PSE&G

Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038

Nuclear Department

February 27, 1985

Dr. Thomas E. Murley, Administrator
Region 1
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Dr. Murley:

RADIOACTIVE EFFLUENT RELEASE REPORT RERR-17
SALEM GENERATING STATION
DOCKET NOS. 50-272 AND 50-311

As required by Section 6.9.1.11 of Appendix A of the Operating Licenses for the Salem Generating Station, Unit Nos. 1 and 2, we hereby transmit two copies of the semi-annual Radioactive Effluent Release Report, RERR-17.

This report summarizes liquid and gaseous releases and solid waste shipments from the Salem Generating Station for the period July - December, 1984.

Should you have any questions on this report, please contact us.

Sincerely,

E. A. Liden
Manager - Nuclear
Licensing and Regulation

Attachment

8503250457

The Energy People

IE25 1/1

95-2168 (75M) 12-83

C Director, Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
c/o Distribution Services Branch, DDC, ADM
Washington, D.C. 20555

Director - Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. Donald C. Fischer
Licensing Project Manager

Mr. James Linville
Senior Resident Inspector

1984

SEMIANNUAL RADIOACTIVE
EFFLUENT RELEASE REPORT
RERR-17

SALEM GENERATING STATION
SALEM UNIT NOS. 1 & 2

UNIT 1 DOCKET NO. 50-272
UNIT 2 DOCKET NO. 50-311
OPERATING LICENSE NO. DPR-70
OPERATING LICENSE NO. DPR-75

MARCH 1985

M P79 43/33 1-gs

IE25
1/1

DPR 70
DPR 75

REPORT NO. RERR-17

UNIT NOS. 1 & 2
RADIOACTIVE EFFLUENT RELEASE REPORT
JULY - DECEMBER 1984

SALEM GENERATING STATION
Public Service Electric and Gas Company

M P79 43/33 2-gs

SALEM GENERATING STATION
UNIT NOS. 1 AND 2
RADIOACTIVE EFFLUENT RELEASE REPORT
JULY 1, 1984 TO DECEMBER 31, 1984

INTRODUCTION

This report, RERR-17, summarizes the releases of radioactive materials in liquid, gaseous and solid form from the Salem Generating Station Units 1 and 2 for the period July 1, 1984 to December 31, 1984.

The report is prepared in the format of Regulatory Guide 1.21, Appendix B, as required by Specification 5.6.1.2 of the Salem Environmental Technical Specifications. Preceding the tables summarizing the gaseous and liquid discharges and solid waste shipments is our response to parts A-F of the "Supplemental Information" section of the Regulatory Guide 1.21, Appendix B.

As required by Regulatory Guide 1.21, our Technical Specification limits are described in detail within this report along with a summary description of how measurements and approximations of the total activity discharged were developed.

To facilitate determination of compliance with 40CFR190 requirements, the following information on electrical output is provided.

Unit 1 generated 917,538 megawatt-hours of electrical energy (net) during the reporting period.

Unit 2 generated 1,416,438 megawatt-hours of electrical energy (net) during the reporting period.

Results of liquid and gaseous composites analyzed for Sr 89 and Sr 90 for the last quarter of 1984 were not available for inclusion in this report. The results of these composites will be provided in the next Radioactive Effluent Release Report.

The Sr 89 and Sr 90 analyses for the second quarter of 1984 (refer to RERR-16) have been completed and the results were below our detection limit.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT RERR 17

Part A. PRELIMINARY SUPPLEMENTAL INFORMATION

1.0 Regulatory Limits

We are required to summarize our regulatory limits in each report. Symbols utilized in the equations listed below under Sections 1.1 and 1.2 are the same as those used in the Salem Environmental Technical Specifications (ETS). The symbol Q as explained in Section 2.3.3 of the ETS is the release rate of the gaseous activity in units of curies per second. The K, L, M and N terms are actually site dependent dose conversion factors. The equations listed below in Sections 1.1 and 1.2 take into consideration the release point location, building wake effects and physical characteristics of the radionuclides released.

In addition 40CFR190 regulations require that the annual dose equivalent does not exceed 25 mrem to the whole body or any organ (except the thyroid which is limited to 75 mrem).

1.1 Fission and Activation Gases Release Limits

a) Gaseous releases from the nuclear units are limited such that at no time will releases of gaseous radioactive materials cause a member of the general public to be exposed to an annual dose rate in excess of 500 mrem to the entire body or 3 rem to the skin in conformance with the requirements of 10CFR20.

b) Gaseous releases from the units are further restricted such that when releases are averaged over a calendar quarter no member of the general public will be exposed to an annual dose rate in excess of 20 millirads of gamma radiation or 40 millirads of beta radiation.

c) In addition, it is required that air doses averaged over a twelve month period be less than 40 and 80 millirads for gamma and beta radiation respectively.

We use the following equations to demonstrate compliance with these limits:

$$2.0\ Q_{tv} * K_v \leq 1$$

$$0.33\ Q_{tv} * (L_v + 1.1\ N_v) \leq 1$$

When averaged over a calendar quarter the release rate for radioactive gases must satisfy the following equation. The basis for these equations is 10CFR50 Appendix I.

$$13\ Q_{tv}{}^{*}\bar{N}_{v} \leq 1$$

$$6.3\ Q_{tv}{}^{*}\bar{M}_{v} \leq 1$$

The limiting Unit 1 release limit Q is calculated to be 5.92E+04 and 6.14E+04 microcuries/sec. for the 3rd and 4th quarters respectively.

The limiting Unit 2 release limit Q is calculated to be 5.92E+04 and 5.92E+04 microcuries/sec for the 3rd and 4th quarters respectively.

When averaged over any twelve consecutive month period, the release rate for radioactive gases must satisfy the following equation. The basis for this equation is 10CFR50 Appendix I.

$$25\ Q_{tv}{}^{*}\bar{N}_{v} \leq 1$$

$$13\ Q_{tv}{}^{*}\bar{M}_{v} \leq 1$$

The release limits of radioactive gases for the Salem Nuclear Generating Station are not fixed numbers, but depend upon the radioactive isotopes present in the effluent.

1.2 Iodine and Particulates, Half Life > 8 days

The regulatory limits for iodines and particulates are listed below.

The release rates of iodine and particulates are restricted such that no member of the general public will receive a dose at a rate in excess of 1.5 rem/yr. to the thyroid.

Releases of iodines and particulates are further restricted to prevent any member of the general public from receiving a dose rate in excess of 30 mrem in a calendar quarter or 60 mrem in any twelve month period. The equations which govern these conditions are listed below:

At any instant of time the release rate for radioactive iodines and particulates material with a half life greater than 8 days is limited by the equation below. The basis for this equation is 10CFR20.

$$(1.5 \times 10^{5})\ Q_{v} \leq 1$$

During any calendar quarter the release limit is governed by the equations listed below. The basis for these equations is 10CFR50 Appendix I.

$$2 \text{ curies of I-131}$$
$$\text{and}$$
$$Q_v \times 13 \times (1.5 \times 10^5) \leq 1$$

During any twelve month period radioactive releases should conform to the following constraints of 10CFR50 Appendix I.

$$25 \times (1.5 \times 10^5) \times Q_v \leq 1$$
$$\text{and}$$
$$4 \text{ curies of I-131}$$

1.3 Liquid Effluents Release Limits

We are not permitted to discharge radioactive liquids such that we exceed the values in 10CFR20, Appendix B, Table II, Column 2.

