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Washington, D.C. 20555

**RADIOACTIVE EFFLUENT RELEASE REPORT
SALEM AND HOPE CREEK GENERATING STATIONS
DOCKET NOS. 50-272, 50-311 AND 50-354**

Gentlemen:

In accordance with Section 6.9.1.7 of Appendix A to the Operating License for Hope Creek Generating Station, and Section 6.9.1.8 of Appendix A to the Operating License for Salem Generating Station Unit Nos. 1 and 2, PSEG Nuclear hereby transmits one copy of the annual Radioactive Effluent Release Report. This report is RERR-24 for Hope Creek and RERR-50 for Salem Unit Nos. 1 and 2. This report summarizes liquid and gaseous releases and solid waste shipments from the Hope Creek Generating Station and the Salem Generating Station for the period of January 1, 2001 to December 31, 2001.

Should you have any questions regarding this transmittal, please contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Gabor Salamon".

for Gabor Salamon
Nuclear Safety and Licensing Manager

Attachment

IELS

APR 30 2002

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ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

FOR

THE SALEM AND THE HOPE CREEK

GENERATING STATIONS

SGS RERR-50

DOCKET NO. 50-272

DOCKET NO. 50-311

OPERATING LICENSE NO. DPR-070

OPERATING LICENSE NO. DPR-075

HCGS RERR-24

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May 2002

SALEM AND HOPE CREEK GENERATING STATIONS

RADIOACTIVE EFFLUENT RELEASE REPORT

JANUARY - DECEMBER 2001

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SALEM AND HOPE CREEK GENERATING STATIONS

RADIOACTIVE EFFLUENT RELEASE REPORT: JANUARY - DECEMBER 2001

INTRODUCTION

This report, SGS-RERR-50/HCGS-RERR-24 summarizes information pertaining to the releases of radioactive materials in liquid, gaseous and solid form from the Salem (SGS) and Hope Creek Generating (HCGS) Stations for the period January 1, 2001 to December 31, 2001.

Salem Unit 1 is a Westinghouse Pressurized Water Reactor that has a licensed core thermal power of 3459 MWt and an approximate net electrical output of 1133MWe. Salem Unit 1 achieved initial criticality on December 11, 1976 and went into commercial operation on June 30, 1977.

Salem Unit 2 is a Westinghouse Pressurized Water Reactor that has a licensed core thermal power of 3459 MWt and an approximate net electrical output of 1134 MWe. Salem Unit 2 achieved initial criticality on August 2, 1980 and went into commercial operation on October 13, 1981.

The Hope Creek Generating Station (HCGS) employs a General Electric (GE) Boiling Water Reactor designed to operate at a rated core thermal power of 3339 MWt and an approximate net electrical output of 1091 MWe. The HCGS achieved initial criticality on June 28, 1986 and went into commercial operation on December 20, 1986.

This report is prepared in the format of Regulatory Guide 1.21, Appendix B, as required by Control 6.9.1.8 of the Salem Units 1 and 2 Offsite Dose Calculation Manual (ODCM) and Control 6.9.1.7 of the Hope Creek ODCM. Our responses to parts A-F of the "Supplemental Information" section of Regulatory Guide 1.21, Appendix B, are included in the following pages.

As required by Regulatory Guide 1.21, the Offsite Dose Calculation Manual limits are described in detail within this report along with a summary description of how total radioactivity measurements and their approximations were developed.

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

Salem Unit 1 generated 7709423 megawatt-hours of electrical energy (net) during the reporting period.

Salem Unit 2 generated 9517603 megawatt-hours of electrical energy (net) during the reporting period.

Hope Creek generated 8065273 megawatt-hours of electrical energy (net) during the reporting period.

PART A. PRELIMINARY SUPPLEMENTAL INFORMATION

1.0 REGULATORY LIMITS

1.1 Fission and Activation Gas Release Limits

The dose rate due to radioactive materials released *in gaseous effluents* from the site (i.e. Salem Units 1 & 2, and Hope Creek) to areas at and beyond the site boundary, shall be limited to the following:

For noble gases: Less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin.

In addition, the air dose due to noble gases released *in gaseous effluents* from each reactor unit (i.e. Salem Unit 1, Unit 2, or Hope Creek) to areas at and beyond the site boundary, shall be limited to the following:

During any calendar quarter: Less than or equal to 5 mrad for gamma radiation and less than or equal to 10 mrad for beta radiation and,

During any calendar year: Less than or equal to 10 mrad for gamma radiation and less than or equal to 20 mrad for beta radiation.

1.2 Iodine, Particulates, and Tritium

The dose rate due to radioactive materials released *in gaseous effluents* from the site to areas at and beyond the site boundary, shall be limited to the following:

For iodine-131, iodine-133, for tritium and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to 1500 mrems/yr to any organ.

In addition, the dose to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released, from each reactor unit, to areas at and beyond the site boundary, shall be limited to the following:

During any calendar quarter: Less than or equal to 7.5 mrems to any organ and,

During any calendar year: Less than or equal to 15 mrems to any organ.

1.3 Liquid Effluents Release Limits

The concentration of radioactive material released *in liquid effluents* to unrestricted areas shall be limited to the concentrations specified in 10CFR20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases.

For dissolved or entrained noble gases, the concentration shall be limited to 2E-04 microcuries per milliliter.

In addition, the dose or dose commitment to a member of the public from radioactive materials *in liquid effluents* released to unrestricted areas shall be limited to:

During any calendar quarter: Less than or equal to 1.5 mrem to the total body, and less than or equal to 5 mrem to any organ, and

During any calendar year: Less than or equal to 3 mrem to the total body, and less than or equal to 10 mrem to any organ.

1.4 Total Dose Limit

The annual (calendar year) dose or dose commitment to any member of the public, due to releases of radioactivity and radiation, from uranium fuel cycle sources shall be limited to less than or equal to 25 mrem to the total body or any organ (except the thyroid, which shall be limited to less than or equal to 75 mrem).

2.0 MAXIMUM PERMISSIBLE CONCENTRATIONS (MPC)

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

- a. MPC values are not used for gaseous releases. Determination of maximum release rates for noble gases, I-131, tritium, and for all radionuclides in particulate form (with half-lives > 8 days), are based on dose rate calculations as specified in the ODCM.
- b. According to current Technical Specifications, MPC values as stated in 10CFR20, Appendix B, Table II, Column 2 are to be used for liquid effluents. Since the MPC values were removed from 10CFR20 effective 1/1/94, the MPC values are now contained in the ODCM. These MPC values are added as Appendix B of this report.
- c. The MPC value used for dissolved or entrained noble gases *in liquid effluents* is 2E-04 microcuries per milliliter.

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 SGS or HCGS are not based upon average energy. Therefore this section is not applicable to SGS or HCGS.

4.0 MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITY

4.1 Liquid Effluents

Liquid effluents are monitored in accordance with Table 4.11-1 of the Salem ODCM and Table 4.11.1.1.1-1 of the Hope Creek ODCM.

During the period of record, all batch liquid wastes were routed to the sampling tanks for monitoring prior to release. The ODCM requires these tanks to be uniformly mixed for sampling and analysis before being released.

Batch releases are defined as:

- For Hope Creek, releases from the Equipment Sample Tanks, Floor Drain Sample tanks, Detergent Drain Tanks, and the Condensate Storage Tank.
- For Salem, release from the Waste Monitor Holdup Tanks and the Chemical Volume Control System (CVCS) Monitor Tanks. During the period of record, all batch liquid wastes from the Chemical Drain Tank and Laundry and Hot Shower Tanks were routed to Holdup Tanks for monitoring prior to release.

At Hope Creek, a continuous liquid effluent release path exists through the Circulating Water Dewatering Sump Discharge.

For Salem, continuous liquid release pathways include condensate releases for intermittent blowdown of the Steam Generators, and through the Chemical Waste Basin.

Representative samples were obtained in accordance with Table 4.11-1 of the Salem ODCM for the Salem Generating Stations and Table 4.11.1.1.1-1 of the Hope Creek ODCM for Hope Creek Generating Station. Specific activities from the analyses were multiplied by the volume of effluent discharged to the environment in order to determine the total liquid activity discharged.

The detection requirements of Table 4.11-1 (SGS) and Table 4.11.1.1.1-1 (HCGS) of the ODCM are achieved or exceeded. Radionuclides measured at concentrations below the ODCM detection limit (LLD) are treated as being present. Radionuclides for which no activity was detected while meeting the required LLD's are treated as absent.

4.2 Gaseous Effluents

Salem Units 1 and 2:

Gaseous effluent streams at SGS are monitored and sampled in accordance with Table 4.11-2 of the ODCM. The Plant Vent is the final release point for planned gaseous effluent releases and is continuously monitored by installed radiation monitors. The vent is also continuously sampled for iodine and particulates with a charcoal cartridge and filter paper. The filter and charcoal are changed weekly, and analyzed on a multi-channel analyzer.

Sampling is also performed on all gas decay tanks and the containment atmosphere prior to release to the environment. The plant vent is sampled weekly for noble gases, particulates, iodines and tritium.

The detection requirements of Table 4.11-2 of the ODCM are achieved or exceeded. Radionuclides detected at concentrations below the ODCM LLD are treated as being present. Radionuclides for which no activity was detected while meeting the required LLDs are treated as absent.

Continuous Mode gaseous releases are quantified by routine sampling and isotopic analyses of the plant vent, as required by the ODCM. Specific activities for each isotope detected are multiplied by the total vent flow volume for the entire sampling period in order to determine the normal continuous release of radioactivity through the plant vent.

Slightly elevated plant vent radiation monitoring readings and containment pressure reliefs are treated as continuous releases. The monitor response is converted to "specific activity" using historical efficiency factors. The "specific activity" is multiplied by a conservative default volume of effluent discharge to determine the total activity released.

Batch Mode gaseous releases are quantified by sampling each decay tank or containment atmosphere prior to release. Specific activities for each isotope are multiplied by the total volume of gas discharged for that batch to determine the total activity released.

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 are not available, then the abnormal release is quantified by the use of the plant vent radiation monitors. The monitor response is converted to "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 determine the total activity discharged.

Hope Creek:

Gaseous effluent streams at HCGS are monitored and sampled in accordance with Table 4.11.2.1.2-1 of the ODCM. The North Plant Vent (NPV) and South Plant Vent (SPV) are the final release points for most planned gaseous effluent releases. The NPV and SPV are continuously monitored for iodine, particulates and noble gases. These monitors have moving particulate and fixed charcoal filters. The particulate filters and charcoal cartridges are replaced and analyzed weekly. These analyses are performed on a multichannel analyzer. The NPV and SPV are also sampled weekly for noble gases and tritium.

A small quantity of gaseous effluent is released via the Filtration, Recirculation, and Ventilation System (FRVS) vent during testing periods. The FRVS is continuously monitored for noble gases when in service, and has fixed particulate and charcoal filters. When the system is in vent mode for greater than two hours, samples are collected at the end of the release period. During periods of extended runs, samples are taken weekly.

The detection requirements of Tables 4.11.2.1.2-1 of the ODCM are achieved or exceeded. Radionuclides detected at concentrations below the ODCM detection limit (LLD) are treated as being present. Radionuclides for which no activity was detected while meeting the required LLDs are treated as absent.

Batch Mode gaseous releases (i.e. primary containment purge) are quantified by pre-release sampling and isotopic analysis. Specific activities for each isotope are multiplied by twice the containment volume in order to estimate the total radioactivity released.

4.3 Estimated Total Error

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

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

5.0 BATCH RELEASES

Summaries of batch releases of gaseous and liquid effluents are provided in Tables 4A and 4B.

6.0 UNPLANNED/ABNORMAL RELEASES

During this reporting period no unplanned/abnormal releases occurred.

7.0 ELEVATED RADIATION MONITOR RESPONSES

During this reporting period, there was one occasion of a gaseous effluent release being terminated due to radiation monitor alarm. This occurred at Salem Unit 1 during the third quarter, for a period of 13 minutes. The cause of the elevated monitor reading was the radioactive gases released by sampling the Unit 2 Volume Control Tank (VCT) at power. Both Units' samples have a common discharge via the Unit 1 Plant vent. The impact on dose received due to this release to a member of the general public is negligible.

8.0 MODIFICATION TO PREVIOUS RADIOACTIVE EFFLUENT RELEASE REPORTS

There were no modifications to previous Radioactive Effluent Release Reports during this reporting period.

PART B. GASEOUS EFFLUENTS

See Summary Tables 1A through 1C.

PART C. LIQUID EFFLUENTS

See Summary Tables 2A through 2B.

PART D. SOLID WASTE

See Summary in Table 3.

PART E. RADIOLOGICAL IMPACT ON MAN

The calculated individual doses in this section are based on the controlling dose pathways and age groups as described below. The estimated dose represents the maximum radiation dose that could be received by a member of the general public. The population dose impact is based on historical site-specific data (i.e., food production, milk production, feed for milk animals and seafood production).

The doses were calculated using methods described in Regulatory Guide 1.109 and represent calculations for the 12-month reporting interval. Individual doses from batch and continuous releases were calculated using the annual average historic meteorological dispersion coefficients as described in the respective Offsite Dose Calculation Manual. Population doses were calculated using the meteorological dispersion coefficients for the twelve month reporting interval.

Liquid Pathways

<u>Type</u>	<u>Age Group</u>	<u>Location</u>	<u>Pathway</u>
Total Body	Adult	Site Boundary	Seafood Ingestion
Organ	Adult	Site Boundary	Seafood Ingestion

Salem Unit 1 & 2

<u>Type</u>	<u>Dose</u>	<u>Limit</u>
Total Body	2.05E-02 mrem	3 mrem
Organ Dose (GI-LLI)	3.02E-02 mrem	10 mrem

Hope Creek

<u>Type</u>	<u>Dose</u>	<u>Limit</u>
Total Body	2.68E-03 mrem	3 mrem
Organ Dose (GI-LLI)	9.35E-03 mrem	10 mrem

<u>Site</u>	<u>Dose</u>	<u>Limit</u>
Population (Total)	1.74E-02 person-rem	N/A
Population (Average)	2.91E-08 mrem	N/A

Air Pathways

<u>Type</u>	<u>Age Group</u>	<u>Location</u>	<u>Pathway</u>
Total Body	All	Site Boundary	Direct Exposure
Skin	All	Site Boundary	Direct Exposure
Organ	Infant	4.9 mi. W.	Milk, Ground Plane, Inhalation

Salem Units 1&2

<u>Type</u>	<u>Dose</u>		<u>Limit</u>
Total Body	3.14E-02	mrem	500 mrem
Skin	8.40E-02	mrem	3000 mrem
Organ Dose (Thyroid)	2.57E-02	mrem	15 mrem

Hope Creek

<u>Type</u>	<u>Dose</u>		<u>Limit</u>
Total Body	2.82E-08	mrem	500 mrem
Skin	6.47E-08	mrem	3000 mrem
Organ Dose (Thyroid)	3.16E-02	mrem	15 mrem

<u>Site</u>	<u>Dose</u>		<u>Limit</u>
Population (Total)	1.32E+00	person-rem	N/A
Population (Average)	2.22E-06	mrem	N/A

Direct Radiation

Direct radiation may be estimated by thermoluminescent dosimetric (TLD) measurements. One method for comparing TLD measurements is by comparison with pre-operational data. It should be noted that the TLDs measure direct radiation from both the Salem and Hope Creek Generating Stations at Artificial Island, and natural background radiation.

TLD data for the twelve-month reporting period is given below:

The average dose rate for the 31 quarterly off-site indicator TLDs was 4.1 millirads per standard month, and the average control rate was 4.5 millirads per standard month. The preoperational average was 4.4 millirads per standard month.

These values are interpreted to represent natural background, since the values are within the statistical variation associated with the pre-operational program results.

Total Dose

40CFR190 limits the total dose to members of the public due to radioactivity and radiation from uranium fuel cycle sources to:

<25 mrem total body or any organ and;

<75 mrem thyroid for a calendar year.

