0	0	0	2	4.70
NW	0	0	0	1	1	0	0	2	1	0	0	0	5	6.38
NNW	0	0	0	0	0	0	0	0	1	0	0	0	1	8.60
N	0	0	0	3	0	2	0	0	0	0	0	0	5	4.38
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	3	7	30	29	23	11	17	7	2	4	0	133	5.41

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.	0.	.09	.46	.69	.83	.46	.55	.23	.09	.09	0.	3.50	5.96
NE	0.	0.	.14	.23	.18	.09	0.	.05	0.	0.	0.	0.	.69	4.23
ENE	0.	.14	.05	.09	0.	.05	0.	.05	0.	0.	0.	0.	.37	3.59
E	0.	0.	.05	0.	.09	0.	.05	0.	0.	0.	0.	0.	.18	4.80
ESE	0.	0.	0.	.14	0.	0.	0.	0.	0.	0.	0.	0.	.14	3.63
SE	0.	0.	0.	0.	.05	0.	0.	0.	0.	0.	.05	0.	.09	7.65
SSE	0.	0.	0.	0.	.05	0.	0.	.05	0.	0.	0.	0.	.09	6.20
S	0.	0.	0.	0.	.09	0.	0.	0.	0.	0.	0.	0.	.09	4.55
SSW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	.05	0.	.05	10.20
SW	0.	0.	0.	.18	.05	0.	0.	0.	0.	0.	0.	0.	.23	3.76
WSW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
W	0.	0.	0.	.09	0.	0.	0.	0.	0.	0.	0.	0.	.09	3.40
WNW	0.	0.	0.	0.	.09	0.	0.	0.	0.	0.	0.	0.	.09	4.70
NW	0.	0.	0.	.05	.05	0.	0.	.09	.05	0.	0.	0.	.23	6.38
NNW	0.	0.	0.	0.	0.	0.	0.	0.	.05	0.	0.	0.	.05	8.60
N	0.	0.	0.	.14	0.	.09	0.	0.	0.	0.	0.	0.	.23	4.38
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	.14	.32	1.38	1.33	1.06	.51	.78	.32	.09	.18	0.	6.12	5.41

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2174

TABLE 3B. JFD's; SECOND QUARTER 1981

STABILITY CLASS F

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
2nd QUARTER(1981)
DAMES AND MOORE JOB NO.- 0377-067-09
DATA PERIOD- 04/01/81 TO 06/30/81
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	1	1	2	8	13	27	20	8	5	10	95	8.14
NE	0	0	1	2	0	1	1	0	1	1	0	0	7	5.90
ENE	0	0	0	1	0	0	0	1	0	0	0	0	2	5.20
E	0	0	0	0	0	0	0	1	0	0	0	0	1	7.70
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
SE	0	0	1	0	1	0	0	0	0	0	0	0	2	3.80
SSE	0	0	0	0	0	1	1	0	0	0	0	0	2	6.05
S	0	0	0	0	2	0	0	0	0	0	0	0	2	4.10
SSW	0	0	0	1	0	0	0	0	0	0	0	0	1	3.90
SW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
WSW	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
W	0	0	0	1	0	0	0	0	0	0	0	0	1	3.60
WNW	0	0	0	0	1	0	0	1	0	0	0	1	3	7.70
NW	0	0	1	0	0	0	0	0	2	0	0	1	4	7.80
NNW	0	0	0	0	0	0	1	1	1	0	0	0	3	7.47
N	0	0	0	1	0	1	1	0	0	1	2	1	7	8.51
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	0	4	7	6	11	17	31	24	10	7	13	130	7.73

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.	0.	.05	.05	.09	.37	.60	1.24	.92	.37	.23	.46	4.37	8.14
NE	0.	0.	.05	.09	0.	.05	.05	0.	.05	.05	0.	0.	.32	5.90
ENE	0.	0.	0.	.05	0.	0.	0.	.05	0.	0.	0.	0.	.09	5.20
E	0.	0.	0.	0.	0.	0.	0.	.05	0.	0.	0.	0.	.05	7.70
ESE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
SE	0.	0.	.05	0.	.05	0.	0.	0.	0.	0.	0.	0.	.09	3.80
SSE	0.	0.	0.	0.	0.	.05	.05	0.	0.	0.	0.	0.	.09	6.05
S	0.	0.	0.	0.	.09	0.	0.	0.	0.	0.	0.	0.	.09	4.10
SSW	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	0.	0.	.05	3.90
SW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
WSW	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
W	0.	0.	0.	.05	0.	0.	0.	0.	0.	0.	0.	0.	.05	3.60
WNW	0.	0.	0.	0.	.05	0.	0.	.05	0.	0.	0.	.05	.14	7.70
NW	0.	0.	.05	0.	0.	0.	0.	0.	.09	0.	0.	.05	.18	7.80
NNW	0.	0.	0.	0.	0.	0.	.05	.05	.05	0.	0.	0.	.14	7.47
N	0.	0.	0.	.05	0.	.05	.05	0.	0.	.05	.09	.05	.32	8.51
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	0.	.16	.32	.28	.51	.78	1.43	1.10	.46	.32	.60	5.98	7.73