In addition, the following limits apply:

The cumulative release of radioactive effluents, excluding tritium and dissolved gases, shall be less than 10 Ci in a calendar quarter for each unit.

The cumulative release of radioactive effluents, excluding tritium and dissolved gases, shall be less than 20 Ci in any twelve consecutive months for each unit.

2.0 Maximum Permissible Concentrations (MPC)

Regulatory Guide 1.21 requires that the licensee provide the MPC's used in determining allowable release rates for radioactive releases.

a) MPC values were not used to determine the maximum release rates for fission gases, iodines, or particulates.

b) MPC values as stated in 10CR20, Appendix B, Table 11, Column 2 were used for liquids.

3.0 Average Energy

Regulatory Guide 1.21 requires that the licensee provide the average energy of the radionuclide mixture in releases of fission and activation gases, if applicable.

Release limits for the SNGS are not based upon average energy, hence, this section does not apply.

4.0 Measurements and Approximation of Total Radioactivity

4.1 Liquid effluents are monitored in accordance with Table 2.3-3 of the Environmental Technical Specifications. During the period of record, all wastes from the chemical drain tank and the laundry and hot shower tanks were routed to the hold-up tanks for monitoring prior to release. Technical Specifications require these tanks to be recirculated the equivalent of two tank volumes to produce uniform mixing before sampling and analyzsis before any releases are made. Batch releases are defined as releases from the waste monitor tanks, waste monitor hold-up tank, and the chemical and volume control tanks. Continuous liquid releases are defined as condentate releases from intermittent blowdown of the steam generators. The predominate gamma emitting isotopes detected in sampling were Co58, Co60, and Mn54. Specific activity from analyses were mutiplied by the volume of effluent discharged to the environment in order to estimate the total liquid activity discharged.

4.2 Gaseous effluent streams are monitored and sampled in accordance with Table 2.3-4 of the Environmental Technical Specifications. The plant vent is the final release point of all planned gaseous effluents and is continuous monitored by beta scintillators and high range GM tubes. The vent is also continuously sampled for iodine and particulates with a charcoal cartridge and filter paper connected in series to a low volume air sampler. The filter and charcoal are changed weekly, and analyzed on a multichannel analyzer in the laboratory. Sampling is also performed on all gas decay tanks and containment purges, prior to their release to the environment. The plant vent is sampled for noble gases monthly.

The detection requirements of Table 2.3-2 of the ETS are achieved or exceeded. Isotopes existing at concentrations below the achieved detection limit are not treated as being present.

Continuous Mode gaseous releases are quantified by routine (monthly or weekly) sampling and isotopic analyses of the plant vent. Specific activities for each isotope detected are multiplied by the total vent flow volume for the entire sampling period in order to estimate the normal continuous release of radioactivity through the plant vent if any exists.

Unit 2 blowdown releases from Sept. 27 through Oct. 4, 1984, are included in Table 1B-2 under the continuous release mode.

Batch Mode releases are quantified by the sample of each gas decay tank or containment purge prior to discharge. Specific activities for each isotope are multiplied by the total volume of gas discharged.

Elevated plant vent radiation monitoring system readings while the channel is in an alarm state are treated as batch mode releases. If specific activity data from grab samples taken while the release was in progress is not available, then the abnormal release will be quantified by the use of the plant vent radiation monitors. The monitors response is converted in a "specific activity" using historical efficiency factors. The "specific activity" is multiplied by the volume of effluent discharged while the channel was in an alarm state in order to estimate the total activity discharged.

4.3 The estimated total error of the reported continuous gaseous releases is within 50% when concentrations exceed detectable levels. This error is due primarily to variability of waste stream flow rates and changes in isotopic distributions of waste streams between sampling periods. The estimated total error of the reported batch gaseous releases is within 10%.

Error estimates for continuous releases where sample activity is below the detectable concentration levels are not included since error estimates at the LLD are not defined.

The estimated total error of reported liquid releases is within 25%.

5.0 Batch Releases

Summaries of batch releases of gaseous and liquid effluents are provided in Tables 4A-1 and 4B-1 for Unit 1 and 4A-2 and 4B-2 for Unit 2. Table 2B-2 also includes a discharge from the demineralized water tank.

6.0 Unplanned Releases

During this reporting period there were no unplanned releases.

7.0 Elevated R-16 Channel Responses

During this reporting period the plant vent radiation monitor indicated slightly elevated reading on several occasions. As indicated on page 5a, elevated R-16 readings were quantified and treated as batch releases and are included in tables 1B-1 1B-2 as unidentified fission gases.

8.0 Modification to Previous Radioactive Effluent Release Reports

Our last report RERR-16 did not include the quarterly Sr-89 and Sr-90 composite data for the second quarter of 1984. Results were below the detection capability of our instruments.

Part B. Gaseous Effluents

See Summary Tables 1A-1 thru 1C-1 representative of Salem Unit 1 operations.

See Summary Tables 1A-2 thru 1C-2 representative of Salem Unit 2 operations.

Part C. Liquid Effluents

See Summary Tables 2A-1 and 2B-1 representative of Salem Unit 1 operations.

See Summary Tables 2A-2 and 2B-2 representative of Salem Unit 2 operations.

Part D. Solid Waste

See Summary Table 3 Units 1 and 2

Part E. Radiological Impact on Man

The calculated individual doses in this section are based on actual locations of nearby residents and farms. The population dose impact is based on historical site specific data i.e., food production, milk production, feed for milch animals and seafood production.

The doses were calculated using methods described in Regulatory Guide 1.109 and represent calculations for the six month reporting interval. Doses from batch and continuous releases were calculated using the meteorological dispersion coefficient X/Q for the six month reporting interval.

Liquid Pathways

Doses to individuals in the population from liquid releases are primarily from the seafood ingestion pathway. The total body dose to an individual was calculated to be 1.24E-02 mrem. The calculated population total body dose was 9.62E-01 person-rem. The highest organ dose from liquid releases was 8.70E-02 mrem to the gastrointestinal tract.

Air Pathways

The resulting whole body and skin doses to an individual were calculated to be 3.70E-03 mrem and 5.46E-03 mrem respectively. The calculated population total body dose was 5.27E-01 person-rem. The average total body dose to the population within fifty miles of the site was 9.85E-05 rem/person.

Direct Radiation

Direct radiation may be estimated by TLD measurements. One method for comparing TLD measurements is by comparison with preoperational data.

TLD's at onsite locations 2S2 and 5S1 which are 0.3 miles and 0.9 miles from the reactor containment, averaged 5.6 and 4.7 mrads/month respectively. The values for stations 2S1 and 5S1 are within the statistical variation associated with the preoperation program results.

All offsite monitoring locations remained within pre-operational ranges. It should be noted that the nearest resident is 3.5 miles away. It can thus be concluded that there was no measurable dose to any offsite locations from direct radiation.

Part F. Meteorological Data

Cumulative joint wind frequency distribution by atmospheric stability class at the 300 foot elevation is provided for the third and fourth quarters of 1984 as Table 5 and 6.