For Artificial Island, the major sources of dose are from liquid and gaseous effluents from the Hope Creek and Salem plants.

The following doses to a "hypothetical maximum exposed individual" have been calculated for the twelve-month reporting period. They are the sum of gaseous and liquid pathway doses for the Salem 1 and 2 and Hope Creek plants:

9.51E-03	mrem	Total Body
5.13E-02	mrem	Organ (GI-LLI)
6.76E-02	mrem	Thyroid

Dose to members of the public due to activities inside the site boundary

Dose to members of the public is limited to 100 mrem total effective dose equivalent (TEDE) in a year in accordance with 10CFR20.1301. The members of the public that spent the most time at PSEG Nuclear for 2001 are various food vendors, who spend a few hours in front of the Security Center during lunch hours. The definition of members of the Public changed on September 11, 2001. The various food vendors that have previously comprised the maximally exposed group are no longer allowed on site. The members of the New Jersey National Guard now replace the food vendors. In accordance with the requirements of ODCM 6.9.1.8 (SGS) and 6.9.1.7 (HCGS), the dose to members of the public inside the site boundary has been calculated based on the following assumptions:

- a. The food vendors deliver Monday through Friday
- b. They arrive at approximately 11:00 A.M. at the Security Center.
- c. The food vendors leave the site at 12:30 P.M.
- d. No deliveries are made on major holidays, or after 9/11/01, making the total weeks equal to 34 for the year.
- e. The dose data is based on the TLD located outside the Security Center in the vicinity of the food vendors and the calculated dose due to gaseous effluents at that location.

- f. For time periods where there is either zero dose or no data, no averaging was performed.
- g. The Food vendors left site on 9/11/01 and the National Guard began patrols 10/01/01 (conservative est.)
- h. The National Guard works a 40 hour week.

For the 12-month reporting period, January 1, 2001 to December 31, 2001 the calculated doses are:

1.41	mrem	Total Body
2.82E-03	mrem	Organ (Lung)
5.17E-03	mrem	Thyroid

Assessment

1. Gaseous:

Gaseous effluents released from the Salem and Hope Creek Generating Stations resulted in a minimal dose to the hypothetical maximum exposed individual. The dose for the 12-month period was a small fraction of all applicable limits.

Salem noble gas effluents remained essentially the same when compared to releases in the previous reporting period. Hope Creek noble gas effluents decreased significantly due to a change in the method of quantifying releases. The method implements an industry standard practice that replaces an overly conservative methodology. Gaseous effluent releases continue to remain well within Federal limits and are comparable to other nuclear utilities. Fuel integrity and gaseous effluent processing equipment continue to be maintained in order to ensure that all releases of gaseous radioactivity are As-Low-As-Reasonably-Achievable (ALARA).

2. Liquids:

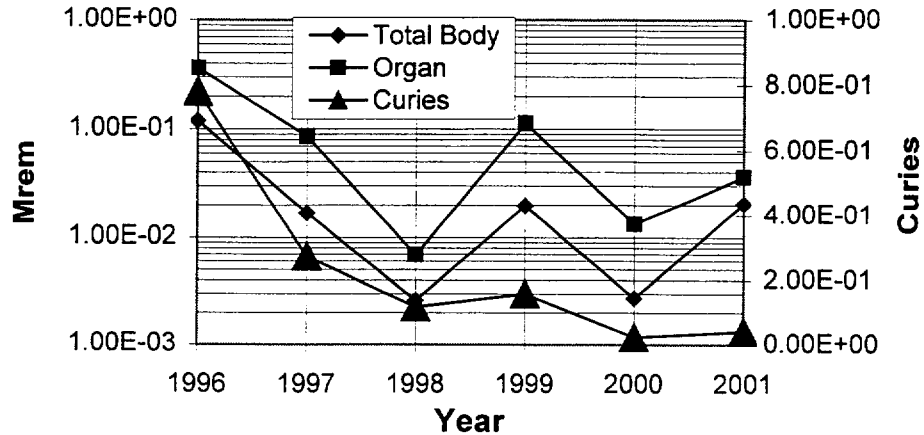
Liquid effluents released from the Salem and Hope Creek Generating Stations resulted in a minimal dose to the hypothetical maximum exposed individual and were well within all applicable limits.

The liquid effluents remained essentially the same when compared to releases in the previous reporting period. Liquid effluent releases continue to remain well within Federal limits and compare favorably to other nuclear utilities.

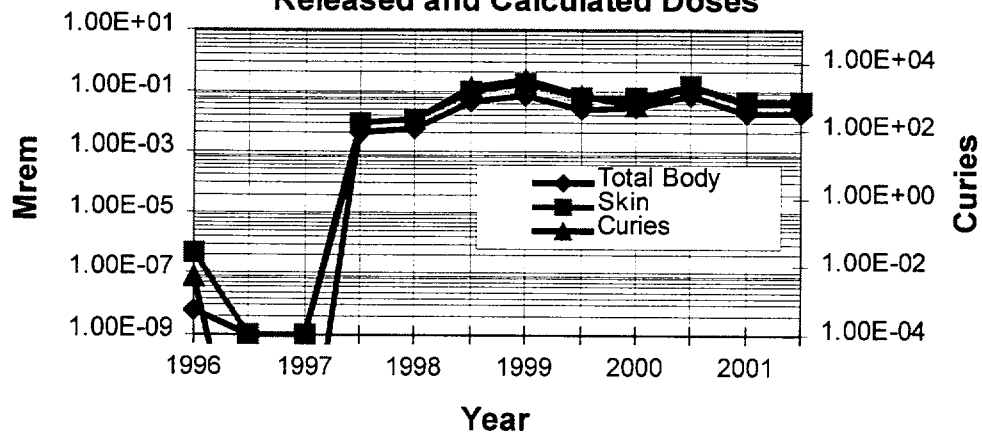
Trends

The following two trend graphs show the total curies of liquid and gaseous effluents released for Salem from 1996 through 2001. Calculated doses in the graphs are to the hypothetical maximum exposed individual.

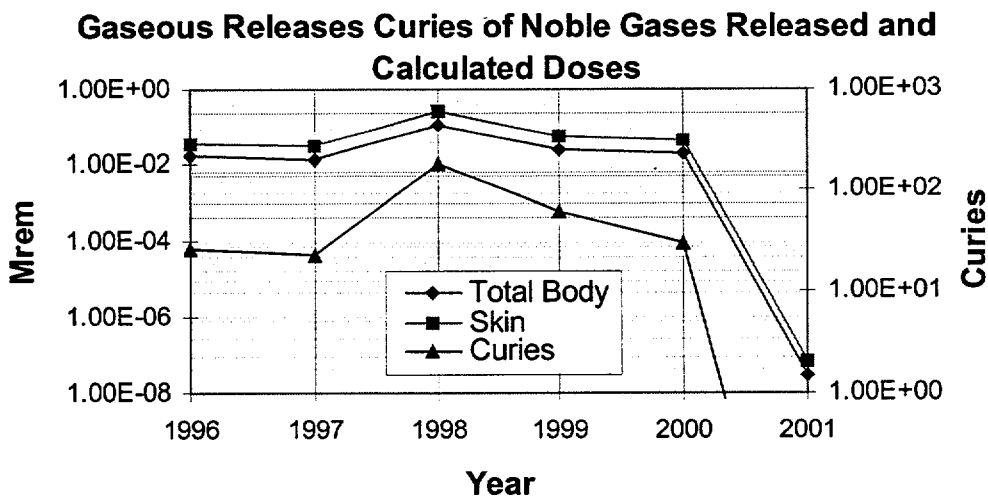
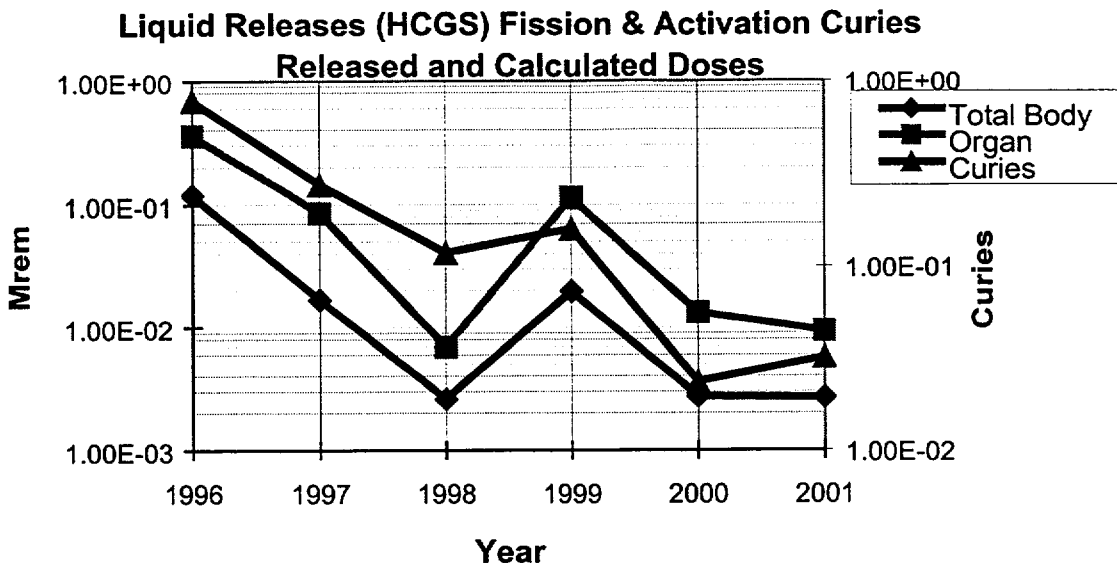
Liquid Releases (SGS) Fission & Activation Curies Released and Calculated Doses



Gaseous Releases (SGS) Curies of Noble Gases Released and Calculated Doses



The following two trend graphs show the total curies of liquid and gaseous effluents released for Hope Creek from 1996 through 2001. Calculated doses in the graphs are to the hypothetical maximum exposed individual.



Note: Actual 2001 Noble Gas Curies Released is 7.52 E-04

PART F. METEOROLOGICAL DATA

Cumulative joint wind frequency distributions by atmospheric stability class at the 33 feet elevation are provided for 2001 at the end of this report in Appendix A.

PART G. OFFSITE DOSE CALCULATION MANUAL (ODCM) CHANGES

The Salem ODCM was not revised in 2001.

The Hope Creek ODCM was revised once in 2001. Revision 19 became effective 3/15/2001 it accomplished the following:

INTRODUCTION:

Added discussion of the basis for continuing to use the "old" 10CFR20 Maximum Permissible Concentrations (MPCs).

PART I:

1. Throughout PART I: Added "Technical" to "Specification" as appropriate to clearly reference Technical Specification requirement as separate from ODCM CONTROL requirements.
2. Revised DEFINITION 1.4 CHANNEL CALIBRATION to be consistent with the Technical Specification definition.
3. Revised DEFINITION 1.10 CONTROL to more accurately reflect the transfer of the Radiological Effluent Technical Specifications (RETS) to the Offsite Dose Calculation Manual (ODCM).
4. In ODCM CONTROL 3.3.7.10, revised the APPLICABILITY statement to clarify that the specified liquid effluent radiation monitoring instrumentation is required when liquids are released through the associated pathway.
5. In TABLE 3.3.7.10-1, TABLE 4.3.7.10-1, and TABLE 4.11.1.1.1-1, included the requirements for instrumentation, sampling and analysis for discharges from the Turbine Building Circulating Water Dewatering Sump. These requirements were previously provided in Appendix G of the ODCM.
6. Revised ACTION 111 in TABLE 3.3.7.10-1 to require the specified grab samples to be analyzed for principal gamma emitters, I-131, and dissolved and entrained gases at the lower limits of detection specified in ODCM CONTROL TABLE 4.11.1.1.1-1.B. The previous ACTION statement required gross radioactivity analysis.
7. Revised CONTROL 3.3.7.11 by deleting reference to CONTROL 3.11.2.6.

8. Revised ACTION 123 in TABLE 3.3.7.11-1 to require the specified grab samples to be analyzed for principal gamma emitters (noble gases) at the lower limits of detection specified in ODCM CONTROL Table 4.11.2.1.2-1.A or B. The previous ACTION statement required gross radioactivity analysis.
9. Revised CONTROL 3.11.1.1 to delete the term "total activity" related to the concentration limit for dissolved or entrained noble gases.
10. Added * and notation to Section 6.9.1.6, Annual Radiological Environmental Operating Report (AREOR), that allows a single report for multiple units at a site.

PART II :

1. Throughout PART II: Revised reference to Technical Specifications as appropriate to reflect the transfer of the RETS to the ODCM. Reference to "Technical Specifications" revised to "CONTROL" as appropriate.
2. Revised Section 1.1 discussion on the Circulating Water Dewatering Sump Discharge Monitor (RE4557) to reflect the deletion of Appendix G and the associated incorporation of the requirements in the CONTROL PART I sections.
3. Added statements in Section 1.2.1 to address the potential to reduce the liquid effluent monitor setpoints when there is a concurrent continuous release. The setpoints shall be established to meet the requirement of ODCM CONTROL 3.11.1.1.
4. Corrected the reference for the bioaccumulation factor for fish in section 1.4.1 to Table 1-3.
5. In Section 1.4.1, deleted reference to page "B-4" in the discussion of the constant $8.35E-04$ provided in Equation 1.5.
6. Revised the conversion factor applied to Simplified Liquid Effluent Dose Calculation in Section 1.4.2 based on the updated evaluation performed in Appendix B. The associated ingestion dose commitment factor is revised to $Fe-59 = 6.32E+5$ mrem/hr per $\mu Ci/ml$. The limiting organ pathway for the simplified calculation is revised to the gastrointestinal tract (GI-LLI). The resulting conversion factor is $5.28E+02$.
7. Revised default setpoints in Table 1-1 for liquid effluent monitors as a result of revision to Appendix A.

8. Revised La-141 to La-142 in Table 1-2, Site Related Ingestion Dose Commitment Factor, A(io).
9. Removed the Site Ingestion Dose Factors, A(io), in Table 1-2 for Rh-103m and Rh-106.
10. Revised Table 2-4 to include Pathway Dose Factors, R(io), for I-132, I-133, I-134, and I-135.
11. Changed Ru-105 to Ru-106 in the Ground Plane Pathway Dose Factor Table (Table 2-4).
12. Revised Appendix A with updated historical release values. Releases in 1997 through 1999 were used and new default setpoints for the liquid effluent radiation monitors were established. Also, the basis for the default setpoints to be used for releases from the condensate storage tank was provided.
13. Revised Appendix B with updated historical information. Releases in 1997 through 1999 were used to evaluate controlling pathways for liquid effluent dose calculations, including establishing more current dose conversion factors for the simplified dose calculation.
14. Revised the discussion on near field dilution factor in Appendix B.
15. In Table E-1, removed the ** and associated note for TLD locations 7S1, 10S1, and 11S1. The REMP vendor now maintains these TLDs.
16. In Table E-1, revised the wording in D. Ground Water Locations and E. Drinking Water Locations to more accurately reflect conditions as stated in ODCM CONTROL 3.12.1.
17. Deleted Appendix G, Controls for Releases from the Circulating Water Dewatering Sump. The requirements were transferred to the appropriate sections throughout the ODCM.

A copy of the revised Hope Creek ODCM Revision 19 is included in Appendix C of this report.

PART H. INOPERABLE MONITORS

During this reporting period the following Salem Unit 1 effluent radiation monitors were inoperable for greater than 30 days:

Containment Fan Coil Unit (CFCU) Service Monitor 1R13A through 1R13E
Steam Generator Blowdown Monitor 1R19A through 1R19D

These radiation monitors were unavailable due to the systems feeding these radiation monitors being isolated as part of the Unit 1 refueling outage related activities. Compensatory sampling was performed as required during this period.