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2174

SOUTHERN CALIFORNIA EDISON
SAN ONOFRE NUCLEAR GENERATING STATION
2ND QUARTER-1981
DAMES AND MOORE JOB NO.- 0377-067-09
DATA PERIOD- 04/01/81 TO 06/30/81
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	3	18	34	41	54	38	40	26	12	7	11	284	6.22
NE	0	0	9	13	6	10	4	3	1	1	1	3	51	5.38
ENE	0	5	4	6	10	6	1	2	0	0	0	0	34	4.14
E	0	0	3	5	14	9	8	1	0	0	1	0	41	5.09
ESE	0	0	6	10	9	15	11	2	2	1	0	0	56	5.18
SE	0	0	4	8	29	20	34	26	12	5	7	10	155	6.77
SSE	0	0	5	9	25	28	33	13	22	19	14	37	205	7.94
S	0	0	7	19	32	23	28	31	13	20	11	18	202	6.99
SSW	0	2	9	15	25	32	24	24	24	10	6	4	175	6.44
SW	0	1	9	21	37	35	36	42	17	7	3	8	216	6.33
WSW	0	1	7	16	30	45	40	52	40	21	7	16	275	7.07
W	0	0	11	15	11	30	34	36	38	31	10	20	236	7.51
WNW	0	2	1	11	8	10	11	9	18	5	1	20	96	7.80
NW	0	1	11	9	12	6	3	11	8	2	5	3	71	6.04
NNW	0	1	6	7	5	0	3	3	3	0	0	0	28	4.76
N	0	2	8	17	12	8	3	0	0	1	2	1	54	4.50
VARIABLE													0	0.
CALM													0	0.
TOTAL	0	18	118	215	306	331	311	295	224	135	75	151	2179	6.67

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.	.14	.83	1.56	1.88	2.48	1.74	1.84	1.19	.55	.32	.50	13.03	6.22
NE	0.	0.	.41	.60	.28	.46	.18	.14	.05	.05	.05	.14	2.34	5.38
ENE	0.	.23	.18	.28	.46	.28	.05	.09	0.	0.	0.	0.	1.56	4.14
E	0.	0.	.14	.23	.64	.41	.37	.05	0.	0.	.05	0.	1.88	5.09
ESE	0.	0.	.28	.46	.41	.69	.50	.09	.09	.05	0.	0.	2.57	5.18
SE	0.	0.	.18	.37	1.33	.92	1.56	1.19	.55	.23	.32	.46	7.11	6.77
SSE	0.	0.	.23	.41	1.15	1.28	1.51	.60	1.01	.87	.64	1.70	9.41	7.94
S	0.	0.	.32	.87	1.47	1.06	1.28	1.42	.60	.92	.50	.83	9.27	6.99
SSW	0.	.09	.41	.69	1.15	1.47	1.10	1.10	1.10	.46	.28	.18	8.03	6.44
SW	0.	.05	.41	.96	1.70	1.61	1.65	1.93	.78	.32	.14	.37	9.91	6.33
WSW	0.	.05	.32	.73	1.38	2.07	1.84	2.39	1.84	.96	.32	.73	12.62	7.07
W	0.	0.	.50	.69	.50	1.38	1.56	1.65	1.74	1.42	.46	.92	10.83	7.51
WNW	0.	.09	.05	.50	.37	.46	.50	.41	.83	.23	.05	.92	4.41	7.80
NW	0.	.05	.50	.41	.55	.28	.14	.50	.37	.09	.23	.14	3.26	6.04
NNW	0.	.05	.28	.32	.23	0.	.14	.14	.14	0.	0.	0.	1.28	4.76
N	0.	.09	.37	.78	.55	.37	.14	0.	0.	.05	.09	.05	2.48	4.50
VARIABLE													0.	0.
CALM													0.	0.
TOTAL	0.	.83	5.42	9.87	14.04	15.19	14.27	13.54	10.28	6.20	3.44	6.93	100.00	6.67

TOTAL NUMBER OF POSSIBLE OBSERVATIONS - 2184
TOTAL NUMBER OF OBSERVATIONS WITH VALID SPEED, DIRECTION AND STABILITY - 2174

SECTION H. CONCLUSIONS

Radioactive releases were minimal during this period, especially since SONGS-1 was not in operation for most of the period. Gaseous effluent releases totaled 20 curies and liquid releases totaled 14 curies. Gaseous effluent releases were primarily noble gas (11 curies total; composed primarily of 5.4 curies Xe-133 and 4.5 curies of Xe-135) and tritium (9.4 curies) with little iodine or particulate released. Liquid effluents were primarily tritium (13.3 curies) and particulate (3 curies, composed primarily of 1.9 curies of cobalt, 0.5 curies of cesium and 0.2 curies of manganese). The operation of SONGS-1 resulted in radioactive releases which were much below the Technical Specification Limits; 0.15% for Gaseous Effluents and <1.0% for Liquid Effluents.

Radwaste shipments totaled 73 shipments to Richland, Washington. There were 61 solid waste shipments and 12 resin shipments. There were 48,000 cubic feet of solid radwaste shipped containing 620 curies of radioactivity.

Meteorological conditions during the semi-annual period were typical of the meteorology at SONGS-1. Meteorological dispersion was good 32% of the time, fair 42% of the time, and poor 26% of the time.

Detectable radiological contributions to environmental radioactivity levels are not expected. For gaseous effluents, there was very little particulate or iodine released. For noble and activation gases, there is not any retention expected of the gases in environmental samples. Analyses of TLD dosimeters will determine if there were any identifiable increase in radiation exposure in unrestricted areas due to gaseous releases from SONGS-1.

For liquid releases, marine sample analyses will indicate if any of the particulate activity has concentrated in marine life. Detection of any tritium in these samples is not expected because of the rapid turnover of water in marine life and because of the bulk of ocean water available for dilution.

The net result of these effluent release analyses indicates that the operation of SONGS-1 should not have produced any detrimental effect on the environment.

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