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

	Units	3rd Quarter	4th Quarter	Est.Total(1) Error %
A. Fission & Activation Gases				
1. Total release	Ci	2.78E+00	9.53E+01	2.50E+01
2. Average release rate for period	uCi/sec.	3.50E-01	1.20E+01	
3. Percent of technical specification limit (See ETS Spec. 2.3.3.b)	%	5.91E-04	1.95E-02	
B. Iodines				
1. Total iodine-131	Ci	5.98E-06	1.92E-04	2.50E+01
2. Average release rate for period	uCi/sec.	7.52E-07	2.41E-05	
3. Percent of technical specification (2Ci) limit	%	2.99E-04	9.60E-03	
C. Particulates				
1. Particulates with half-lives> 8 days	Ci	-	-	2.50E+01
2. Average release rate for period	uCi/sec.	-	-	
3. Percent of technical specification limit	%	-	-	
4. Gross alpha radioactivity (2)	Ci	-	1.50E-05	5.00E+01
D. Tritium				
1. Total release	Ci	1.33E+01	8.45E+01	2.50E+01
2. Average release rate for period	uCi/sec.	1.94E+00	1.06E+01	
3. Percent of technical specification limit	%	N/A	N/A	

(1) For batch releases the estimated overall error is within 10%.
(2) Analyses indicate no measurable alpha emitting transuranics.

TABLE 1A-2
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES
UNIT 2

	Unit	3rd Quarter	4th Quarter	Est.Total(1) Error %
A. Fission & Activation Gases				
1. Total release	Ci	5.63E+02	8.32E+02	2.50E+01
2. Average release rate for period	uCi/sec.	7.08E+01	1.05E+02	
3. Percent of technical specification limit (See ETS Spec. 2.3.3.b)	%	1.20E-01	1.77E-01	
B. Iodines				
1. Total iodine-131	Ci	9.72E-04	7.43E-05	2.50E+01
2. Average release rate for period	uCi/sec.	1.22E-04	9.35E-06	
3. Percent of technical specification limit	%	4.86E-02	3.72E-03	
C. Particulates				
1. Particulates with half-lives> 8 days	Ci	3.54E-06	-	2.50E+01
2. Average release rate for period	uCi/sec.	4.45E-07	-	
3. Percent of technical specification limit	%	8.77E-05	-	
4. Gross alpha radioactivity (2)	Ci	0.00E+00	0.00E+00	
D. Tritium				
1. Total release	Ci	1.29E+02	2.13E+01	
2. Average release rate for period	uCi/sec.	1.62E+01	2.64E+00	
3. Percent of technical specification limit	%	N/A	N/A	

(1) For batch releases the estimated overall error is within 10%.
(2) Analyses indicate no measurable alpha emitting transuranics.

TABLE 1B-1
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
GASEOUS EFFLUENTS-ELEVATED RELEASES
UNIT 1

Nuclides Released	Units	CONTINUOUS MODE 3rd Quarter	CONTINUOUS MODE 4th Quarter	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
1. Fission gases					
Krypton-85	Ci				1.94E-02
Krypton-85m	Ci				
Krypton-87	Ci				
Krypton-88	Ci				
Xenon-133	Ci	2.77E+00	5.39E+01	1.09E-02	1.53E+01
Xenon-135	Ci		8.97E+00		1.02E-01
Xenon-135m	Ci				
Xenon-138	Ci				
Xenon-133m	Ci				
Argon-41	Ci				
Fluorine-18	Ci				
Unidentified	Ci	-	1.70E+01		
Total for period	Ci	2.77E+00	7.99E+01	1.09E-02	1.54E+01
2. Iodines					
Iodine-131	Ci	5.98E-06	1.92E-04		
Iodine-133	Ci		4.00E-05		
Iodine-135	Ci				
Total for period	Ci	5.98E-06	2.32E-04	-	-

TABLE 1B-1
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
GASEOUS EFFLUENTS-ELEVATED RELEASES
(Continued)
UNIT 1

Nuclides Released	Units	CONTINUOUS MODE 3rd Quarter	CONTINUOUS MODE 4th Quarter	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
3. Particulates (Half life > 8 days)					
Chrominum-51	Ci				
Manganese-54	Ci				
Cobalt-58	Ci				
Cobalt-60	Ci				
Iron-55	Ci				
Yttrium-88	Ci				
Strontium-89	Ci				
Strontium-90	Ci				
Niobium-95	Ci				
Zirconium-95	Ci				
Tin-117m	Ci				
Cesium-137	Ci				
Cerium-139	Ci				
Gross Alpha	Ci		1.50E-05		
Total For Period	Ci	-	-	-	-
4. Tritium					
Tritium	Ci	1.33E+01	2.16E+01	3.53E-05	1.62E-03

TABLE 1B-2
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
GASEOUS EFFLUENTS-ELEVATED RELEASES
UNIT 2

Nuclides Released	Units	CONTINUOUS MODE 3rd Quarter	CONTINUOUS MODE 4th Quarter	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
1. Fission gases					
Krypton-85	Ci				
Krypton-85m	Ci			1.66E-03	5.45E-02
Krypton-87	Ci				
Krypton-88	Ci				
Xenon-133	Ci	1.48E+02	3.15E-02	2.03E+01	4.58E+00
Xenon-135	Ci	1.34E+00	6.20E-04	6.05E-01	9.61E-03
Xenon-135m	Ci				
Xenon-138	Ci				
Xenon-133m	Ci				
Fluorine-18	Ci				
Unidentified	Ci	3.93E+02	8.27E+02		
Total for period	Ci	5.42E+02	8.27E+02	2.09E+01	4.64E+00
2. Iodines					
Iodine-131	Ci	7.14E-05	7.43E-05	9.01E-04	
Iodine-133	Ci	5.37E-05			
Iodine-135	Ci				
Total for period	Ci	1.25E-04	7.43E-05	9.01E-04	-

TABLE 1B-2
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)
GASEOUS EFFLUENTS-ELEVATED RELEASES
(Continued)
UNIT 2

Nuclides Released	Units	CONTINUOUS MODE 3rd Quarter	CONTINUOUS MODE 4th Quarter	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
3. Particulates (Half life > 8 days)					
Chrominum-51	Ci				
Manganese-54	Ci				
Cobalt-58	Ci				
Cobalt-60	Ci			3.54E-06	
Iron-55	Ci				
Strontium-85	Ci				
Strontium-89	Ci				
Strontium-90	Ci				
Niobium-95	Ci				
Zirconium-95	Ci				
Sr-85	Ci				
Cesium-134	Ci				
Cesium-137	Ci				
Cerium-139	Ci				
Gross Alpha	Ci				
Total For Period	Ci	-	-	3.54E-06	-
4. Tritium					
Tritium	Ci	1.29E+02	2.13E+01	1.10E-02	6.97E-04

TABLE 1C

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1984

UNITS 1 AND 2

GASEOUS EFFLUENTS-GROUND-LEVEL RELEASES

Nuclides Releases	Unit	3rd Quarter	4th Quarter	3rd Quarter	4th Quarter

There were no ground level releases for the period of record.