PART I. PROCESS CONTROL PROGRAM (PCP) CHANGES

During the reporting period, there were no PCP changes.

PART J. ENVIRONMENTAL MONITORING LOCATION CHANGES

During the reporting period, the objectives and effectiveness of the Radioactive Environmental Monitoring Program (REMP) were maintained. Additionally, there were no changes to the REMP monitoring locations, or the sampling locations and periodicity.

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1A-1
SALEM GENERATING STATION - UNIT 1
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

		Units	1 st Quarter	2 nd Quarter	Est. Total Error ¹
A.	Fission and Activation Gases				
1.	Total Release	Ci	7.40E+02	3.81E+02	50%
2.	Average Release Rate For Period	μCi/sec	9.52E+01	4.85E+01	
3.	Percent of Technical Specification Limit (ODCM 3.11.2.2(a))	%	6.81E-01	3.39E-01	
B.	Iodines				
1.	Total Iodine-131	Ci	1.81E-05	3.70E-03	50%
2.	Average Release Rate For Period	μCi/sec	2.33E-06	4.71E-04	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	2.07E-03	2.12E-01	
C.	Particulates				
1.	Particulates With Half-lives > 8 days	Ci	2.19E-03	2.34E-04	50%
2.	Average Release Rate For Period	μCi/sec	2.82E-04	2.98E-05	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	2.07E-03	2.12E-01	
4.	Gross Alpha	Ci	0.00E+00	0.00E+00	
D.	Tritium				
1.	Total Release	Ci	1.73E+01	7.54E+01	50%
2.	Average Release Rate For Period	μCi/sec	2.22E+00	9.59E+00	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	2.07E-03	2.12E-01	

1. For batch releases, the estimated overall error is 10%.
 2. Iodines, Tritium, and Particulates are treated as a group.

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1A-2
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

		Units	1 st Quarter	2 nd Quarter	Est. Total Error ¹
A.	Fission and Activation Gases				
1.	Total Release	Ci	7.11E+01	3.15E+01	50%
2.	Average Release Rate For Period	μCi/sec	9.08E+00	4.01E+00	
3.	Percent of Technical Specification Limit (ODCM 3.11.2.2(a))	%	6.83E-02	2.77E-02	
B.	Iodines				
1.	Total Iodine-131	Ci	4.91E-06	3.57E-05	50%
2.	Average Release Rate For Period	μCi/sec	6.31E-07	4.54E-06	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	1.86E-03	3.09E-03	
C.	Particulates				
1.	Particulates With Half-lives > 8 days	Ci	9.53E-06	9.51E-06	50%
2.	Average Release Rate For Period	μCi/sec	1.23E-06	1.21E-06	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	1.86E-03	3.09E-03	
4.	Gross Alpha	Ci	0.00E+00	0.00E+00	
D.	Tritium				
1.	Total Release	Ci	2.98E+01	2.62E+01	50%
2.	Average Release Rate For Period	μCi/sec	3.83E+00	3.33E+00	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	1.86E-03	3.09E-03	

1. For batch releases, the estimated overall error is 10%.
2. Iodines, Tritium, and Particulates are treated as a group.

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1A-3
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

		Units	1 st Quarter	2 nd Quarter	Est. Total Error ¹
A.	Fission and Activation Gases				
1.	Total Release	Ci	0.00E+00	6.79E-04	50%
2.	Average Release Rate For Period	μCi/sec	0.00E+00	8.64E-05	
3.	Percent of Technical Specification Limit (ODCM 3.11.2.2(a))	%	0.00E00	6.05E-07	
B.	Iodines				
1.	Total Iodine-131	Ci	6.71E-05	2.03E-04	50%
2.	Average Release Rate For Period	μCi/sec	8.63E-06	2.58E-05	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	1.69E-02	4.28E-02	
C.	Particulates				
1.	Particulates With Half-lives > 8 days	Ci	9.09E-05	2.54E-04	50%
2.	Average Release Rate For Period	μCi/sec	1.17E-05	3.23E-05	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	1.69E-02	4.28E-02	
4.	Gross Alpha	Ci	0.00E+00	0.00E+00	
D.	Tritium				
1.	Total Release	Ci	3.11E+01	4.79E+01	50%
2.	Average Release Rate For Period	μCi/sec	4.00E+00	6.10E+00	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	1.69E-02	4.28E-02	

1. For batch releases, the estimated overall error is 10%.

2. Iodines, Tritium, and Particulates are treated as a group.

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1A-4
SALEM GENERATING STATION - UNIT 1
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

		Units	3 rd Quarter	4 th Quarter	Est. Total Error ¹
A.	Fission and Activation Gases				
1.	Total Release	Ci	9.82E+01	6.82E+00	50%
2.	Average Release Rate For Period	μCi/sec	1.24E+01	8.58E-01	
3.	Percent of Technical Specification Limit (ODCM 3.11.2.2(a))	%	7.20E-02	8.37E-03	
B.	Iodines				
1.	Total Iodine-131	Ci	9.56E-06	5.65E-06	50%
2.	Average Release Rate For Period	μCi/sec	1.20E-06	7.11E-07	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	6.12E-03	1.67E-03	
C.	Particulates				
1.	Particulates With Half-lives > 8 days	Ci	7.27E-06	4.87E-06	50%
2.	Average Release Rate For Period	μCi/sec	1.12E-06	6.13E-07	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	6.12E-03	1.67E-03	
4.	Gross Alpha	Ci	0.00E+00	0.00E+00	
D.	Tritium				
1.	Total Release	Ci	1.14E+02	3.23E+01	50%
2.	Average Release Rate For Period	μCi/sec	1.43E+01	4.06E+00	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	6.12E-03	1.67E-03	

1. For batch releases, the estimated overall error is 10%.
2. Iodines, Tritium, and Particulates are treated as a group.

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1A-5
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

		Units	3 rd Quarter	4 th Quarter	Est. Total Error ¹
A.	Fission and Activation Gases				
1.	Total Release	Ci	2.20E+01	3.90E+01	50%
2.	Average Release Rate For Period	μCi/sec	2.77E+00	4.91E+00	
3.	Percent of Technical Specification Limit (ODCM 3.11.2.2(a))	%	1.77E-02	3.53E-02	
B.	Iodines				
1.	Total Iodine-131	Ci	1.42E-05	9.06E-06	50%
2.	Average Release Rate For Period	μCi/sec	1.79E-06	1.14E-06	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	3.27E-03	1.86E-03	
C.	Particulates				
1.	Particulates With Half-lives > 8 days	Ci	6.14E-06	1.41E-06	50%
2.	Average Release Rate For Period	μCi/sec	8.86E-07	1.77E-07	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	3.27E-03	1.86E-03	
4.	Gross Alpha	Ci	0.00E+00	0.00E+00	
D.	Tritium				
1.	Total Release	Ci	6.13E+01	3.39E+01	50%
2.	Average Release Rate For Period	μCi/sec	7.71E+00	4.26E+00	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	3.27E-03	1.86E-03	

1. For batch releases, the estimated overall error is 10%.
2. Iodines, Tritium, and Particulates are treated as a group.

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1A-6
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
GASEOUS EFFLUENTS – SUMMATION OF ALL RELEASES

		Units	3 rd Quarter	4 th Quarter	Est. Total Error ¹
A.	Fission and Activation Gases				
1.	Total Release	Ci	0.00E+00	7.28E-05	50%
2.	Average Release Rate For Period	μCi/sec	0.00E+00	9.16E-06	
3.	Percent of Technical Specification Limit (ODCM 3.11.2.2(a))	%	0.00E+00	2.37E-07	
B.	Iodines				
1.	Total Iodine-131	Ci	2.50E-03	7.76E-05	50%
2.	Average Release Rate For Period	μCi/sec	3.15E-04	9.77E-06	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	3.39E-01	2.28E-02	
C.	Particulates				
1.	Particulates With Half-lives > 8 days	Ci	7.04E-05	1.70E-04	50%
2.	Average Release Rate For Period	μCi/sec	8.86E-06	2.13E-05	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	3.39E-01	2.28E-02	
4.	Gross Alpha	Ci	0.00E+00	0.00E+00	
D.	Tritium				
1.	Total Release	Ci	2.24E+01	7.35E+01	50%
2.	Average Release Rate For Period	μCi/sec	2.82E+00	9.25E+00	
3.	Percent of Technical Specification Limit ² (ODCM 3.11.2.3(a))	%	3.39E-01	2.28E-02	

1. For batch releases, the estimated overall error is 10%.
2. Iodines, Tritium, and Particulates are treated as a group.

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

**SALEM AND HOPE CREEK GENERATING STATION
TABLE 1B**

**EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – DECEMBER 2001
GASEOUS EFFLUENTS – ELEVATED RELEASES**

Salem and Hope Creek Generating Stations have no elevated release points.

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1C-1
SALEM GENERATING STATION - UNIT 1
 EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
 JANUARY - JUNE 2001
 GASEOUS EFFLUENTS - GROUND LEVEL RELEASES

Nuclides <u>Released</u>	Units	<u>Continuous Mode</u>		<u>Batch Mode</u>	
		<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>
1. Fission Gases					
Argon-41	Ci	0.00E+00	0.00E+00	0.00E+00	6.47E-03
Krypton-85	Ci	0.00E+00	0.00E+00	1.04E+00	8.17E+00
Krypton-85m	Ci	0.00E+00	0.00E+00	0.00E+00	3.84E-02
Krypton-88	Ci	0.00E+00	0.00E+00	0.00E+00	2.39E-02
Xenon-133	Ci	0.00E+00	5.71E+01	7.36E+02	3.13E+02
Xenon-133m	Ci	0.00E+00	0.00E+00	1.59E-02	6.57E-01
Xenon-135	Ci	2.60E+00	0.00E+00	2.72E-04	2.10E+00
Xenon-131m	Ci	0.00E+00	0.00E+00	4.18E-02	2.72E-01
Totals	Ci	2.60E+00	5.71E+01	7.37E+02	3.24E+02
2. Iodine					
Iodine-130	Ci	0.00E+00	5.31E-06	0.00E+00	0.00E+00
Iodine-131	Ci	1.81E-05	3.70E-03	0.00E+00	0.00E+00
Iodine-132	Ci	0.00E+00	6.42E-02	0.00E+00	0.00E+00
Iodine-133	Ci	1.20E-04	3.90E-04	0.00E+00	0.00E+00
Iodine-135	Ci	0.00E+00	1.55E-04	0.00E+00	0.00E+00
Totals	Ci	1.38E-04	6.84E-02	0.00E+00	0.00E+00
3. Particulates (Half-life >8 days)					
Cobalt-57	Ci	0.00E+00	1.66E-05	0.00E+00	0.00E+00
Cobalt-58	Ci	2.70E-06	2.07E-05	0.00E+00	1.91E-04
Cobalt-60	Ci	5.46E-06	1.40E-06	0.00E+00	0.00E+00
Chromium-51	Ci	0.00E+00	1.57E-06	0.00E+00	0.00E+00
Cesium-134	Ci	2.74E-07	0.00E+00	0.00E+00	0.00E+00
Cesium-137	Ci	3.94E-06	3.02E-06	0.00E+00	0.00E+00
Strontium-89	Ci	2.14E-03	0.00E+00	0.00E+00	0.00E+00
Strontium-90	Ci	4.27E-05	0.00E+00	0.00E+00	0.00E+00
Totals	Ci	2.19E-03	4.33E-05	0.00E+00	1.91E-04
4. Tritium	Ci	1.73E+01	3.57E+01	1.73E-04	3.97E+01

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1C-2
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
GASEOUS EFFLUENTS – GROUND LEVEL RELEASES

Nuclides	Units	Continuous Mode		Batch Mode	
		1 st Quarter	2 nd Quarter	1 st Quarter	2 nd Quarter
<u>Released</u>					
1. Fission Gases					
Argon-41	Ci	0.00E+00	0.00E+00	0.00E+00	5.53E-03
Krypton-85	Ci	0.00E+00	0.00E+00	1.08E+00	8.99E-01
Krypton-85m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xenon-131m	Ci	5.32E+01	0.00E+00	3.42E-03	2.60E-02
Xenon-133	Ci	0.00E+00	1.93E+01	1.62E+01	1.12E+01
Xenon-133m	Ci	0.00E+00	0.00E+00	0.00E+00	1.20E-03
Xenon-135	Ci	0.00E+00	0.00E+00	0.00E+00	1.45E-03
Xenon-135m	Ci	0.00E+00	0.00E+00	0.00E+00	8.72E-05
Totals	Ci	5.32E+01	1.93E+01	1.73E+01	1.22E+01
2. Iodine					
Iodine-131	Ci	4.91E-06	3.57E-05	0.00E+00	0.00E+00
Iodine-133	Ci	4.82E-06	4.26E-05	0.00E+00	0.00E+00
Totals	Ci	9.73E-06	7.84E-05	0.00E+00	0.00E+00
3. Particulates (Half-life >8 days)					
Cobalt-58	Ci	1.88E-06	3.83E-06	0.00E+00	0.00E+00
Cobalt-60	Ci	3.39E-06	2.61E-06	0.00E+00	0.00E+00
Cesium-137	Ci	2.27E-06	3.08E-06	0.00E+00	0.00E+00
Strontium-89	Ci	1.99E-06	0.00E+00	0.00E+00	0.00E+00
Totals	Ci	9.53E-06	9.51E-06	0.00E+00	0.00E+00
4. Tritium	Ci	2.98E+01	2.59E+01	1.14E-03	3.00E-01

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1C-3
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
GASEOUS EFFLUENTS – GROUND LEVEL RELEASES

Nuclides <u>Released</u>	<u>Units</u>	<u>Continuous Mode</u>		<u>Batch Mode</u>	
		<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>
1. Fission Gases					
Xenon-133	Ci	0.00E+00	0.00E+00	0.00E+00	6.78E-04
Xenon-135	Ci	0.00E+00	0.00E+00	0.00E+00	9.94E-07
Totals	Ci	0.00E+00	0.00E+00	0.00E+00	6.79E-04
2. Iodine					
Iodine-131	Ci	6.71E-05	2.03E-04	0.00E+00	0.00E+00
Iodine-133	Ci	4.23E-03	9.57E-03	0.00E+00	0.00E+00
Totals	Ci	4.30E-03	9.78E-03	0.00E+00	0.00E+00
3. Particulates (Half-life >8 days)					
Cobalt-58	Ci	0.00E+00	4.95E-05	0.00E+00	2.25E-06
Cobalt-60	Ci	0.00E+00	0.00E+00	0.00E+00	1.90E-07
Chromium-51	Ci	0.00E+00	0.00E+00	0.00E+00	1.78E-04
Manganese-54	Ci	9.09E-05	2.37E-05	0.00E+00	0.00E+00
Technetium-99m	Ci	0.00E+00	0.00E+00	0.00E+00	1.39E-06
Totals	Ci	9.09E-05	7.32E-05	0.00E+00	1.82E-04
4. Tritium	Ci	3.11E+01	4.79E+01	0.00E+00	6.47E-04

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1C-4
SALEM GENERATING STATION - UNIT 1
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY - DECEMBER 2001
GASEOUS EFFLUENTS - GROUND LEVEL RELEASES