TABLE 2A-1

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)

UNIT 1

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	Units	3rd Quarter	4th Quarter	Est. Total Error, %
A. Fission and activation products				
1. Total release (not including tritium, gases, alpha)	Ci	8.32E-01	6.13E-01	2.50E+01
2. Average diluted concentration during period	uCi/ml	7.56E-08	4.86E-08	
3. Percent of applicable limits of Technical Specifications	%	8.32E+00	6.13E+00	
B. Tritium				
1. Total release	Ci	1.13E+02	5.66E+01	2.50E+01
2. Average diluted concentration during period	uCi/ml	1.03E-05	4.49E-06	
3. Percent of applicable limit	%	N/A	N/A	
C. Dissolved and entrained gases				
1. Total release	Ci	1.31E-01	5.64E-02	2.50E+01
2. Average diluted concentration during period	uCi/ml	1.19E-08	4.48E-09	
3. Percent of applicable limit	%	N/A	N/A	
D. Gross alpha radioactivity				
1. Total release	Ci	0.00E+00	0.00E+00	2.50E+01
E. Volume of waste release (prior to dilution - Batch Release)	liters	3.77E+06	4.62E+06	2.50E+01
F. Volume of dilution water used during period -- Batch Release	liters	1.10E+10	1.26E+10	2.50E+01

N/A - Not Applicable

TABLE 2A-2

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)

UNIT 2

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	Units	3rd Quarter	4th Quarter	Est. Total Error, %
A. Fission and activation products				
1. Total release (not including tritium, gases, alpha)	Ci	7.48E-01	4.22E-01	2.50E+01
2. Average diluted concentration during period	uCi/ml	7.69E-08	6.45E-08	
3. Percent of applicable limits of Technical Specifications	%	7.48E+00	4.22E+00	
B. Tritium				
1. Total release	Ci	1.33E+02	3.30E+01	2.50E+01
2. Average diluted concentration during period	uCi/ml	1.37E-05	5.05E-06	
3. Percent of applicable limit	%	N/A	N/A	
C. Dissolved and entrained gases				
1. Total release	Ci	5.74E-01	5.29E-02	2.50E+01
2. Average diluted concentration during period	uCi/ml	5.90E-08	8.09E-09	
3. Percent of applicable limit	%	N/A	N/A	
D. Gross alpha radioactivity				
1. Total release	Ci	0.00E+00	0.00E+00	2.50E+01
E. Volume of waste release (prior to dilution - Batch Release)	liters	3.54E+06	2.75E+06	
F. Volume of dilution water used during period - Batch Release	liters	9.73E+09	6.54E+09	2.50E+01

N/A - Not Applicable

TABLE 2B-1

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)

LIQUID EFFLUENTS UNIT 1

		CONTINUOUS MODE		BATCH MODE	
Nuclides Released	Unit	3rd Quarter	4th Quarter	3rd Quarter	4th Quarter
Strontium-85	Ci				1.74E-03
Strontium-89	Ci				
Strontium-90	Ci				
Fluorine-18	Ci				
Sodium-24	Ci			1.96E-03	2.30E-04
Chromium-51	Ci			1.31E-02	2.33E-03
Manganese-54	Ci			4.64E-02	2.41E-02
Iron-59	Ci			6.38E-04	
Cobalt-57	Ci			1.28E-03	1.58E-03
Cobalt-58	Ci			4.39E-01	3.05E-01
Cobalt-60	Ci			3.09E-01	2.34E-01
Zinc-65	Ci				
Zirconium-95	Ci			7.16E-04	
Niobium-95	Ci			4.46E-03	3.71E-03
Niobium-97	Ci			2.47E-03	4.08E-03
Molybdenum-99	Ci				3.97E-04
Technetium-99M	Ci				
Iodine-131	Ci			1.32E-03	1.51E-02
Iodine-133	Ci			1.17E-03	3.80E-03
Iodine-135	Ci				
Cesium-134	Ci				3.08E-03
Cesium -137	Ci			8.62E-03	6.47E-03
Barium-140	Ci				1.75E-03
Lanthanum-140	Ci			1.06E-04	
Antimony-122	Ci				8.80E-04
Antimony-124	Ci			1.87E-03	6.62E-03
Antimony-125	Ci				
Tin-113	Ci			2.34E-04	
Total for period (above)	Ci			8.32E-01	6.13E-01
Tritium	Ci			1.13E+02	5.66E+01
Xenon-133	Ci			1.30E-01	5.45E-02
Xenon-135	Ci			8.41E-04	1.93E-03
Krypton-85m	Ci				
Argon-41	Ci				

TABLE 2B-2

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1984)

LIQUID EFFLUENTS UNIT 2

Nuclides Released	Unit	CONTINUOUS MODE 3rd Quarter	CONTINUOUS MODE 4th Quarter	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
Strontium-89	Ci				
Strontium-90	Ci				
Fluorine-18	Ci				
Sodium-24	Ci			5.58E-04	
Chromium-51	Ci			8.82E-03	1.73E-03
Manganese-54	Ci			3.70E-02	1.64E-02
Iron-59	Ci			2.44E-03	
Cobalt-57	Ci			1.39E-03	4.25E-04
Cobalt-58	Ci			4.09E-01	1.91E-01
Cobalt-60	Ci			2.41E-01	1.67E-01
Zinc-65	Ci				
Zirconium-95	Ci			1.39E-04	5.48E-04
Niobium-95	Ci			2.48E-03	2.89E-03
Niobium-97	Ci			8.11E-03	1.24E-03
Molybdenum-99	Ci				
Technetium-99M	Ci				
Iodine-131	Ci			8.57E-03	1.12E-02
Iodine-132	Ci				
Iodine-133	Ci			6.78E-04	1.72E-03
Iodine-134	Ci				
Iodine-135	Ci				
Cesium-134	Ci			5.61E-04	1.48E-03
Cesium-137	Ci			9.98E-04	4.84E-03
Zirconium-97	Ci			1.83E-04	
Barium-140	Ci			6.42E-03	
Lanthanum-140	Ci			1.74E-02	1.52E-04
Tungsten-187	Ci				
Antimony-122	Ci				2.64E-03
Antimony-124	Ci			1.54E-03	1.83E-02
Antimony-125	Ci				
Tin-113	Ci			3.60E-04	
Total for period (above)	Ci			7.48E-01	4.22E-01
Tritium	Ci			1.33E+02	3.30E+01
Xenon-133m	Ci				
Xenon-133	Ci			1.68E-01	5.22E-02
Xenon-135	Ci			6.39E-04	6.67E-04
Krypton-85	Ci			4.05E-01	
Argon-41	Ci				

TABLE 3

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1984
JULY 1, 1984 - DECEMBER 31 1984
UNITS 1 AND 2
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

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

1. Type of waste	Units	6-month Period	Est. Total Error, %
a. Spent resins, filters sludges, evaporator bottoms	m3	5.68E+01	
	Ci	2.75E+01	1.50E+01
b. Dry compressible waste, contaminated equip.	m3	7.65E+02	
	Ci	9.20E+00	1.50E+01
c. Irradiated components, control rods,	m3	0.00E+00	
	Ci	0.00E+00	
d. Others (describe) (Solidified Oil)	m3	2.41E+01	1.50E+01
	Ci	7.10E-01	

2. Estimate of major nuclide composition (for type A and B waste)

		Type A (Ci)	Type B (Ci)
Manganese - 54	1.09%	3.00E-01	1.00E-01
Iron - 55	4.48%	1.23E+00	4.12E-01
Cobalt - 57	.23%	6.30E-02	2.10E-02
Cobalt - 58	64.00%	1.76E+01	5.89E+00
Cobalt - 60	13.30%	3.65E+00	1.22E+00
Nickel - 63	5.57%	1.53E+00	5.12E-01
Tritium - 3	.86%	2.36E-01	7.90E-02
Carbon - 14	.02%	5.00E-03	2.00E-03
Strontium - 90	.02%	5.00E-03	2.00E-03
Technetium - 99	.02%	5.00E-03	2.00E-03
Cesium - 134	2.43%	6.68E-01	2.24E-01
Cesium - 137	2.51%	6.89E-01	2.31E-01
Cerium - 144	.07%	1.90E-02	6.00E-03
Lanthanum - 140	2.78%	7.64E-01	2.56E-01
Barium - 140	2.44%	6.70E-01	2.24E-01
Plutonium - 241	.11%	3.00E-02	1.00E-02
I-129, Pu-238, 239, Pu-240 Am-241, Cm-242, Cm-243, and Cm-244	0.07%	1.90E-02	6.00E-03