Nuclides	Units	<u>Continuous Mode</u>		<u>Batch Mode</u>	
		<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
<u>Released</u>					
1. Fission Gases					
Argon-41	Ci	0.00E+00	0.00E+00	1.16E-02	6.33E-03
Krypton-85	Ci	0.00E+00	0.00E+00	1.74E-01	1.48E+00
Krypton-85m	Ci	0.00E+00	0.00E+00	5.70E-05	2.25E-02
Xenon-131m	Ci	0.00E+00	0.00E+00	0.00E+00	8.89E-03
Xenon-133	Ci	4.63E+01	0.00E+00	5.17E+01	2.84E+00
Xenon-133m	Ci	0.00E+00	0.00E+00	3.36E-03	1.56E-02
Xenon-135	Ci	0.00E+00	2.44E+00	1.28E-03	1.68E-02
Totals	Ci	4.63E+01	2.44E+00	5.19E+01	4.39E+00
2. Iodine					
Iodine-131	Ci	9.56E-06	5.65E-06	0.00E+00	0.00E+00
Iodine-133	Ci	1.74E-03	8.31E-05	0.00E+00	0.00E+00
Totals	Ci	1.75E-03	8.87E-05	0.00E+00	0.00E+00
3. Particulates (Half-life >8 days)					
Cobalt-58	Ci	1.06E-06	3.31E-07	0.00E+00	0.00E+00
Cobalt-60	Ci	3.63E-06	2.03E-06	0.00E+00	0.00E+00
Cesium-134	Ci	3.86E-07	0.00E+00	0.00E+00	0.00E+00
Cesium-137	Ci	2.17E-06	2.51E-06	0.00E+00	0.00E+00
Totals	Ci	7.27E-06	4.87E-06	0.00E+00	0.00E+00
4. Tritium	Ci	9.36E+01	3.03E+01	2.01E+01	1.91E+00

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1C-5
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
GASEOUS EFFLUENTS – GROUND LEVEL RELEASES

Nuclides	Units	<u>Continuous Mode</u>		<u>Batch Mode</u>	
		<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
<u>Released</u>					
1. Fission Gases					
Argon-41	Ci	0.00E+00	0.00E+00	1.03E-02	1.52E-02
Krypton-85	Ci	0.00E+00	0.00E+00	2.39E+00	1.06E+01
Krypton-85m	Ci	0.00E+00	0.00E+00	1.54E-01	1.59E-04
Xenon-131m	Ci	0.00E+00	0.00E+00	7.46E-02	5.45E-01
Xenon-133	Ci	0.00E+00	0.00E+00	1.94E+01	2.77E+01
Xenon-133m	Ci	0.00E+00	0.00E+00	4.95E-04	1.02E-01
Xenon-135	Ci	0.00E+00	0.00E+00	1.92E-03	1.38E-02
Totals	Ci	0.00E+00	0.00E+00	2.20E+01	3.90E+01
2. Iodine					
Iodine-131	Ci	1.42E-05	9.06E-06	0.00E+00	0.00E+00
Iodine-133	Ci	3.49E-05	1.87E-05	0.00E+00	0.00E+00
Totals	Ci	4.92E-05	2.78E-05	0.00E+00	0.00E+00
3. Particulates (Half-life >8 days)					
Cobalt-58	Ci	6.07E-07	0.00E+00	0.00E+00	0.00E+00
Cobalt-60	Ci	4.00E-06	4.70E-07	0.00E+00	0.00E+00
Cesium-137	Ci	1.54E-06	9.39E-07	0.00E+00	0.00E+00
Totals	Ci	6.14E-06	1.41E-06	0.00E+00	0.00E+00
4. Tritium	Ci	6.11E+01	3.38E+01	5.30E-02	1.57E-01

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 1C-6
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
GASEOUS EFFLUENTS – GROUND LEVEL RELEASES

Nuclides Released	Units	<u>Continuous Mode</u>		<u>Batch Mode</u>	
		<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
1. Fission Gases					
Xenon-135	Ci	0.00E+00	0.00E+00	0.00E+00	7.28E-05
Totals	Ci	0.00E+00	0.00E+00	0.00E+00	7.28E-05
2. Iodine					
Iodine-131	Ci	2.50E-03	7.76E-05	0.00E+00	0.00E+00
Iodine-133	Ci	1.29E-02	4.58E-03	0.00E+00	0.00E+00
Totals	Ci	1.54E-02	4.65E-03	0.00E+00	0.00E+00
3. Particulates (Half-life >8 days)					
Manganese-54	Ci	6.97E-05	5.13E-05	0.00E+00	4.11E-08
Cobalt-58	Ci	0.00E+00	0.00E+00	0.00E+00	6.26E-06
Cobalt-60	Ci	0.00E+00	3.21E-05	0.00E+00	4.50E-06
Cerium-141	Ci	8.05E-08	0.00E+00	0.00E+00	0.00E+00
Chromium-51	Ci	0.00E+00	7.52E-05	0.00E+00	0.00E+00
Cesium-137	Ci	6.67E-07	0.00E+00	0.00E+00	0.00E+00
Technetium-99m	Ci	0.00E+00	0.00E+00	0.00E+00	6.72E-06
Totals	Ci	7.04E-05	1.59E-04	0.00E+00	1.75E-05
4. Tritium	Ci	2.24E+01	7.35E+01	0.00E+00	7.51E-03

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 2A-1
SALEM GENERATING STATION - UNIT 1
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
LIQUID EFFLUENTS – SUMMATION OF ALL RELEASES

		Units	1 st Quarter	2 nd Quarter	Est. Total Error
A.	Fission and Activation Products				
1.	Total Release	Ci	8.83E-03	2.25E-03	25%
2.	Average Diluted Concentration	μCi/ml	1.56E-11	6.47E-12	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.2(a))	%	1.35E-01	5.68E-01	
B.	Tritium				
1.	Total Release	Ci	8.40E+01	2.50E+01	25%
2.	Average Diluted Concentration	μCi/ml	1.48E-07	7.18E-08	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	4.93E-03	2.39E-03	
C.	Dissolved and Entrained Noble Gases				
1.	Total Release	Ci	1.49E-03	2.73E-04	25%
2.	Average Diluted Concentration	μCi/ml	2.63E-12	7.84E-13	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	1.32E-06	3.92E-07	
D.	Gross Alpha				
1.	Total Release	Ci	8.03E-06	2.14E-05	25%
	Average Diluted Concentration	μCi/ml	1.42E-14	6.15E-14	
E.	Volume of Waste Release (Prior to Dilution)	Liters	7.61E+05	1.17E+06	25%
F.	Volume of Dilution Water Used During Entire Period	Liters	5.66E+11	3.48E+11	25%

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 2A-2
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
LIQUID EFFLUENTS – SUMMATION OF ALL RELEASES

		Units	1 st Quarter	2 nd Quarter	Est. Total Error
A.	Fission and Activation Products				
1.	Total Release	Ci	6.42E-03	7.45E-03	25%
2.	Average Diluted Concentration	μCi/ml	1.14E-11	1.35E-11	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.2(a))	%	1.34E-01	1.30E-01	
B.	Tritium				
1.	Total Release	Ci	9.61E+01	1.08E+02	25%
2.	Average Diluted Concentration	μCi/ml	1.71E-07	1.96E-07	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	5.70E-03	6.53E-03	
C.	Dissolved and Entrained Noble Gases				
1.	Total Release	Ci	7.42E-03	1.75E-04	25%
2.	Average Diluted Concentration	μCi/ml	1.32E-11	3.17E-13	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	6.60E-06	1.59E-07	
D.	Gross Alpha				
1.	Total Release	Ci	4.54E-05	0.00E+00	25%
	Average Diluted Concentration	μCi/ml	8.09E-14	0.00E+00	
E.	Volume of Waste Release (Prior to Dilution)	Liters	1.34E+06	1.16E+06	25%
F.	Volume of Dilution Water Used During Entire Period	Liters	5.61E+11	5.52E+11	25%

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

**TABLE 2A-3
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
LIQUID EFFLUENTS – SUMMATION OF ALL RELEASES**

		Units	1 st Quarter	2 nd Quarter	Est. Total Error
A.	Fission and Activation Products				
1.	Total Release	Ci	2.47E-06	6.68E-04	25%
2.	Average Diluted Concentration	μCi/ml	1.55E-13	3.41E-11	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.2(a))	%	4.26E-06	1.25E-04	
B.	Tritium				
1.	Total Release	Ci	2.39E-01	4.30E-01	25%
2.	Average Diluted Concentration	μCi/ml	1.50E-08	2.20E-08	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	5.01E-04	7.32E-04	
C.	Dissolved and Entrained Noble Gases				
1.	Total Release	Ci	0.00E+00	0.00E+00	25%
2.	Average Diluted Concentration	μCi/ml	0.00E+00	0.00E+00	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	0.00E+00	0.00E+00	
D.	Gross Alpha				
1.	Total Release	Ci	0.00E+00	0.00E+00	25%
	Average Diluted Concentration	μCi/ml	0.00E+00	0.00E+00	
E.	Volume of Waste Release (Prior to Dilution)	Liters	4.52E+07	4.97E+07	25%
F.	Volume of Dilution Water Used During Entire Period	Liters	1.59E+10	1.96E+10	25%

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 2A-4
SALEM GENERATING STATION - UNIT 1
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
LIQUID EFFLUENTS – SUMMATION OF ALL RELEASES

		Units	3 rd Quarter	4 th Quarter	Est. Total Error
A.	Fission and Activation Products				
1.	Total Release	Ci	1.35E-03	1.04E-02	25%
2.	Average Diluted Concentration	μCi/ml	2.38E-12	2.06E-11	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.2(a))	%	3.66E-02	3.04E-01	
B.	Tritium				
1.	Total Release	Ci	2.20E+01	1.40E+02	25%
2.	Average Diluted Concentration	μCi/ml	3.88E-08	2.78E-07	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	1.29E-03	9.27E-03	
C.	Dissolved and Entrained Noble Gases				
1.	Total Release	Ci	9.00E-06	9.92E-03	25%
2.	Average Diluted Concentration	μCi/ml	1.59E-14	1.97E-11	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	7.95E-09	9.85E-06	
D.	Gross Alpha				
	Total Release	Ci	2.40E-05	8.79E-06	25%
	Average Diluted Concentration	μCi/ml	4.23E-14	1.74E-14	
E.	Volume of Waste Release (Prior to Dilution)	Liters	4.50E+05	1.29E+06	25%
F.	Volume of Dilution Water Used During Entire Period	Liters	5.67E+11	5.04E+11	25%

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

**TABLE 2A-5
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY - DECEMBER 2001
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES**

		Units	3 rd Quarter	4 th Quarter	Est. Total Error
A.	Fission and Activation Products				
1.	Total Release	Ci	2.28E-03	1.85E-03	25%
2.	Average Diluted Concentration	μCi/ml	4.06E-12	3.38E-12	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.2(a))	%	6.80E-02	2.76E-02	
B.	Tritium				
1.	Total Release	Ci	7.41E+01	2.94E+01	25%
2.	Average Diluted Concentration	μCi/ml	1.32E-07	5.37E-08	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	4.40E-03	1.79E-03	
C.	Dissolved and Entrained Noble Gases				
1.	Total Release	Ci	2.04E-05	7.59E-03	25%
2.	Average Diluted Concentration	μCi/ml	3.64E-14	1.39E-11	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	1.82E-08	6.95E-06	
D.	Gross Alpha				
	Total Release	Ci	5.03E-05	0.00E+00	25%
	Average Diluted Concentration	μCi/ml	8.97E-14	0.00E+00	
E.	Volume of Waste Release (Prior to Dilution)	Liters	5.37E+05	8.36E+05	25%
F.	Volume of Dilution Water Used During Entire Period	Liters	5.61E+11	5.47E+11	25%

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 2A-6
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
LIQUID EFFLUENTS – SUMMATION OF ALL RELEASES

		Units	3 rd Quarter	4 th Quarter	Est. Total Error
A.	Fission and Activation Products				
1.	Total Release	Ci	2.64E-02	4.97E-03	25%
2.	Average Diluted Concentration	μCi/ml	1.09E-09	3.16E-10	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.2(a))	%	6.62E-01	7.80E-02	
B.	Tritium				
1.	Total Release	Ci	2.80E+00	4.10E+00	25%
2.	Average Diluted Concentration	μCi/ml	1.15E-07	2.61E-07	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	3.84E-03	8.70E-03	
C.	Dissolved and Entrained Noble Gases				
1.	Total Release	Ci	4.50E-06	5.98E-05	25%
2.	Average Diluted Concentration	μCi/ml	1.85E-13	3.81E-12	
3.	Percent of Technical Specification Limit (ODCM 3.11.1.1)	%	9.26E-08	1.90E-06	
D.	Gross Alpha				25%
	Total Release	Ci	0.00E+00	0.00E+00	
	Average Diluted Concentration	μCi/ml	0.00E+00	0.00E+00	
E.	Volume of Waste Release (Prior to Dilution)	Liters	5.07E+07	5.14E+07	25%
F.	Volume of Dilution Water Used During Entire Period	Liters	2.43E+10	1.57E+10	25%

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 2B-1
SALEM GENERATING STATION - UNIT 1
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
LIQUID EFFLUENTS

Nuclides	Units	<u>Continuous Mode</u>		<u>Batch Mode</u>	
		<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>
<u>Released</u>					
1. Fission and Activation Products					
Manganese-54	Ci	0.00E+00	0.00E+00	5.39E-05	0.00E+00
Cobalt-57	Ci	0.00E+00	0.00E+00	7.51E-06	0.00E+00
Cobalt-58	Ci	0.00E+00	0.00E+00	1.17E-03	5.24E-04
Cobalt-60	Ci	0.00E+00	0.00E+00	4.20E-04	8.03E-05
Cesium-134	Ci	0.00E+00	0.00E+00	1.57E-03	2.22E-04
Cesium-137	Ci	0.00E+00	0.00E+00	2.70E-03	2.31E-04
Iron-55	Ci	0.00E+00	0.00E+00	1.76E-03	8.79E-04
Iodine-131	Ci	0.00E+00	0.00E+00	0.00E+00	6.74E-07
Antimony-122	Ci	0.00E+00	0.00E+00	1.34E-04	3.89E-08
Antimony-124	Ci	0.00E+00	0.00E+00	3.71E-05	0.00E+00
Antimony-125	Ci	0.00E+00	0.00E+00	9.76E-04	3.02E-04
Strontium-90	Ci	0.00E+00	0.00E+00	7.55E-06	7.14E-06
Technetium-99m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Totals	Ci	0.00E+00	0.00E+00	8.83E-03	2.25E-03
2. Tritium	Ci	0.00E+00	0.00E+00	8.40E+01	2.50E+01
3. Dissolved and Entrained Noble Gases					
Xenon-133	Ci	0.00E+00	0.00E+00	1.49E-03	2.73E-04
Xenon-135	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Totals	Ci	0.00E+00	0.00E+00	1.49E-03	2.73E-04

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 2B-2
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
LIQUID EFFLUENTS

Nuclides <u>Released</u>	Units	<u>Continuous Mode</u>		<u>Batch Mode</u>	
		<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>
1. Fission and Activation Products					
Manganese-54	Ci	0.00E+00	0.00E+00	7.36E-04	1.15E-06
Cobalt-57	Ci	0.00E+00	0.00E+00	2.06E-05	0.00E+00
Cobalt-58	Ci	0.00E+00	0.00E+00	7.22E-04	1.08E-03
Cobalt-60	Ci	0.00E+00	0.00E+00	1.57E-03	5.65E-04
Cesium-134	Ci	0.00E+00	0.00E+00	3.96E-04	5.85E-04
Cesium-137	Ci	0.00E+00	0.00E+00	9.75E-04	1.15E-03
Iron-55	Ci	0.00E+00	0.00E+00	1.59E-03	2.94E-03
Iodine-131	Ci	0.00E+00	0.00E+00	1.97E-07	1.71E-05
Antimony-122	Ci	0.00E+00	0.00E+00	1.01E-06	1.04E-05
Antimony-124	Ci	0.00E+00	0.00E+00	6.43E-05	1.23E-04
Antimony-125	Ci	0.00E+00	0.00E+00	2.16E-04	9.77E-04
Antimony-126	Ci	0.00E+00	0.00E+00	1.21E-04	0.00E+00
Zirconium-95	Ci	0.00E+00	0.00E+00	6.85E-06	0.00E+00
Totals	Ci	0.00E+00	0.00E+00	6.42E-03	7.45E-03
2. Tritium	Ci	0.00E+00	0.00E+00	9.61E+01	1.08E+02
3. Dissolved and Entrained Noble Gases					
Xenon-133	Ci	0.00E+00	0.00E+00	7.40E-03	1.32E-04
Xenon-135	Ci	0.00E+00	0.00E+00	1.67E-05	6.24E-06
Xenon-135m		0.00E+00	0.00E+00	0.00E+00	3.67E-05
Totals	Ci	0.00E+00	0.00E+00	7.42E-03	1.75E-04

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 2B-3
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
LIQUID EFFLUENTS

Nuclides	Units	Continuous Mode		Batch Mode	
		1 st Quarter	2 nd Quarter	1 st Quarter	2 nd Quarter
<u>Released</u>					
1. Fission and Activation Products					
Barium-140	Ci	0.00E+00	2.39E-04	0.00E+00	0.00E+00
Manganese-54	Ci	0.00E+00	0.00E+00	8.20E-07	9.95E-05
Cobalt-58	Ci	0.00E+00	2.77E-04	0.00E+00	0.00E+00
Cobalt-60	Ci	0.00E+00	0.00E+00	1.65E-06	5.26E-05
Totals	Ci	0.00E+00	5.16E-04	2.47E-06	1.52E-04
2. Tritium	Ci	1.93E-01	4.24E-01	4.62E-02	6.16E-03
3. Dissolved and Entrained Noble Gases					
Xenon-133	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xenon-135	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Totals	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 2B-4
SALEM GENERATING STATION - UNIT 1
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY - DECEMBER 2001
LIQUID EFFLUENTS

Nuclides	Units	<u>Continuous Mode</u>		<u>Batch Mode</u>	
		<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
<u>Released</u>					
1. Fission and Activation Products					
Manganese-54	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cobalt-57	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cobalt-58	Ci	0.00E+00	0.00E+00	2.74E-04	1.03E-03
Cobalt-60	Ci	0.00E+00	0.00E+00	5.60E-05	2.43E-04
Cesium-134	Ci	0.00E+00	0.00E+00	2.39E-04	1.87E-04
Cesium-137	Ci	0.00E+00	0.00E+00	2.78E-04	3.43E-04
Iron-55	Ci	0.00E+00	0.00E+00	5.06E-04	8.45E-03
Iodine-131	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony-122	Ci	0.00E+00	0.00E+00	2.71E-08	1.77E-06
Antimony-124	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony-125	Ci	0.00E+00	0.00E+00	0.00E+00	1.53E-04
Technetium-99m	Ci	0.00E+00	0.00E+00	1.58E-09	0.00E+00
Totals	Ci	0.00E+00	0.00E+00	1.35E-03	1.04E-02
2. Tritium	Ci	0.00E+00	0.00E+00	2.20E+01	1.40E+02
3. Dissolved and Entrained Noble Gases					
Xenon-133	Ci	0.00E+00	0.00E+00	9.00E-06	9.92E-03
Xenon-135	Ci	0.00E+00	0.00E+00	0.00E+00	1.36E-06
Totals	Ci	0.00E+00	0.00E+00	9.00E-06	9.92E-03

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 2B-5
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
LIQUID EFFLUENTS

Nuclides	Units	<u>Continuous Mode</u>		<u>Batch Mode</u>	
		<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
<u>Released</u>					
1. Fission and Activation Products					
Manganese-54	Ci	0.00E+00	0.00E+00	6.64E-06	2.89E-05
Cobalt-57	Ci	0.00E+00	0.00E+00	0.00E+00	1.39E-06
Cobalt-58	Ci	0.00E+00	0.00E+00	2.43E-04	1.04E-03
Cobalt-60	Ci	0.00E+00	0.00E+00	2.69E-04	1.37E-04
Cesium-134	Ci	0.00E+00	0.00E+00	2.22E-05	6.68E-05
Cesium-137	Ci	0.00E+00	0.00E+00	1.18E-04	1.69E-04
Iron-55	Ci	0.00E+00	0.00E+00	1.63E-03	0.00E+00
Iodine-131	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony-122	Ci	0.00E+00	0.00E+00	0.00E+00	1.13E-06
Antimony-124	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony-125	Ci	0.00E+00	0.00E+00	0.00E+00	4.07E-04
Antimony-126	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zirconium-95	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Totals	Ci	0.00E+00	0.00E+00	2.28E-03	1.85E-03
2. Tritium	Ci	0.00E+00	0.00E+00	7.41E+01	2.94E+01
3. Dissolved and Entrained Noble Gases					
Xenon-133	Ci	0.00E+00	0.00E+00	2.04E-05	7.59E-03
Xenon-135	Ci	0.00E+00	0.00E+00	0.00E+00	2.29E-06
Xenon-135m	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Totals	Ci	0.00E+00	0.00E+00	2.04E-05	7.59E-03

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 2B-6
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
LIQUID EFFLUENTS

Nuclides	Units	<u>Continuous Mode</u>		<u>Batch Mode</u>	
		<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
<u>Released</u>					
1. Fission and Activation Products					
Manganese-54	Ci	0.00E+00	0.00E+00	1.23E-02	2.60E-03
Cobalt-58	Ci	0.00E+00	0.00E+00	1.69E-03	4.20E-04
Cobalt-60	Ci	0.00E+00	0.00E+00	1.01E-02	9.47E-04
Technetium-99m	Ci	0.00E+00	0.00E+00	1.01E-05	0.00E+00
Chromium-51	Ci	0.00E+00	0.00E+00	4.49E-05	5.60E-04
Cesium-134	Ci	0.00E+00	0.00E+00	0.00E+00	4.25E-06
Cesium-137	Ci	0.00E+00	0.00E+00	2.56E-04	6.54E-05
Iron-59	Ci	0.00E+00	0.00E+00	8.25E-05	2.66E-04
Iodine-131	Ci	0.00E+00	0.00E+00	0.00E+00	3.46E-06
Sodium-24	Ci	0.00E+00	0.00E+00	7.39E-04	0.00E+00
Zinc-65	Ci	0.00E+00	0.00E+00	1.16E-03	9.97E-05
Totals	Ci	0.00E+00	0.00E+00	2.64E-02	4.97E-03
2. Tritium	Ci	8.76E-01	1.84E-01	1.92E+00	3.91E+00
3. Dissolved and Entrained Noble Gases					
Xenon-133	Ci	0.00E+00	0.00E+00	0.00E+00	5.55E-05
Xenon-135	Ci	0.00E+00	0.00E+00	4.50E-06	4.25E-06
Totals	Ci	0.00E+00	0.00E+00	4.50E-06	5.98E-05

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 3A
SALEM GENERATING STATION – UNITS 1 AND 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – DECEMBER 2001
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL
(Not Irradiated Fuel)

SGS	1 A. Type of Waste (Class A or less)	Units¹	12-Month Period	Est. Total Error
a.	Spent Resins, Filters, Sludges, Evaporator Bottoms	m ³	3.26E+02	25%
		Ci	5.87E+00	
b.	Dry Compressible Waste, Contaminated Equipment	m ³	5.78E+02	25%
		Ci	8.10E-01	
c.	Irradiated Components, Control Rods	m ³	0.00E+00	25%
		Ci	0.00E+00	
d.	Others – Reverse Osmosis Reject	m ³	0.00E+00	25%
		Ci	0.00E+00	

1 Volumes are measured, activities are estimated

2A. Estimate of Major Nuclide Composition (>1%) – SGS

Nuclides	Resins		Sludge	
	%	Ci	%	Ci
Carbon-14	6.07	3.56E-01	0.00	0.00E+00
Iron-55	1.96	1.15E-01	0.00	0.00E+00
Cobalt-58	1.75	1.03E-01	0.00	0.00E+00
Cobalt-60	11.48	6.74E-01	0.00	0.00E+00
Nickel-63	5.14	3.02E-01	0.00	0.00E+00
Cesium-134	12.84	7.53E-01	0.00	0.00E+00
Cesium-137	49.58	2.91E+00	0.00	0.00E+00

Nuclides	DAW		RO Reject	
	%	Ci	%	Ci
Hydrogen-3	4.70	3.81E-02	0.00	0.00E+00
Iron-55	13.57	1.10E-01	0.00	0.00E+00
Cobalt-58	46.58	3.77E-01	0.00	0.00E+00
Cobalt-60	4.55	3.68E-02	0.00	0.00E+00
Nickel-63	12.36	1.00E-01	0.00	0.00E+00
Niobium-95	1.64	1.33E-02	0.00	0.00E+00
Cesium-134	5.51	4.46E-02	0.00	0.00E+00
Cesium-137	10.50	8.50E-02	0.00	0.00E+00

ND = Not Detected

TABLE 3A (Continued)
SALEM GENERATING STATION – UNITS 1 AND 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – DECEMBER 2001
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

3A. Solid Waste Disposal (Class A or less) – SGS

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>	<u>Type of Containers</u>
9	Truck	Oak Ridge, TN	Metal Box
6	Truck	Oak Ridge, TN	HIC
1	Truck	Oak Ridge, TN	Metal Tank/Liner
1	Truck	Knoxville, TN	HIC

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 3A (Continued)
SALEM GENERATING STATION – UNITS 1 AND 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – DECEMBER 2001
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

1. B	SGS Type of Waste (Class B)	Units¹	12-Month Period	Est. Total Error
	Spent Resins, Filters, Sludges, Evaporator Bottoms	m ³	0.00E+00	25%
	Dry Compressible Waste,	m ³	0.00E+00	25%
	Contaminated Equipment	Ci	0.00E+00	
	Irradiated Components,	m ³	0.00E+00	25%
	Control Rods	Ci	0.00E+00	
	Others	m ³	0.00E+00	25%
		Ci	0.00E+00	

1 Volumes are measured, activities are estimated

2B. Estimate of Major Nuclide Composition (>1%) (Class B) – SGS Resins

Nuclides	%	Ci
Manganese-54	0.00	0.00E+00
Iron-55	0.00	0.00E+00
Cobalt-58	0.00	0.00E+00
Cobalt-60	0.00	0.00E+00
Nickel-63	0.00	0.00E+00
Cesium-134	0.00	0.00E+00
Cesium-137	0.00	0.00E+00

3B. Solid Waste Disposal (Class B) – SGS

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

4. Irradiated Fuel Shipments (Disposition) – SGS

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

5. Solidification Methods – None – SGS

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 3B
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – DECEMBER 2001
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

1A.	HCGS Type of Waste (Class A)	Units ¹	12-Month Period	Est. Total Error
	Spent Resins, Filters, Sludges, Evaporator Bottoms	m ³	8.50E+01	25%
	Dry Compressible Waste,	m ³	6.18E+02	25%
	Contaminated Equipment	Ci	1.16E+01	
	Irradiated Components,	m ³	0.00E+00	25%
	Control Rods	Ci	0.00E+00	
	Others	m ³	0.00E+00	25%
	(Contaminated Oil)	Ci	0.00E+00	

¹ Volumes are measured, activities are estimated

2A. Estimate of Major Nuclide Composition (>1%) (Class A) – HCGS Resins

<u>Nuclides</u>	<u>%</u>	<u>Ci</u>
Carbon-14	<1	0.00E+00
Manganese-54	9.87	5.84E+01
Iron-55	79.96	4.73E+02
Cobalt-60	8.92	5.27E+01
Zinc-65	<1	0.00E+00

<u>Nuclides</u>	<u>Oil</u>		<u>DAW</u>	
	<u>%</u>	<u>Ci</u>	<u>%</u>	<u>Ci</u>
Chromium-51	0.00	0.00E+00	11.20	1.30E+00
Manganese-54	0.00	0.00E+00	1.16	1.35E-01
Iron-55	0.00	0.00E+00	69.21	8.06E+00
Iron-59	0.00	0.00E+00	7.31	8.52E-01
Cobalt-60	0.00	0.00E+00	1.66	1.93E-01
Zinc-65	0.00	0.00E+00	2.08	2.42E-01

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 3B (Continued)
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – DECEMBER 2001
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

3A. Solid Waste Disposal (Class A) – HCGS

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>	<u>Type of Containers</u>
8	Truck	Oak Ridge, TN	HIC
11	Truck	Oak Ridge, TN	Metal Box
1	Truck	Barnwell, SC	HIC
2	Truck	Barnwell, SC	HIC Poly

4. Irradiated Fuel Shipments (Disposition) – HCGS

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
None	N/A	N/A

5. Solidification Methods – HCGS

No shipments of Solid Radioactive Waste requiring solidification were made during this period.

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 3B (Continued)
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – DECEMBER 2001
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

1B.	HCGS Type of Waste (Class B)	Units¹	12-Month Period	Est. Total Error
a.	Filters, Hardware	m ³	3.41E+00	25%
	Evaporator Bottoms	Ci	5.23E+02	
b.	Dry Compressible Waste,	m ³	0.00E+00	25%
	Contaminated Equipment	Ci	0.00E+00	
c.	Irradiated Components,	m ³	0.00E+00	25%
	Control Rods	Ci	0.00E+00	
d.	Others	m ³	0.00E+00	25%
	(Contaminated Oil)	Ci	0.00E+00	

1 Volumes are measured, activities are estimated

2B. Estimate of Major Nuclide Composition (>1%) (Class B) – HCGS

Nuclides	Resins		Filters and Hardware	
	%	Ci	%	Ci
Carbon-14	0.00	0.00E+00	ND	0.00E+00
Manganese-54	0.00	0.00E+00	<1	0.00E+00
Iron-55	0.00	0.00E+00	37.39	4.63E+01
Cobalt-60	0.00	0.00E+00	ND	0.00E+00
Zinc-65	0.00	0.00E+00	57.26	7.09E+01

Nuclides	Oil		DAW	
	%	Ci	%	Ci
Chromium-51	0.00	0.00E+00	0.00E+00	0.00E+00
Manganese-54	0.00	0.00E+00	0.00E+00	0.00E+00
Iron-55	0.00	0.00E+00	0.00E+00	0.00E+00
Iron-59	0.00	0.00E+00	0.00E+00	0.00E+00
Cobalt-60	0.00	0.00E+00	0.00E+00	0.00E+00
Zinc-65	0.00	0.00E+00	0.00E+00	0.00E+00

TABLE 3B (Continued)
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – DECEMBER 2001
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

3B. Solid Waste Disposal (Class B) – HCGS

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>	<u>Type of Containers</u>
1	Truck	Barnwell, SC	HIC Poly

4. Irradiated Fuel Shipments (Disposition) – HCGS

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
None	N/A	N/A

5. Solidification Methods – HCGS

No shipments of Solid Radioactive Waste requiring solidification were made during this period.

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 3B (Continued)
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – DECEMBER 2001
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

1C.	HCGS Type of Waste (Class C)	Units ¹	12-Month Period	Est. Total Error
a.	Spent Resins, Filters, Sludges,	m ³	0.00E+00	25%
	Evaporator Bottoms	Ci	0.00E+00	
b.	Dry Compressible Waste,	m ³	4.91E+00	25%
	Contaminated Equipment	Ci	7.20E+04	
c.	Irradiated Components,	m ³	0.00E+00	25%
	Control Rods	Ci	0.00E+00	
d.	Others	m ³	0.00E+00	25%
	(Contaminated Oil)	Ci	0.00E+00	

1 Volumes are measured, activities are estimated

2C. Estimate of Major Nuclide Composition (>1%) (Class C) – HCGS Resins

<u>Nuclides</u>	%	Ci		
Carbon-14	0.00	0.00E+00		
Manganese-54	0.00	0.00E+00		
Iron-55	0.00	0.00E+00		
Cobalt-60	0.00	0.00E+00		
Zinc-65	0.00	0.00E+00		
			Oil	DAW
<u>Nuclides</u>	%	Ci	%	Ci
Chromium-51	0.00	0.00E+00	<1	0.00E+00
Manganese-54	0.00	0.00E+00	1.33	9.62E+02
Iron-55	0.00	0.00E+00	43.78	3.16E+04
Iron-59	0.00	0.00E+00	ND	0.00E+00
Cobalt-60	0.00	0.00E+00	51.06	3.68E+04
Zinc-65	0.00	0.00E+00	ND	0.00E+00

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 3B (Continued)
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – DECEMBER 2001
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
SOLID RADWASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

3C. Solid Waste Disposal (Class C) – HCGS

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>	<u>Type of Containers</u>
3	Truck	Barnwell, SC	Steel Liner

4. Irradiated Fuel Shipments (Disposition) – HCGS

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
None	N/A	N/A

5. Solidification Methods – HCGS

No shipments of Solid Radioactive Waste requiring solidification were made during this period.