TABLE 3
(Continued)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1984
JULY 1, 1984 - DECEMBER 31 1984
UNITS 1 AND 2
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

Type B Waste - Solidified Oil

Manganese - 54	5.00%	3.60E-02
Iron - 55	4.60%	3.30E-02
Cobalt - 58	6.10%	4.30E-02
Cobalt - 60	52.50%	3.73E-01
Nickel - 63	6.30%	4.50E-02
Tritium - 3	2.40%	1.70E-02
Carbon - 14	.80%	6.00E-03
Cesium - 134	8.20%	5.80E-02
Cesium - 137	12.60%	8.90E-02
Cerium - 144	1.50%	1.10E-02

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
12	Truck	Barnwell, South Carolina
21	Truck	Hanford, Wash.

B. IRRADIATED FUEL SHIPMENTS (Disposition)

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

TABLE 4A-1

SALEM GENERATING STATION (1984)
UNIT 1

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates July 1 - September 30, 1984

2. Type of release (Gas)

3. Number of releases during the 3rd Quarter 2

4. Total time duration for all releases of type listed above 2.09E+02 minutes

5. Maximum duration for releases of type listed above 1.08E+01 minutes

6. Average duration for all releases of type listed above 1.05E+01 minutes

7. Minimum duration for release of type listed above 1.01E+01 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. N/A

TABLE 4A-2

SALEM GENERATING STATION (1984)
UNIT 2

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates July 1 - September 30, 1984

2. Type of release (Gas)

3. Number of releases during the 3rd Quarter 1.20E+01

4. Total time duration for all releases of type listed above 4.37E+03 minutes

5. Maximum duration for releases of type listed above 2.16E+03 minutes

6. Average duration for all releases of type listed above 3.64E+02 minutes

7. Minimum duration for release of type listed above 4.30E+01 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. N/A

TABLE 4A-1 (Cont'd)

SALEM GENERATING STATION (1984)
UNIT 1

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates October 1 - December 31, 1984

2. Type of release (Gas)

3. Number of releases during the 4th Quarter 8

4. Total time duration for all releases of type listed above 7.60E+02 minutes

5. Maximum duration for releases of type listed above 1.39E+02 minutes

6. Average duration for all releases of type listed above 8.44E+01 minutes

7. Minimum duration for release of type listed above 6.00E+01 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. N/A

TABLE 4A-2 (Cont'd)

SALEM GENERATING STATION (1984)
UNIT 2

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates October 1 - December 31, 1984

2. Type of release (Gas)

3. Number of releases during the 4th Quarter 9

4. Total time duration for all releases of type listed above 7.15E+03 minutes

5. Maximum duration for releases of type listed above 3.71E+03 minutes

6. Average duration for all releases of type listed above 7.94E+02 minutes

7. Minimum duration for release of type listed above 9.70E+01 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. N/A

TABLE 4B-1

SALEM GENERATING STATION (1984)
UNIT 1

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates July 1 - September 30, 1984

2. Type of release (Liquid)

3. Number of releases during the 3rd Quarter 60

4. Total time duration for all releases of type listed above 1.36E+04 minutes

5. Maximum duration for releases of type listed above 3.79E+02 minutes

6. Average duration for all releases of type listed above 2.27E+02 minutes

7. Minimum duration for release of type listed above 1.59E+02 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. 2.13E+05 gpm

TABLE 4B-2

SALEM GENERATING STATION (1984)
UNIT 2

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates July 1 - September 30, 1984

2. Type of release (Liquid)

3. Number of releases during the 3rd Quarter 56

4. Total time duration for all releases of type listed above 1.18E+04 minutes

5. Maximum duration for releases of type listed above 2.72E+02 minutes

6. Average duration for all releases of type listed above 2.10E+02 minutes

7. Minimum duration for release of type listed above 1.75E+02 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release. 2.18E+05 gpm

TABLE 4B-1 (Cont'd)

SALEM GENERATING STATION (1984)
UNIT 1

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates October 1 - December 31, 1984

2. Type of release (Liquid)

3. Number of releases during the 4th Quarter 53

4. Total time duration for all releases of type listed above 1.79E+04 minutes

5. Maximum duration for releases of type listed above 3.35E+03 minutes

6. Average duration for all releases of type listed above 3.39E+02 minutes

7. Minimum duration for release of type listed above 1.73E+02 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release 1.85E+05 gpm

TABLE 4B-1 (Cont'd)

SALEM GENERATING STATION (1984)
UNIT 2

SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates October 1 - December 31, 1984

2. Type of release (Liquid)

3. Number of releases during the 4th Quarter 45

4. Total time duration for all releases of type listed above 9.34E+03 minutes

5. Maximum duration for releases of type listed above 3.47E+02 minutes

6. Average duration for all releases of type listed above 2.12E+02 minutes

7. Minimum duration for release of type listed above 1.41E+02 minutes

8. For liquid batch releases only, provide the average stream flow (dilution flow) during the period of release 1.81E+05 gpm

ARTIFICIAL ISLAND 7/84-9/84

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT)

LAPSE RATE LE-1.9 CLASS A

	SPEEDS(MI/HR) 1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NNE	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
ENE	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
ESE	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
SSE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
S	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SSW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SW	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
W	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WNW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NNW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

MEAN WIND SPEED 0.0
CALM HOURS 0
PERCENT CALM 0.0
MISSING 0

ARTIFICIAL ISLAND 7/84-9/84

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE -1.8/ -1.7 CLASS B

	SPEEDS(MI/HR) 1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NNE	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
ENE	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
ESE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SE	0	0.0	0	0.0	1	.0	3	.1	2	.1	0	0.0	6	.3
SSE	0	0.0	0	0.0	1	.0	1	.0	0	0.0	0	0.0	2	.1
S	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	1	.0
SSW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SW	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	1	.0
WSW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
W	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WNW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NNW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	0	0.0	0	0.0	4	.2	4	.2	2	.1	0	0.0	10	.5

MEAN WIND SPEED 14.4
CALM HOURS 0
PERCENT CALM 0.0
MISSING 0

ARTIFICIAL ISLAND 7/84-9/84

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE -1.6/ -1.5 CLASS C

	SPEEDS(MI/HR) 1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NNE	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
ENE	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
ESE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SE	0	0.0	0	0.0	2	.1	1	.0	0	0.0	1	.0	4	.2
SSE	0	0.0	1	.0	0	0.0	4	.2	0	0.0	0	0.0	5	.2
S	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SSW	0	0.0	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	2	.1
SW	0	0.0	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	2	.1
WSW	0	0.0	0	0.0	3	.1	1	.0	0	0.0	0	0.0	4	.2
W	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WNW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NNW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	0	0.0	1	.0	9	.4	6	.3	0	0.0	1	.0	17	.8