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 4A-1
SALEM GENERATING STATION - UNIT 1
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates:	January 1, 2001 – March 31, 2001
2. Type of release:	Gaseous
3. Number of releases during quarter:	197
4. Total time duration for all releases of type listed above:	1.92E+04 Min.
5. Maximum duration for release of type listed above:	2.10E+02 Min.
6. Average duration for release of type listed above:	9.74E+01 Min.
7. Minimum duration for release of type listed above:	3.00E+00 Min.
8. Average stream flow (dilution flow) during period of release:	N/A

BATCH RELEASES ONLY

1. Dates:	April 1, 2001 – June 30, 2001
2. Type of release:	Gaseous
3. Number of releases during quarter:	95
4. Total time duration for all releases of type listed above:	2.34E+05 Min.
5. Maximum duration for release of type listed above:	1.65E+03 Min.
6. Average duration for release of type listed above:	2.46E+02 Min.
7. Minimum duration for release of type listed above:	1.00E+00 Min.
8. Average stream flow (dilution flow) during period of release:	N/A

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 4A-1 (Continued)
SALEM GENERATING STATION - UNIT 1
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY - DECEMBER 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates:	July 1, 2001 - September 30, 2001	
2. Type of release:	Gaseous	
3. Number of releases during quarter:	82	
4. Total time duration for all releases of type listed above:	1.02E+04	Min.
5. Maximum duration for release of type listed above:	1.96E+03	Min.
6. Average duration for release of type listed above:	1.24E+02	Min.
7. Minimum duration for release of type listed above:	5.00E+01	Min.
8. Average stream flow (dilution flow) during period of release:	N/A	

BATCH RELEASES ONLY

1. Dates:	October 1, 2001 - December 31, 2001	
2. Type of release:	Gaseous	
3. Number of releases during quarter:	174	
4. Total time duration for all releases of type listed above:	1.72E+04	Min.
5. Maximum duration for release of type listed above:	1.50E+03	Min.
6. Average duration for release of type listed above:	9.91E+01	Min.
7. Minimum duration for release of type listed above:	2.10E+01	Min.
8. Average stream flow (dilution flow) during period of release:	N/A	

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 4A-2
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates:	January 1, 2001 – March 31, 2001
2. Type of release:	Gaseous
3. Number of releases during quarter:	98
4. Total time duration for all releases of type listed above:	8.00E+03 Min.
5. Maximum duration for release of type listed above:	1.42E+02 Min.
6. Average duration for release of type listed above:	8.17E+01 Min.
7. Minimum duration for release of type listed above:	7.00E+00 Min.
8. Average stream flow (dilution flow) during period of release:	N/A

BATCH RELEASES ONLY

1. Dates:	April 1, 2001 – June 30, 2001
2. Type of release:	Gaseous
3. Number of releases during quarter:	40
4. Total time duration for all releases of type listed above:	3.11E+03 Min.
5. Maximum duration for release of type listed above:	1.39E+02 Min.
6. Average duration for release of type listed above:	7.76E+01 Min.
7. Minimum duration for release of type listed above:	3.50E+01 Min.
8. Average stream flow (dilution flow) during period of release:	N/A

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 4A-2 (Continued)
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates:	July 1, 2001 – September 30, 2001
2. Type of release:	Gaseous
3. Number of releases during quarter:	40
4. Total time duration for all releases of type listed above:	4.30E+03 Min.
5. Maximum duration for release of type listed above:	1.52E+03 Min.
6. Average duration for release of type listed above:	1.08E+02 Min.
7. Minimum duration for release of type listed above:	1.00E+01 Min.
8. Average stream flow (dilution flow) during period of release:	N/A

BATCH RELEASES ONLY

1. Dates:	October 1, 2001 – December 31, 2001
2. Type of release:	Gaseous
3. Number of releases during quarter:	106
4. Total time duration for all releases of type listed above:	7.38E+03 Min.
5. Maximum duration for release of type listed above:	1.40E+02 Min.
6. Average duration for release of type listed above:	6.96E+01 Min.
7. Minimum duration for release of type listed above:	3.30E+01 Min.
8. Average stream flow (dilution flow) during period of release:	N/A

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

**TABLE 4A-3
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE**

BATCH RELEASES ONLY

1. Dates:	January 1, 2001 – March 31, 2001
2. Type of release:	Gaseous
3. Number of releases during quarter:	0
4. Total time duration for all releases of type listed above:	0.00E+00 Min.
5. Maximum duration for release of type listed above:	0.00E+00 Min.
6. Average duration for release of type listed above:	0.00E+00 Min.
7. Minimum duration for release of type listed above:	0.00E+00 Min.
8. Average stream flow (dilution flow) during period of release:	N/A

BATCH RELEASES ONLY

1. Dates:	April 1, 2001 – June 30, 2001
2. Type of release:	Gaseous
3. Number of releases during quarter:	4
4. Total time duration for all releases of type listed above:	2.60E+03 Min.
5. Maximum duration for release of type listed above:	1.23E+03 Min.
6. Average duration for release of type listed above:	6.49E+02 Min.
7. Minimum duration for release of type listed above:	2.87E+02 Min.
8. Average stream flow (dilution flow) during period of release:	N/A

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 4A-3 (Continued)
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates:	July 1, 2001 – September 30, 2001
2. Type of release:	Gaseous
3. Number of releases during quarter:	0
4. Total time duration for all releases of type listed above:	0.00E+00 Min.
5. Maximum duration for release of type listed above:	0.00E+00 Min.
6. Average duration for release of type listed above:	0.00E+00 Min.
7. Minimum duration for release of type listed above:	0.00E+00 Min.
8. Average stream flow (dilution flow) during period of release:	N/A

BATCH RELEASES ONLY

1. Dates:	October 1, 2001 - December 31, 2001
2. Type of release:	Gaseous
3. Number of releases during quarter:	4
4. Total time duration for all releases of type listed above:	7.13E+03 Min.
5. Maximum duration for release of type listed above:	2.80E+03 Min.
6. Average duration for release of type listed above:	1.78E+03 Min.
7. Minimum duration for release of type listed above:	329.00 Min.
8. Average stream flow (dilution flow) during period of release:	N/A

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 4B-1
SALEM GENERATING STATION - UNIT 1
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates:	January 1, 2001 – March 31, 2001
2. Type of release:	Liquid
3. Number of releases during quarter:	15
4. Total time duration for all releases of type listed above:	3.12E+03 Min.
5. Maximum duration for release of type listed above:	3.44E+02 Min.
6. Average duration for release of type listed above:	2.08E+02 Min.
7. Minimum duration for release of type listed above:	3.00E+00 Min.
8. Average stream flow (dilution flow) during period of release:	1.14E+06 GPM

BATCH RELEASES ONLY

1. Dates:	April 1, 2001 – June 30, 2001
2. Type of release:	Liquid
3. Number of releases during quarter:	25
4. Total time duration for all releases of type listed above:	2.46E+03 Min.
5. Maximum duration for release of type listed above:	2.93E+02 Min.
6. Average duration for release of type listed above:	9.82E+01 Min.
7. Minimum duration for release of type listed above:	1.00E+00 Min.
8. Average stream flow (dilution flow) during period of release:	6.99E+05 GPM

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 4B-1 (Continued)
SALEM GENERATING STATION - UNIT 1
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY - DECEMBER 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates:	July 1, 2001 - September 30, 2001
2. Type of release:	Liquid
3. Number of releases during quarter:	10
4. Total time duration for all releases of type listed above:	2.01E+03 Min.
5. Maximum duration for release of type listed above:	2.99E+02 Min.
6. Average duration for release of type listed above:	2.01E+02 Min.
7. Minimum duration for release of type listed above:	1.00E+00 Min.
8. Average stream flow (dilution flow) during period of release:	1.14E+06 GPM

BATCH RELEASES ONLY

1. Dates:	October 1, 2001 - December 31, 2001
2. Type of release:	Liquid
3. Number of releases during quarter:	24
4. Total time duration for all releases of type listed above:	6.01E+03 Min.
5. Maximum duration for release of type listed above:	3.85E+02 Min.
6. Average duration for release of type listed above:	2.51E+02 Min.
7. Minimum duration for release of type listed above:	2.00E+00 Min.
8. Average stream flow (dilution flow) during period of release:	1.01E+06 GPM

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 4B-2
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates:	January 1, 2001 – March 31, 2001		
2. Type of release:	Liquid		
3. Number of releases during quarter:	23		
4. Total time duration for all releases of type listed above:	5.07E+03	Min.	
5. Maximum duration for release of type listed above:	3.43E+02	Min.	
6. Average duration for release of type listed above:	2.20E+ 02	Min.	
7. Minimum duration for release of type listed above:	1.04E+02	Min.	
8. Average stream flow (dilution flow) during period of release:	1.13E+06	GPM	

BATCH RELEASES ONLY

1. Dates:	April 1, 2001 – June 30, 2001		
2. Type of release:	Liquid		
3. Number of releases during quarter:	20		
4. Total time duration for all releases of type listed above:	4.07E+03	Min.	
5. Maximum duration for release of type listed above:	3.47E+02	Min.	
6. Average duration for release of type listed above:	2.04E+02	Min.	
7. Minimum duration for release of type listed above:	1.00E+00	Min.	
8. Average stream flow (dilution flow) during period of release:	1.11E+06	GPM	

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 4B-2 (Continued)
SALEM GENERATING STATION - UNIT 2
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY - DECEMBER 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates:	July 1, 2001 - September 30, 2001	
2. Type of release:	Liquid	
3. Number of releases during quarter:	10	
4. Total time duration for all releases of type listed above:	2.27E+03	Min.
5. Maximum duration for release of type listed above:	3.58E+02	Min.
6. Average duration for release of type listed above:	2.27E+02	Min.
7. Minimum duration for release of type listed above:	1.00E+00	Min.
8. Average stream flow (dilution flow) during period of release:	1.13E+06	GPM

BATCH RELEASES ONLY

1. Dates:	October 1, 2001 - December 31, 2001	
2. Type of release:	Liquid	
3. Number of releases during quarter:	16	
4. Total time duration for all releases of type listed above:	3.40E+03	Min.
5. Maximum duration for release of type listed above:	3.56E+02	Min.
6. Average duration for release of type listed above:	2.12E+02	Min.
7. Minimum duration for release of type listed above:	8.33E-02	Min.
8. Average stream flow (dilution flow) during period of release:	1.10E+06	GPM

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 4B-3
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JANUARY – JUNE 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates:	January 1, 2001 – March 30, 2001	
2. Type of release:	Liquid	
3. Number of releases during quarter:	2	
4. Total time duration for all releases of type listed above:	8.70E+01	Min.
5. Maximum duration for release of type listed above:	4.50E+01	Min.
6. Average duration for release of type listed above:	4.35E+01	Min.
7. Minimum duration for release of type listed above:	4.20E+01	Min.
8. Average stream flow (dilution flow) during period of release:	3.19E+04	GPM

BATCH RELEASES ONLY

1. Dates:	April 1, 2001 – June 30, 2001	
2. Type of release:	Liquid	
3. Number of releases during quarter:	4	
4. Total time duration for all releases of type listed above:	1.99E+02	Min.
5. Maximum duration for release of type listed above:	7.60E+01	Min.
6. Average duration for release of type listed above:	4.97E+01	Min.
7. Minimum duration for release of type listed above:	3.00E+01	Min.
8. Average stream flow (dilution flow) during period of release:	3.95E+04	GPM

2001 SGS AND HCGS RADIOACTIVE EFFLUENTS RELEASE REPORT

TABLE 4B-3 (Continued)
HOPE CREEK GENERATING STATION
EFFLUENTS AND WASTE DISPOSAL ANNUAL REPORT
JULY – DECEMBER 2001
SUMMARY SHEET FOR RADIOACTIVE EFFLUENTS RELEASED
IN A BATCH MODE

BATCH RELEASES ONLY

1. Dates:	July 1, 2001 – September 30, 2001		
2. Type of release:	Liquid		
3. Number of releases during quarter:	17		
4. Total time duration for all releases of type listed above:	1.16E+03	Min.	
5. Maximum duration for release of type listed above:	9.50E+01	Min.	
6. Average duration for release of type listed above:	6.85E+01	Min.	
7. Minimum duration for release of type listed above:	3.00E+01	Min.	
8. Average stream flow (dilution flow) during period of release:	4.89E+04	GPM	

BATCH RELEASES ONLY

1. Dates:	October 1, 2001 – December 31, 2001		
2. Type of release:	Liquid		
3. Number of releases during quarter:	49		
4. Total time duration for all releases of type listed above:	3.09E+03	Min.	
5. Maximum duration for release of type listed above:	9.50E+01	Min.	
6. Average duration for release of type listed above:	6.30E+01	Min.	
7. Minimum duration for release of type listed above:	2.93E+01	Min.	
8. Average stream flow (dilution flow) during period of release:	3.16E+04	GPM	

APPENDIX A

METEOROLOGICAL DATA

Section 1

300-33-ft. Lapse Rate Wind Distributions

7/01 - 9/01

ARTIFICIAL ISLAND 07/01-09/01
 JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
 BY ATMOSPHERIC STABILITY CLASS
 WIND: 30 FT
 DELTA T: (300-33FT)
 LAPSE RATE: LE -1.9 DEG C/100M
 CLASS A

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT						
N	0	0.0	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	3	0.2
NNE	0	0.0	3	0.2	4	0.2	0	0.0	0	0.0	0	0.0	0	0.0	8	0.4
NE	0	0.1	6	0.3	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	10	0.5
ENE	0	0.1	3	0.2	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	8	0.4
E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
ESE	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	15	0.8
SE	0	0.0	3	0.2	4	0.2	7	0.4	1	0.1	0	0.0	0	0.0	13	0.7
SSE	0	0.0	6	0.3	3	0.2	3	0.2	0	0.0	0	0.0	0	0.0	5	0.3
S	0	0.0	5	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	14	0.7
SSW	0	0.0	11	0.6	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	23	1.2
SW	0	0.0	11	0.6	12	0.6	0	0.0	0	0.0	0	0.0	0	0.0	12	0.6
WSW	0	0.0	8	0.4	4	0.2	0	0.0	0	0.0	0	0.0	0	0.0	10	0.5
W	0	0.0	5	0.3	3	0.2	2	0.1	0	0.0	0	0.0	0	0.0	3	0.2
WNW	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.2
NW	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.2
NNW	0	0.0	4	0.2	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	6	0.3
	0	0.0	73	3.8	42	2.2	12	0.6	1	0.1	0	0.0	0	0.0	135	7.1

MEAN WIND SPEED: 7.5
 MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 30 FT

DELTA T: (300-33FT)