MEAN WIND SPEED 13.1
CALM HOURS 0
PERCENT CALM 0.0
MISSING 0

ARTIFICIAL ISLAND 7/84-9/84 JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE -1.4/ -0.5 CLASS D

SPEEDS(MI/HR)

	1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	2	.1	16	.8	24	1.1	20	.9	1	.0	0	0.0	63	3.0
NNE	1	.0	11	.5	18	.8	17	.8	0	0.0	0	0.0	47	2.2
NE	0	0.0	7	.3	18	.8	8	.4	0	0.0	0	0.0	33	1.5
ENE	2	.1	3	.1	16	.8	3	.1	0	0.0	0	0.0	24	1.1
E	1	.0	15	.7	3	.1	0	0.0	0	0.0	0	0.0	19	.9
ESE	1	.0	3	.1	1	.0	0	0.0	0	0.0	0	0.0	5	.2
SE	1	.0	6	.3	17	.8	21	1.0	10	.5	3	.1	58	2.7
SSE	2	.1	16	.8	22	1.0	19	.9	14	.7	2	.1	75	3.5
S	11	.5	15	.7	16	.8	13	.6	4	.2	0	0.0	59	2.8
SSW	3	.1	8	.4	20	.9	9	.4	10	.5	0	0.0	50	2.3
SW	4	.2	24	1.1	20	.9	10	.5	3	.1	0	0.0	61	2.9
WSW	1	.0	12	.6	19	.9	11	.5	1	.0	0	0.0	44	2.1
W	1	.0	19	.9	20	.9	10	.5	3	.1	1	.0	54	2.5
WNW	0	0.0	16	.8	18	.8	4	.2	1	.0	0	0.0	39	1.8
NW	1	.0	14	.7	13	.6	15	.7	2	.1	1	.0	46	2.2
NNW	1	.0	25	1.2	36	1.7	22	1.0	5	.2	1	.0	90	4.2
	32	1.5	210	9.9	281	13.2	182	8.5	54	2.5	8	.4	767	36.0

MEAN WIND SPEED 10.6
CALM HOURS 0
PERCENT CALM 0.0
MISSING 35

ARTIFICIAL ISLAND 7/84-9/84

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE -0.4/ 1.5 CLASS E

	SPEEDS(MI/HR) 1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	1	.0	11	.5	23	1.1	32	1.5	25	1.2	2	.1	94	4.4
NNE	1	.0	2	.1	10	.5	37	1.7	5	.2	0	0.0	55	2.6
NE	3	.1	10	.5	21	1.0	14	.7	0	0.0	0	0.0	48	2.3
ENE	0	0.0	5	.2	22	1.0	15	.7	1	.0	0	0.0	43	2.0
E	1	.0	15	.7	25	1.2	2	.1	0	0.0	0	0.0	43	2.0
ESE	1	.0	8	.4	9	.4	3	.1	0	0.0	0	0.0	21	1.0
SE	3	.1	11	.5	29	1.4	14	.7	5	.2	4	.2	66	3.1
SSE	1	.0	14	.7	17	.8	15	.7	10	.5	1	.0	58	2.7
S	2	.1	24	1.1	32	1.5	45	2.1	20	.9	6	.3	129	6.1
SSW	0	0.0	14	.7	37	1.7	52	2.4	17	.8	1	.0	121	5.7
SW	2	.1	21	1.0	41	1.9	44	2.1	13	.6	1	.0	122	5.7
WSW	1	.0	21	1.0	19	.9	18	.8	5	.2	0	0.0	64	3.0
W	2	.1	26	1.2	27	1.3	15	.7	1	.0	0	0.0	71	3.3
WNW	3	.1	6	.3	16	.8	9	.4	0	0.0	1	.0	35	1.6
NW	3	.1	7	.3	33	1.5	24	1.1	8	.4	0	0.0	75	3.5
NNW	1	.0	13	.6	32	1.5	23	1.1	10	.5	3	.1	82	3.8
	25	1.2	208	9.8	393	18.5	362	17.0	120	5.6	19	.9	1127	52.9

MEAN WIND SPEED 12.2
CALM HOURS 0
PERCENT CALM 0.0
MISSING 35

ARTIFICIAL ISLAND 7/84-9/84 JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED

LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE 1.6 / 4.0 CLASS F

SPEEDS(MI/HR)

	1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	0	0.0	1	.0	8	.4	20	.9	6	.3	0	0.0	35	1.6
NNE	3	.1	1	.0	4	.2	9	.4	10	.5	0	0.0	27	1.3
NE	1	.0	0	0.0	2	.1	3	.1	0	0.0	0	0.0	6	.3
ENE	1	.0	0	0.0	3	.1	0	0.0	0	0.0	0	0.0	4	.2
E	0	0.0	4	.2	1	.0	1	.0	0	0.0	0	0.0	6	.3
ESE	1	.0	0	0.0	1	.0	3	.1	1	.0	0	0.0	6	.3
SE	1	.0	1	.0	2	.1	6	.3	1	.0	0	0.0	11	.5
SSE	0	0.0	4	.2	6	.3	3	.1	0	0.0	0	0.0	13	.6
S	0	0.0	4	.2	4	.2	1	.0	0	0.0	0	0.0	9	.4
SSW	0	0.0	1	.0	6	.3	2	.1	1	.0	0	0.0	10	.5
SW	1	.0	3	.1	7	.3	6	.3	1	.0	0	0.0	18	.8
WSW	0	0.0	2	.1	5	.2	5	.2	1	.0	0	0.0	13	.6
W	1	.0	0	0.0	1	.0	1	.0	0	0.0	0	0.0	3	.1
WNW	1	.0	0	0.0	1	.0	1	.0	0	0.0	0	0.0	3	.1
NW	1	.0	2	.1	3	.1	5	.2	2	.1	0	0.0	13	.6
NNW	1	.0	1	.0	8	.4	6	.3	0	0.0	0	0.0	16	.8
	12	.6	24	1.1	62	2.9	72	3.4	23	1.1	0	0.0	193	9.1

MEAN WIND SPEED 12.3
CALM HOURS 0
PERCENT CALM 0.0
MISSING 3

ARTIFICIAL ISLAND 7/84-9/84

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT)

LAPSE RATE GT. 4.0 CLASS G

	SPEEDS(MI/HR) 1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NNE	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
NE	0	0.0	0	0.0	1	.0	1	.0	0	0.0	0	0.0	2	.1
ENE	0	0.0	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	2	.1
E	0	0.0	1	.0	2	.1	1	.0	0	0.0	0	0.0	4	.2
ESE	0	0.0	0	0.0	1	.0	2	.1	0	0.0	0	0.0	3	.1
SE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SSE	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
S	0	0.0	2	.1	1	.0	0	0.0	0	0.0	0	0.0	3	.1
SSW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SW	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
W	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WNW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NNW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	1	.0	4	.2	7	.3	4	.2	0	0.0	0	0.0	16	.8

MEAN WIND SPEED 9.5
CALM HOURS 0
PERCENT CALM 0.0
MISSING 0

ARTIFICIAL ISLAND 7/84-9/84

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE
ALL STABILITIES

	SPEEDS(MI/HR) 1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	3	.1	28	1.3	55	2.6	72	3.4	32	1.5	2	.1	192	9.0
NNE	6	.3	14	.7	32	1.5	65	3.0	15	.7	0	0.0	130	6.1
NE	4	.2	17	.8	42	2.0	26	1.2	0	0.0	0	0.0	89	4.2
ENE	3	.1	8	.4	43	2.0	18	.8	1	.0	0	0.0	73	3.4
E	2	.1	35	1.6	31	1.5	4	.2	0	0.0	0	0.0	72	3.4
ESE	3	.1	11	.5	12	.6	8	.4	1	.0	0	0.0	35	1.6
SE	5	.2	18	.8	51	2.4	45	2.1	18	.8	8	.4	145	6.8
SSE	3	.1	36	1.7	46	2.2	42	2.0	24	1.1	3	.1	154	7.2
S	13	.6	45	2.1	54	2.5	59	2.8	24	1.1	6	.3	201	9.4
SSW	3	.1	23	1.1	65	3.1	63	3.0	28	1.3	1	.0	183	8.6
SW	7	.3	48	2.3	71	3.3	60	2.8	17	.8	1	.0	204	9.6
WSW	2	.1	35	1.6	46	2.2	35	1.6	7	.3	0	0.0	125	5.9
W	4	.2	45	2.1	48	2.3	26	1.2	4	.2	1	.0	128	6.0
WNW	4	.2	22	1.0	35	1.6	14	.7	1	.0	1	.0	77	3.6
NW	5	.2	23	1.1	49	2.3	44	2.1	12	.6	1	.0	134	6.3
NNW	3	.1	39	1.8	76	3.6	51	2.4	15	.7	4	.2	188	8.8
	70	3.3	447	21.0	756	35.5	630	29.6	199	9.3	28	1.3	2130	100.0

MISSING HOURS 78

MEAN WIND SPEED 11.6

TOTAL NUMBER OF CALM HOURS 0 PERCENT 0.0

ARTIFICIAL ISLAND 10/84-12/84

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT)

LAPSE RATE LE-1.9 CLASS A

SPEEDS(MI/HR)

	1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NNE	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
ENE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
E	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
ESE	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
SSE	0	0.0	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	1	.0
S	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SSW	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
SW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WSW	0	0.0	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	2	.1
W	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WNW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NNW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	2	.1	0	0.0	2	.1	1	.0	0	0.0	0	0.0	5	.2

MEAN WIND SPEED 8.8
CALM HOURS 0
PERCENT CALM 0.0
MISSING 0

ARTIFICIAL ISLAND 10/84-12/84

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT)

LAPSE RATE -1.8/ -1.7 CLASS B

SPEEDS(MI/HR)

DIRECTION	1-3 SUM	1-3 PERCENT	4-7 SUM	4-7 PERCENT	8-12 SUM	8-12 PERCENT	13-18 SUM	13-18 PERCENT	19-24 SUM	19-24 PERCENT	25 PLUS SUM	25 PLUS PERCENT	SUM	PERCENT
N	0	0.0	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	1	.0
NNE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NE	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
ENE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
E	0	0.0	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	1	.0
ESE	0	0.0	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	1	.0
SE	0	0.0	1	.0	2	.1	0	0.0	0	0.0	0	0.0	3	.1
SSE	0	0.0	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	1	.0
S	0	0.0	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	2	.1
SSW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WSW	0	0.0	0	0.0	3	.1	0	0.0	0	0.0	0	0.0	3	.1
W	0	0.0	0	0.0	0	0.0	2	.1	2	.1	0	0.0	4	.2
WNW	0	0.0	2	.1	2	.1	0	0.0	1	.0	0	0.0	5	.2
NW	0	0.0	0	0.0	0	0.0	3	.1	1	.0	0	0.0	4	.2
NNW	0	0.0	0	0.0	0	0.0	2	.1	0	0.0	0	0.0	2	.1
	0	0.0	4	.2	9	.4	11	.5	4	.2	0	0.0	28	1.4

MEAN WIND SPEED 12.9
CALM HOURS 0
PERCENT CALM 0.0
MISSING 0

ARTIFICIAL ISLAND 10/84-12/84 JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE -1.6/ -1.5 CLASS C

	SPEEDS(MI/HR) 1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	1	.0
NNE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NE	0	0.0	1	.0	1	.0	0	0.0	0	0.0	0	0.0	2	.1
ENE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
E	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
ESE	0	0.0	0	0.0	0	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	0.0	0	0.0	0	0.0
SSE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
S	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SSW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SW	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
WSW	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	0	0.0	2	.1
W	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WNW	0	0.0	1	.0	1	.0	0	0.0	3	.1	0	0.0	5	.2
NW	0	0.0	0	0.0	1	.0	1	.0	7	.3	0	0.0	9	.4
NNW	0	0.0	0	0.0	1	.0	6	.3	0	0.0	0	0.0	7	.3
	2	.1	4	.2	5	.2	7	.3	10	.5	0	0.0	28	1.4

MEAN WIND SPEED 14.0
CALM HOURS 0
PERCENT CALM 0.0
MISSING 1

ARTIFICIAL ISLAND 10/84-12/84 JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED

LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE -1.4/ -0.5 CLASS D

SPEEDS(MI/HR)

	1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	2	.1	7	.3	17	.8	11	.5	10	.5	1	.0	48	2.3
NNE	1	.0	12	.6	15	.7	6	.3	6	.3	0	0.0	40	2.0
NE	1	.0	11	.5	18	.9	4	.2	0	0.0	0	0.0	34	1.7
ENE	0	0.0	4	.2	15	.7	2	.1	0	0.0	0	0.0	21	1.0
E	4	.2	4	.2	5	.2	3	.1	1	.0	0	0.0	17	.8
ESE	1	.0	1	.0	1	.0	0	0.0	0	0.0	0	0.0	3	.1
SE	0	0.0	3	.1	1	.0	4	.2	3	.1	0	0.0	11	.5
SSE	1	.0	4	.2	7	.3	5	.2	2	.1	0	0.0	19	.9
S	0	0.0	1	.0	6	.3	6	.3	3	.1	0	0.0	16	.8
SSW	3	.1	2	.1	4	.2	6	.3	3	.1	0	0.0	18	.9
SW	3	.1	7	.3	10	.5	7	.3	6	.3	0	0.0	33	1.6
WSW	1	.0	6	.3	4	.2	6	.3	4	.2	1	.0	22	1.1
W	5	.2	12	.6	21	1.0	35	1.7	38	1.9	7	.3	118	5.8
WNW	1	.0	5	.2	8	.4	11	.5	35	1.7	6	.3	66	3.2
NW	0	0.0	6	.3	10	.5	7	.3	26	1.3	11	.5	60	2.9
NNW	2	.1	7	.3	11	.5	8	.4	0	0.0	0	0.0	28	1.4
	25	1.2	92	4.5	153	7.5	121	5.9	137	6.7	26	1.3	554	27.1

MEAN WIND SPEED	13.6
CALM HOURS	1
PERCENT CALM	.0
MISSING	44

ARTIFICIAL ISLAND 10/84-12/84 JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE -0.4/ 1.5 CLASS E