LAPSE RATE: -1.8 TO -1.7 DEG C/100M
CLASS B

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0	0	5	0	0	0	0	0	0	0	0	0	0	10	0.5
NNE	0	0	0	5	0	0	11	0	0	0	0	0	0	0	16	0.8
NE	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1
ENE	0	0	0	1	0	1	4	0	0	0	0	0	0	0	5	0.3
E	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0.1
ESE	0	1	0	1	0	0	1	0	2	0	0	0	0	0	4	0.2
SE	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0.2
SSE	0	0	0	5	0	0	3	0	3	1	0	0	0	0	7	0.4
S	0	0	0	4	0	0	2	0	2	0	0	0	0	0	11	0.6
SSW	0	0	0	3	0	0	1	0	1	0	0	0	0	0	8	0.4
SW	0	0	0	7	0	0	2	0	0	0	0	0	0	0	5	0.3
WSW	0	0	0	4	1	0	9	0	1	0	0	0	0	0	17	0.9
W	0	0	0	1	0	0	3	0	0	0	0	0	0	0	8	0.4
WNW	0	0	0	1	0	0	2	0	1	0	0	0	0	0	4	0.2
NW	0	0	0	2	0	0	1	0	0	0	0	0	0	0	4	0.2
NNW	0	0	0	3	0	0	1	0	0	0	0	0	0	0	3	0.2
	0	0	0	3	1	0	6	0	0	0	0	0	0	0	10	0.5
	0	0	0	44	5	44	50	2.6	14	0.7	1	0.1	0	0.0	114	6.0

MEAN WIND SPEED: 8.6
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 30 FT
DELTA T: (300-33FT)

LAPSE RATE: -1.6 TO -1.5 DEG C/100M
CLASS C

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT						
N	0	0.0	0	0.0	0	0.1	0	0.0	0	0.0	0	0.0	0	0.0	7	0.4
NNE	0	0.0	0	0.0	4	0.2	8	0.4	1	0.1	0	0.0	0	0.0	13	0.7
NE	0	0.0	0	0.0	1	0.1	5	0.3	0	0.0	0	0.0	0	0.0	6	0.3
ENE	0	0.0	0	0.0	1	0.1	2	0.1	0	0.0	0	0.0	0	0.0	3	0.2
E	0	0.0	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	2	0.1	3	0.2	1	0.1	0	0.0	0	0.0	4	0.2
SE	0	0.0	0	0.0	2	0.1	0	0.0	5	0.3	1	0.1	0	0.0	8	0.4
SSE	0	0.0	0	0.0	5	0.3	2	0.1	7	0.4	0	0.0	0	0.0	14	0.7
S	0	0.0	0	0.0	2	0.1	0	0.0	1	0.1	0	0.0	0	0.0	3	0.2
SSW	0	0.0	0	0.0	5	0.3	2	0.1	1	0.1	0	0.0	0	0.0	8	0.4
SW	0	0.0	0	0.0	1	0.1	7	0.4	1	0.1	0	0.0	0	0.0	9	0.5
WSW	0	0.0	0	0.0	2	0.1	4	0.2	0	0.0	0	0.0	0	0.0	6	0.3
W	0	0.0	0	0.0	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0	3	0.2
WNW	0	0.0	0	0.0	3	0.2	2	0.1	0	0.0	0	0.0	0	0.0	5	0.3
NW	0	0.0	0	0.0	1	0.1	3	0.2	0	0.0	0	0.0	0	0.0	4	0.2
NNW	0	0.0	1	0.1	2	0.1	10	0.5	1	0.1	0	0.0	0	0.0	14	0.7
	0	0.0	1	0.1	35	1.8	52	2.7	18	0.9	1	0.1	0	0.0	107	5.6

MEAN WIND SPEED: 9.3
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -1.4 TO -0.5 DEG C/100M
CLASS D

WIND: 30 FT

DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT						
N	0	0.0	3	0.2	11	0.6	12	0.6	12	0.6	0	0.0	0	0.0	38	2.0
NNE	0	0.0	0	0.0	7	0.4	12	0.6	9	0.5	0	0.0	0	0.0	28	1.5
NE	0	0.0	0	0.0	5	0.3	5	0.3	0	0.0	0	0.0	0	0.0	10	0.5
ENE	0	0.0	2	0.1	10	0.5	7	0.4	0	0.0	0	0.0	0	0.0	19	1.0
E	0	0.0	2	0.1	6	0.3	2	0.1	0	0.0	0	0.0	0	0.0	10	0.5
ESE	0	0.0	1	0.1	6	0.3	12	0.6	4	0.2	0	0.0	0	0.0	23	1.2
SE	0	0.0	2	0.1	7	0.4	21	1.1	15	0.8	5	0.3	0	0.0	50	2.6
SSE	0	0.0	0	0.0	19	1.0	36	1.9	48	2.5	2	0.1	2	0.1	107	5.6
S	0	0.0	5	0.3	19	1.0	45	2.4	26	1.4	1	0.1	0	0.0	96	5.0
SSW	0	0.0	1	0.1	18	0.9	42	2.2	8	0.4	0	0.0	0	0.0	69	3.6
SW	0	0.0	0	0.0	11	0.6	29	1.5	2	0.1	0	0.0	0	0.0	42	2.2
WSW	0	0.0	0	0.0	8	0.4	10	0.5	0	0.0	0	0.0	0	0.0	18	0.9
W	0	0.0	0	0.0	5	0.3	8	0.4	1	0.1	0	0.0	0	0.0	14	0.7
WNW	0	0.0	0	0.0	13	0.7	13	0.7	1	0.1	0	0.0	0	0.0	27	1.4
NW	0	0.0	3	0.2	3	0.2	18	0.9	2	0.1	0	0.0	0	0.0	26	1.4
NNW	0	0.0	0	0.0	3	0.2	27	1.4	4	0.2	0	0.0	0	0.0	34	1.8
	0	0.0	19	1.0	151	7.9	299	15.7	132	6.9	8	0.4	2	0.1	611	32.1

MEAN WIND SPEED: 10.0
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -0.4 TO 1.5 DEG C/100M
CLASS E

WIND: 30 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT	
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6					
	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT
N	0	7	32	40	2	0	0	0	0	0	0	81
NNE	0	3	33	15	1	0	0	0	0	0	0	52
NE	0	10	23	0	0	0	0	0	0	0	0	33
ENE	0	9	16	0	0	0	0	0	0	0	0	25
E	0	10	17	0	0	0	0	0	0	0	0	27
ESE	0	3	15	7	0	0	0	0	0	0	0	25
SE	0	0	13	19	1	0	0	0	0	0	0	33
SSE	0	2	9	21	2	0	0	0	0	0	0	34
S	0	2	14	26	1	1	1	1	0	0	0	44
SSW	0	2	20	66	3	0	0	0	0	0	0	91
SW	0	1	29	42	2	0	0	0	0	0	0	73
WSW	0	1	30	23	1	0	0	0	0	0	0	54
W	0	2	18	7	0	0	0	0	0	0	0	27
WNW	0	4	22	9	0	0	0	0	0	0	0	35
NW	0	4	37	20	1	0	0	0	0	0	0	62
NNW	0	2	32	22	5	1	0	0	0	0	0	62
	0	62	360	317	17	2	0	0	0	0	0	758
	0	0	3.3	16.7	0.9	0.1	0.0	0.0	0.0	0.0	0.0	39.9

MEAN WIND SPEED: 7.2
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: 1.6 TO 4.0 DEG C/100M
CLASS F

WIND: 30 FT

DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT						
N	0	0.0	1	0.1	17	0.9	21	1.1	0	0.0	0	0.0	0	0.0	39	2.1
NNE	0	0.0	1	0.1	17	0.9	0	0.0	0	0.0	0	0.0	0	0.0	18	0.9
NE	0	0.0	6	0.3	16	0.8	0	0.0	0	0.0	0	0.0	0	0.0	22	1.2
ENE	0	0.0	7	0.4	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	9	0.5
E	0	0.0	2	0.1	5	0.3	0	0.0	0	0.0	0	0.0	0	0.0	7	0.4
ESE	0	0.0	1	0.1	4	0.2	3	0.2	0	0.0	0	0.0	0	0.0	8	0.4
SE	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
SSE	0	0.0	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	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
SSW	0	0.0	0	0.0	0	0.0	5	0.3	0	0.0	0	0.0	0	0.0	5	0.3
SW	0	0.0	0	0.0	9	0.5	12	0.6	0	0.0	0	0.0	0	0.0	21	1.1
WSW	0	0.0	0	0.0	5	0.3	2	0.1	0	0.0	0	0.0	0	0.0	7	0.4
W	0	0.0	0	0.0	4	0.2	0	0.0	0	0.0	0	0.0	0	0.0	4	0.2
WNW	0	0.0	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	4	0.2
NW	0	0.0	0	0.0	9	0.5	2	0.1	0	0.0	0	0.0	0	0.0	11	0.6
NNW	0	0.0	1	0.1	9	0.5	5	0.3	0	0.0	0	0.0	0	0.0	15	0.8
	0	0.0	21	1.1	102	5.4	50	2.6	0	0.0	0	0.0	0	0.0	173	9.1

MEAN WIND SPEED: 6.2
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: GT 4.0 DEG C/100M
CLASS G

WIND: 30 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT													
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	GT 4.0	DEG C/100M	CLASS G														
N	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		
NNE	0	0.0	0	0.0	0	0.1	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	0.1
NE	0	0.0	0	0.0	0	0.1	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	0.1
ENE	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
E	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
ESE	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
SE	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
SSE	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
S	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
SSW	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
SW	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
WSW	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
W	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
WNW	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
NW	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
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	3	0.2	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	0.2

MEAN WIND SPEED: 5.9
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

ALL STABILITY CLASSES

WIND: 30 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT	
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT		
N	0	11	71	82	14	0	0	0	0	0	178	9.4
NNE	0	5	70	50	11	0	0	0	0	0	136	7.2
NE	0	18	53	13	0	0	0	0	0	0	84	4.4
ENE	0	20	33	16	0	0	0	0	0	0	69	3.6
E	0	14	29	15	0	0	0	0	0	0	45	2.4
ESE	0	6	27	14	7	8	0	0	0	0	66	3.5
SE	0	2	27	14	33	2	0	0	0	0	115	6.0
SSE	0	3	44	65	63	2	2	0	0	0	179	9.4
S	0	8	45	72	30	2	0	0	0	0	157	8.3
SSW	0	3	57	120	12	0	0	0	0	0	192	10.1
SW	0	1	68	111	5	0	0	0	0	0	185	9.7
WSW	0	2	57	46	0	0	0	0	0	0	105	5.5
W	0	2	33	23	4	0	0	0	0	0	62	3.3
WNW	0	7	45	25	1	0	0	0	0	0	78	4.1
NW	0	7	56	43	3	0	0	0	0	0	109	5.7
NNW	0	6	53	71	10	1	0	0	0	0	141	7.4

0	0.0	115	6.0	768	40.4	810	42.6	193	10.2	13	0.7	2	0.1	1901	100.0
														MISSING HOURS:	307

MEAN WIND SPEED: 8.3

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 30 FT
DELTA T: (300-33FT)

DIRECTION VS SPEED ONLY

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)						SUM PERCENT						
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5							
N	0	0.0	75	3.4	83	3.8	14	0.6	0	0.0	0.0	183	8.3
NNE	0	0.0	71	3.2	50	2.3	11	0.5	0	0.0	0.0	138	6.3
NE	0	0.0	55	2.5	13	0.6	0	0.0	0	0.0	0.0	86	3.9
ENE	0	0.0	34	1.5	16	0.7	0	0.0	0	0.0	0.0	71	3.2
E	0	0.0	31	1.4	2	0.1	0	0.0	0	0.0	0.0	48	2.2
ESE	0	0.0	28	1.3	29	1.3	8	0.4	0	0.0	0.0	71	3.2
SE	0	0.0	35	1.6	56	2.5	36	1.6	8	0.4	0.0	138	6.3
SSE	0	0.0	73	3.3	77	3.5	66	3.0	2	0.1	0.1	223	10.1
S	0	0.0	70	3.2	92	4.2	36	1.6	2	0.1	0.0	211	9.6
SSW	0	0.0	74	3.4	149	6.8	16	0.7	0	0.0	0.0	242	11.0
SW	0	0.0	91	4.1	134	6.1	8	0.4	0	0.0	0.0	234	10.6
WSW	0	0.0	65	2.9	60	2.7	1	0.0	0	0.0	0.0	129	5.8
W	0	0.0	41	1.9	29	1.3	4	0.2	0	0.0	0.0	76	3.4
WNW	0	0.0	50	2.3	27	1.2	1	0.0	0	0.0	0.0	85	3.9
NW	0	0.0	61	2.8	44	2.0	3	0.1	0	0.0	0.0	118	5.3
NNW	0	0.0	66	3.0	71	3.2	10	0.5	1	0.0	0.0	154	7.0
	0	0.0	920	41.7	932	42.2	214	9.7	13	0.6	0.1	2207	100.0

MISSING HOURS: 1

MEAN WIND SPEED: 8.2

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT
DELTA T: (300-33FT)

LAPSE RATE: -1.8 TO -1.7 DEG C/100M
CLASS B

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT				
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT					
N	0	0.0	3	5	0.3	1	0.1	0	0.0	0	0.0	0	0.0	9	0.5
NNE	0	0.0	5	5	0.3	0	0.0	0	0.0	0	0.0	0	0.0	10	0.5
NE	0	0.0	0	7	0.4	1	0.1	0	0.0	0	0.0	0	0.0	8	0.4
ENE	0	0.0	1	4	0.2	1	0.1	0	0.0	0	0.0	0	0.0	6	0.3
E	0	0.0	1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
ESE	0	0.1	0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
SE	0	0.0	0	2	0.1	1	0.1	4	0.2	1	0.1	0	0.0	8	0.4
SSE	0	0.0	4	2	0.1	1	0.3	2	0.1	0	0.0	0	0.0	13	0.7
S	0	0.1	2	1	0.1	1	0.1	1	0.1	0	0.0	0	0.0	6	0.3
SSW	0	0.0	2	1	0.1	1	0.1	1	0.1	0	0.0	0	0.0	4	0.2
SW	0	0.0	5	9	0.5	3	0.2	2	0.1	0	0.0	0	0.0	19	1.0
WSW	0	0.0	4	1	0.1	5	0.3	0	0.0	0	0.0	0	0.0	10	0.5
W	0	0.0	0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	2	0.1
WNW	0	0.0	2	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	4	0.2
NW	0	0.0	1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
NNW	0	0.1	2	3	0.2	3	0.2	0	0.0	0	0.0	0	0.0	9	0.5
	0	0.0	32	44	2.3	24	1.3	9	0.5	1	0.1	113	6.0		

MEAN WIND SPEED: 10.5
MISSING: 1

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
 BY ATMOSPHERIC STABILITY CLASS
 WIND: 150 FT
 DELTA T: (300-33FT)

LAPSE RATE: -1.6 TO -1.5 DEG C/100M
 CLASS C

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6									
N	0	0.0	1	0.1	4	0.2	3	0.2	0	0.0	0	0.0	0	0.0	8	0.4
NNE	0	0.0	0	0.0	2	0.1	4	0.2	4	0.2	0	0.0	0	0.0	10	0.5
NE	0	0.0	0	0.0	2	0.1	5	0.3	2	0.1	0	0.0	0	0.0	9	0.5
ENE	0	0.0	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	2	0.1
E	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
ESE	0	0.0	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	0.1	1	0.1	2	0.1	3	0.2	1	0.1	9	0.5
SSE	0	0.0	2	0.1	3	0.2	1	0.1	5	0.3	6	0.3	0	0.0	17	0.9
S	0	0.0	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	4	0.2	2	0.1	1	0.1	0	0.0	0	0.0	7	0.4
SW	0	0.0	0	0.0	4	0.2	6	0.3	1	0.1	1	0.1	0	0.0	12	0.6
WSW	0	0.0	0	0.0	0	0.0	3	0.2	2	0.1	0	0.0	0	0.0	5	0.3
W	0	0.0	0	0.0	0	0.0	0	0.2	2	0.1	0	0.0	0	0.0	5	0.3
WNW	0	0.0	0	0.0	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0	3	0.2
NW	0	0.0	1	0.1	2	0.1	3	0.2	3	0.2	0	0.0	0	0.0	9	0.5
NNW	0	0.0	0	0.0	1	0.1	0	0.0	9	0.5	0	0.0	0	0.0	10	0.5