	SPEEDS(MI/HR) 1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	2	.1	6	.3	18	.9	31	1.5	37	1.8	2	.1	96	4.7
NNE	1	.0	11	.5	14	.7	29	1.4	19	.9	1	.0	75	3.7
NE	0	0.0	15	.7	31	1.5	13	.6	11	.5	3	.1	73	3.6
ENE	3	.1	9	.4	15	.7	6	.3	7	.3	0	0.0	40	2.0
E	1	.0	5	.2	14	.7	9	.4	0	0.0	0	0.0	29	1.4
ESE	1	.0	2	.1	7	.3	10	.5	1	.0	0	0.0	21	1.0
SE	2	.1	8	.4	11	.5	12	.6	10	.5	2	.1	45	2.2
SSE	4	.2	17	.8	26	1.3	25	1.2	6	.3	0	0.0	78	3.8
S	2	.1	11	.5	25	1.2	25	1.2	21	1.0	1	.0	85	4.2
SSW	0	0.0	10	.5	13	.6	23	1.1	24	1.2	1	.0	71	3.5
SW	3	.1	10	.5	24	1.2	22	1.1	16	.8	6	.3	81	4.0
WSW	4	.2	6	.3	13	.6	12	.6	4	.2	1	.0	40	2.0
W	3	.1	14	.7	24	1.2	29	1.4	8	.4	0	0.0	78	3.8
WNW	0	0.0	10	.5	14	.7	32	1.6	16	.8	2	.1	74	3.6
NW	5	.2	3	.1	15	.7	39	1.9	32	1.6	8	.4	102	5.0
NNW	6	.3	9	.4	11	.5	12	.6	12	.6	0	0.0	50	2.4
	37	1.8	146	7.1	275	13.5	329	16.1	224	11.0	27	1.3	1038	50.8

MEAN WIND SPEED 13.7
CALM HOURS 1
PERCENT CALM .0
MISSING 73

ARTIFICIAL ISLAND 10/84-12/84 JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE 1.6 / 4.0 CLASS F

	SPEEDS(MI/HR) 1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	1	.0	4	.2	6	.3	8	.4	5	.2	0	0.0	24	1.2
NNE	1	.0	2	.1	1	.0	10	.5	8	.4	0	0.0	22	1.1
NE	1	.0	3	.1	3	.1	3	.1	6	.3	0	0.0	16	.8
ENE	0	0.0	1	.0	2	.1	3	.1	5	.2	0	0.0	11	.5
E	1	.0	3	.1	3	.1	3	.1	0	0.0	0	0.0	10	.5
ESE	1	.0	0	0.0	3	.1	4	.2	0	0.0	0	0.0	8	.4
SE	4	.2	3	.1	3	.1	6	.3	3	.1	5	.2	24	1.2
SSE	0	0.0	3	.1	3	.1	6	.3	5	.2	3	.1	20	1.0
S	1	.0	6	.3	9	.4	11	.5	10	.5	0	0.0	37	1.8
SSW	0	0.0	6	.3	12	.6	4	.2	3	.1	0	0.0	25	1.2
SW	1	.0	4	.2	2	.1	4	.2	19	.9	7	.3	37	1.8
WSW	1	.0	2	.1	0	0.0	3	.1	3	.1	0	0.0	9	.4
W	2	.1	5	.2	6	.3	8	.4	1	.0	0	0.0	22	1.1
WNW	1	.0	4	.2	2	.1	5	.2	1	.0	0	0.0	13	.6
NW	0	0.0	4	.2	3	.1	4	.2	1	.0	0	0.0	12	.6
NNW	0	0.0	3	.1	4	.2	13	.6	2	.1	0	0.0	22	1.1
	15	.7	53	2.6	62	3.0	95	4.6	72	3.5	15	.7	312	15.3

MEAN WIND SPEED 14.0
CALM HOURS 0
PERCENT CALM 0.0
MISSING 39

ARTIFICIAL ISLAND 10/84-12/84 JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE GT. 4.0 CLASS G

	SPEEDS(MI/HR) 1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	1	.0	0	0.0	2	.1	0	0.0	0	0.0	0	0.0	3	.1
NNE	0	0.0	0	0.0	1	.0	1	.0	0	0.0	0	0.0	2	.1
NE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
ENE	2	.1	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	3	.1
E	2	.1	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	3	.1
ESE	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	1	.0
SE	0	0.0	0	0.0	0	0.0	1	.0	0	0.0	0	0.0	1	.0
SSE	0	0.0	0	0.0	0	0.0	2	.1	7	.3	5	.2	14	.7
S	0	0.0	0	0.0	1	.0	3	.1	4	.2	0	0.0	8	.4
SSW	0	0.0	2	.1	4	.2	1	.0	1	.0	1	.0	9	.4
SW	1	.0	3	.1	4	.2	1	.0	3	.1	0	0.0	12	.6
WSW	0	0.0	1	.0	2	.1	5	.2	1	.0	0	0.0	9	.4
W	1	.0	2	.1	2	.1	2	.1	0	0.0	0	0.0	7	.3
WNW	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NW	0	0.0	4	.2	0	0.0	0	0.0	0	0.0	0	0.0	4	.2
NNW	0	0.0	1	.0	0	0.0	0	0.0	0	0.0	0	0.0	1	.0
	7	.3	13	.6	19	.9	16	.8	16	.8	6	.3	77	3.8

MEAN WIND SPEED 13.9
CALM HOURS 0
PERCENT CALM 0.0
MISSING 0

ARTIFICIAL ISLAND 10/84-12/84 JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
LOCATION 300FT

DEG C/100M (300-30FT) LAPSE RATE ALL STABILITIES

SPEEDS(MI/HR)

	1-3		4-7		8-12		13-18		19-24		25 PLUS		SUM	PERCENT
DIRECTION	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT	SUM	PERCENT		
N	6	.3	17	.8	44	2.2	51	2.5	52	2.5	3	.1	173	8.5
NNE	3	.1	25	1.2	31	1.5	46	2.3	33	1.6	1	.0	139	6.8
NE	2	.1	31	1.5	53	2.6	20	1.0	17	.8	3	.1	126	6.2
ENE	5	.2	14	.7	33	1.6	11	.5	12	.6	0	0.0	75	3.7
E	10	.5	12	.6	23	1.1	16	.8	1	.0	0	0.0	62	3.0
ESE	3	.1	3	.1	12	.6	15	.7	1	.0	0	0.0	34	1.7
SE	6	.3	15	.7	17	.8	23	1.1	16	.8	7	.3	84	4.1
SSE	5	.2	24	1.2	36	1.8	40	2.0	20	1.0	8	.4	133	6.5
S	3	.1	18	.9	43	2.1	45	2.2	38	1.9	1	.0	148	7.2
SSW	4	.2	20	1.0	33	1.6	34	1.7	31	1.5	2	.1	124	6.1
SW	9	.4	24	1.2	40	2.0	34	1.7	44	2.2	13	.6	164	8.0
WSW	6	.3	17	.8	24	1.2	26	1.3	12	.6	2	.1	87	4.3
W	11	.5	33	1.6	53	2.6	76	3.7	49	2.4	7	.3	229	11.2
WNW	2	.1	22	1.1	27	1.3	48	2.3	56	2.7	8	.4	163	8.0
NW	5	.2	17	.8	29	1.4	54	2.6	67	3.3	19	.9	191	9.3
NNW	8	.4	20	1.0	27	1.3	41	2.0	14	.7	0	0.0	110	5.4
	88	4.3	312	15.3	525	25.7	580	28.4	463	22.7	74	3.6	2042	99.9

MISSING HOURS 164

MEAN WIND SPEED 13.7

TOTAL NUMBER OF CALM HOURS 2 PERCENT .1