0	0.0	4	0.2	24	1.3	37	1.9	31	1.6	10	0.5	1	0.1	107	5.6
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MEAN WIND SPEED: 11.4
 MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01 JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
 BY ATMOSPHERIC STABILITY CLASS LAPSE RATE: -1.4 TO -0.5 DEG C/100M
 WIND: 150 FT CLASS D
 DELTA T: (300-33FT)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT						
N	0	0.0	1	0.1	6	0.3	4	0.2	13	0.7	3	0.2	0	0.0	27	1.4
NNE	0	0.0	1	0.1	4	0.2	7	0.4	10	0.5	2	0.1	0	0.0	24	1.3
NE	0	0.0	0	0.0	3	0.2	7	0.4	11	0.6	0	0.0	0	0.0	21	1.1
ENE	0	0.0	2	0.1	1	0.1	14	0.7	0	0.0	0	0.0	0	0.0	17	0.9
E	0	0.0	0	0.0	7	0.4	5	0.3	0	0.0	0	0.0	0	0.0	12	0.6
ESE	0	0.0	0	0.0	3	0.2	4	0.2	2	0.1	0	0.0	0	0.0	9	0.5
SE	0	0.0	1	0.1	1	0.1	7	0.4	16	0.8	6	0.3	7	0.4	38	2.0
SSE	0	0.0	1	0.1	3	0.2	18	0.9	53	2.8	25	1.3	3	0.2	103	5.4
S	0	0.0	0	0.0	10	0.5	32	1.7	49	2.6	7	0.4	0	0.0	98	5.2
SSW	0	0.0	2	0.1	12	0.6	45	2.4	11	0.6	0	0.0	0	0.0	70	3.7
SW	0	0.0	0	0.0	11	0.6	24	1.3	27	1.4	4	0.2	0	0.0	66	3.5
WSW	0	0.0	0	0.0	4	0.2	11	0.6	5	0.3	0	0.0	0	0.0	20	1.1
W	0	0.0	0	0.0	2	0.1	13	0.7	4	0.2	0	0.0	0	0.0	19	1.0
WNW	0	0.0	0	0.0	6	0.3	11	0.6	7	0.4	1	0.1	0	0.0	25	1.3
NW	0	0.0	1	0.1	4	0.2	11	0.6	14	0.7	1	0.1	0	0.0	31	1.6
NNW	0	0.0	0	0.0	0	0.0	16	0.8	12	0.6	3	0.2	0	0.0	31	1.6
	0	0.0	9	0.5	77	4.1	229	12.1	234	12.3	52	2.7	10	0.5	611	32.2

MEAN WIND SPEED: 12.7
 MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
 BY ATMOSPHERIC STABILITY CLASS
 WIND: 150 FT
 DELTA T: (300-33FT)

LAPSE RATE: -0.4 TO 1.5 DEG C/100M
 CLASS E

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	4	0.2	7	0.4	12	0.6	33	1.7	2	0.1	0	0.0	58	3.1
NNE	0	0.0	1	0.1	12	0.6	27	1.4	12	0.6	0	0.0	0	0.0	52	2.7
NE	0	0.0	3	0.2	10	0.5	20	1.1	3	0.2	0	0.0	0	0.0	36	1.9
ENE	0	0.0	2	0.1	10	0.5	7	0.4	0	0.0	0	0.0	0	0.0	19	1.0
E	0	0.0	5	0.3	8	0.4	5	0.3	1	0.1	0	0.0	0	0.0	28	1.5
ESE	0	0.0	1	0.1	8	0.4	17	0.9	2	0.1	0	0.0	0	0.0	30	1.6
SE	0	0.0	1	0.1	5	0.3	14	0.7	10	0.5	0	0.0	0	0.0	36	1.9
SSE	0	0.0	3	0.2	5	0.3	18	0.9	8	0.4	2	0.1	0	0.0	46	2.4
S	0	0.0	4	0.2	11	0.6	18	0.9	12	0.6	0	0.0	1	0.1	90	4.7
SSW	0	0.0	0	0.0	8	0.4	41	2.2	40	2.1	1	0.1	0	0.0	94	5.0
SW	0	0.0	1	0.1	15	0.8	52	2.7	26	1.4	0	0.0	0	0.0	51	2.7
WSW	0	0.0	1	0.1	10	0.5	30	1.6	10	0.5	0	0.0	0	0.0	37	1.9
W	0	0.0	2	0.1	14	0.7	18	0.9	3	0.2	0	0.0	0	0.0	44	2.3
WNW	0	0.0	5	0.3	14	0.7	22	1.2	3	0.2	0	0.0	0	0.0	68	3.6
NW	0	0.0	1	0.1	7	0.4	39	2.1	20	1.1	1	0.1	0	0.0	50	2.6
NNW	0	0.0	0	0.0	10	0.5	21	1.1	14	0.7	3	0.2	2	0.1	50	2.6
	0	0.0	34	1.8	154	8.1	361	19.0	197	10.4	9	0.5	3	0.2	758	39.9

MEAN WIND SPEED: 10.3
 MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: 1.6 TO 4.0 DEG C/100M
CLASS F

WIND: 150 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT				
N	0	0.0	0	0.1	11	0.6	14	0.7	1	0.1	0	0.0	28	1.5
NNE	0	0.0	1	0.1	13	0.7	2	0.1	0	0.0	0	0.0	27	1.4
NE	0	0.0	0	0.0	5	0.3	0	0.0	0	0.0	0	0.0	8	0.4
ENE	0	0.0	1	0.1	2	0.1	0	0.0	0	0.0	0	0.0	4	0.2
E	0	0.0	1	0.1	6	0.3	1	0.1	0	0.0	0	0.0	9	0.5
ESE	0	0.0	0	0.0	5	0.3	4	0.2	2	0.1	0	0.0	11	0.6
SE	0	0.0	1	0.1	3	0.2	2	0.1	0	0.0	0	0.0	9	0.5
SSE	0	0.0	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	2	0.1
S	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
SSW	0	0.0	1	0.1	3	0.2	4	0.2	0	0.0	0	0.0	9	0.5
SW	0	0.0	0	0.0	2	0.1	4	0.2	0	0.0	0	0.0	17	0.9
WSW	0	0.0	1	0.1	11	0.6	3	0.2	0	0.0	0	0.0	12	0.6
W	0	0.0	2	0.1	6	0.3	0	0.0	0	0.0	0	0.0	4	0.2
WNW	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	3	0.2
NW	0	0.0	1	0.1	2	0.1	0	0.0	0	0.0	0	0.0	10	0.5
NNW	0	0.0	1	0.1	6	0.3	3	0.2	0	0.0	0	0.0	17	0.9
	0	0.0	11	0.6	41	2.2	79	4.2	39	2.1	1	0.1	171	9.0

MEAN WIND SPEED: 9.7
MISSING: 2

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT
DELTA T: (300-33FT)

LAPSE RATE: GT 4.0 DEG C/100M
CLASS G

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6							
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	1	0.1	0	0.0	0	0.0	0	0.0
NE	0	0.0	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
ENE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
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	1	0.1	0	0.0	2	0.1	0	0.0	0	0.0	3	0.2

MEAN WIND SPEED: 6.9
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
 BY ATMOSPHERIC STABILITY CLASS
 WIND: 150 FT
 DELTA T: (300-33FT)

DIRECTION VS SPEED ONLY

DIRECTION	WIND SPEED GROUPS (MPH)						SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5						GE 24.6		
N	0	0.0	28	1.3	37	1.7	62	2.8	6	0.3	0	0.0	139	6.3
NNE	0	0.2	36	1.6	63	2.9	28	1.3	2	0.1	0	0.0	133	6.0
NE	0	0.3	25	1.1	48	2.2	17	0.8	0	0.0	0	0.0	96	4.4
ENE	0	0.0	7	0.3	15	0.7	36	1.6	1	0.0	0	0.0	59	2.7
E	0	0.3	25	1.1	14	0.6	2	0.1	0	0.0	0	0.0	48	2.2
ESE	0	0.1	17	0.8	26	1.2	6	0.3	0	0.0	0	0.0	52	2.4
SE	0	0.1	17	0.8	33	1.5	44	2.0	17	0.8	10	0.5	124	5.6
SSE	0	0.4	37	1.7	60	2.7	79	3.6	39	1.8	3	0.1	226	10.3
S	0	0.6	47	2.1	65	2.9	69	3.1	10	0.5	1	0.0	205	9.3
SSW	0	0.2	54	2.5	110	5.0	67	3.0	1	0.0	0	0.0	236	10.7
SW	0	0.2	64	2.9	134	6.1	82	3.7	8	0.4	0	0.0	293	13.3
WSW	0	0.2	35	1.6	73	3.3	33	1.5	1	0.0	0	0.0	146	6.6
W	0	0.3	26	1.2	45	2.0	14	0.6	0	0.0	0	0.0	92	4.2
WNW	0	0.2	28	1.3	46	2.1	10	0.5	1	0.0	0	0.0	90	4.1
NW	0	0.3	20	0.9	62	2.8	40	1.8	2	0.1	0	0.0	130	5.9
NNW	0	0.1	29	1.3	54	2.5	42	1.9	6	0.3	2	0.1	135	6.1

0	0.0	503	22.8	906	41.1	596	27.0	93	4.2	16	0.7	2204	100.0
												MISSING HOURS:	4

MEAN WIND SPEED: 10.7

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: LE -1.9 DEG C/100M
CLASS A

WIND: 300 FT
DELTA T: (300-33FT)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT	
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT				
N	0	0.0	3	0.2	1	0.1	0	0.0	0	0.0	7	0.4
NNE	0	0.1	5	0.3	1	0.1	0	0.0	0	0.0	12	0.6
NE	0	0.1	1	0.1	0	0.0	0	0.0	0	0.0	4	0.2
ENE	0	0.1	1	0.1	0	0.0	0	0.0	0	0.0	9	0.5
E	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0	2	0.1
ESE	0	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
SE	0	0.0	2	0.1	3	0.2	4	0.2	2	0.1	13	0.7
SSE	0	0.1	2	0.1	4	0.2	4	0.2	1	0.1	12	0.6
S	0	0.0	7	0.4	0	0.0	0	0.0	0	0.0	7	0.4
SSW	0	0.0	4	0.2	2	0.1	0	0.0	0	0.0	7	0.4
SW	0	0.1	7	0.4	6	0.3	6	0.3	0	0.0	20	1.1
WSW	0	0.0	9	0.5	14	0.7	1	0.1	0	0.0	24	1.3
W	0	0.0	3	0.2	3	0.2	1	0.1	1	0.1	8	0.4
WNW	0	0.0	2	0.1	1	0.1	0	0.0	0	0.0	3	0.2
NW	0	0.1	2	0.1	0	0.0	0	0.0	0	0.0	3	0.2
NNW	0	0.0	2	0.1	1	0.1	0	0.0	0	0.0	3	0.2
	0	0.0	51	2.7	50	2.6	18	0.9	4	0.2	135	7.1

MEAN WIND SPEED: 8.9
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -1.8 TO -1.7 DEG C/100M
CLASS B

WIND: 300 FT

DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT				
N	0	0.0	3	0.2	6	0.3	1	0.1	0	0.0	0	0.0	10	0.5
NNE	0	0.0	2	0.1	7	0.4	1	0.1	0	0.0	0	0.0	10	0.5
NE	0	0.0	0	0.0	4	0.2	2	0.1	0	0.0	0	0.0	6	0.3
ENE	0	0.0	2	0.1	4	0.2	1	0.1	0	0.0	0	0.0	7	0.4
E	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
ESE	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
SE	0	0.0	1	0.1	1	0.1	2	0.1	4	0.2	1	0.1	9	0.5
SSE	0	0.0	2	0.1	2	0.1	4	0.2	3	0.2	0	0.0	11	0.6
S	0	0.0	3	0.2	0	0.0	1	0.1	0	0.0	0	0.0	4	0.2
SSW	0	0.0	3	0.2	3	0.2	1	0.1	1	0.1	0	0.0	9	0.5
SW	0	0.0	5	0.3	7	0.4	3	0.2	1	0.1	0	0.0	16	0.8
WSW	0	0.0	4	0.2	2	0.1	5	0.3	0	0.0	0	0.0	11	0.6
W	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
WNW	0	0.0	3	0.2	2	0.1	1	0.1	0	0.0	0	0.0	6	0.3
NW	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
NNW	0	0.0	3	0.2	4	0.2	4	0.2	0	0.0	0	0.0	11	0.6
	0	0.0	31	1.6	44	2.3	27	1.4	9	0.5	1	0.1	114	6.0

MEAN WIND SPEED: 10.7
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT
DELTA T: (300-33FT)

LAPSE RATE: -1.6 TO -1.5 DEG C/100M
CLASS C

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT						
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT							
N	0	0.0	0	0.0	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8	0.4
NNE	0	0.0	0	0.0	0.1	4	0.2	4	0.2	1	0.1	0	0.0	0	0.0	11	0.6
NE	0	0.0	0	0.0	0.1	2	0.1	3	0.2	2	0.1	0	0.0	0	0.0	7	0.4
ENE	0	0.0	0	0.0	0.0	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0	3	0.2
E	0	0.0	0	0.0	0.0	0	0.1	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
ESE	0	0.0	0	0.0	0.0	0	0.1	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
SE	0	0.0	1	0.1	0.1	2	0.1	0	0.1	1	0.1	4	0.2	1	0.1	9	0.5
SSE	0	0.0	1	0.1	0.2	3	0.2	1	0.1	6	0.3	5	0.3	0	0.0	16	0.8
S	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
SSW	0	0.0	1	0.1	0.2	3	0.2	2	0.1	1	0.1	1	0.1	0	0.0	8	0.4
SW	0	0.0	0	0.0	0.2	3	0.2	5	0.3	2	0.1	0	0.0	0	0.0	10	0.5
WSW	0	0.0	0	0.0	1	1	0.1	2	0.1	2	0.1	0	0.0	0	0.0	5	0.3
W	0	0.0	0	0.0	0.0	0	0.0	3	0.2	2	0.1	0	0.0	0	0.0	5	0.3
WNW	0	0.0	0	0.0	0.1	2	0.1	4	0.2	0	0.0	0	0.0	0	0.0	6	0.3
NW	0	0.0	0	0.0	0.0	0	0.0	2	0.1	5	0.3	0	0.0	0	0.0	7	0.4
NNW	0	0.0	0	0.0	0.1	1	0.1	0	0.0	9	0.5	0	0.0	0	0.0	10	0.5
	0	0.0	3	0.2	23	1.2	35	1.8	34	1.8	11	0.6	1	0.1	107	5.6	

MEAN WIND SPEED: 11.7
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -1.4 TO -0.5 DEG C/100M
CLASS D

WIND: 300 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	0	0.1	3	0.2	4	0.2	5	0.3	14	0.7	0	0.0	27	1.4
NNE	0	0.0	1	0.1	2	0.1	8	0.4	6	0.3	5	0.3	0	0.0	22	1.2
NE	0	0.0	1	0.1	3	0.2	6	0.3	10	0.5	2	0.1	0	0.0	22	1.2
ENE	0	0.0	1	0.1	1	0.1	9	0.5	3	0.2	0	0.0	0	0.0	14	0.7
E	0	0.0	0	0.0	5	0.3	9	0.5	0	0.0	0	0.0	0	0.0	14	0.7
ESE	0	0.0	0	0.0	3	0.2	3	0.2	4	0.2	0	0.0	0	0.0	10	0.5
SE	0	0.0	1	0.1	1	0.1	3	0.2	14	0.7	6	0.3	6	0.3	31	1.6
SSE	0	0.0	0	0.0	7	0.4	20	1.1	59	3.1	26	1.4	3	0.2	115	6.0
S	0	0.0	0	0.0	8	0.4	29	1.5	45	2.4	5	0.3	1	0.1	88	4.6
SSW	0	0.0	1	0.1	9	0.5	32	1.7	24	1.3	0	0.0	0	0.0	66	3.5
SW	0	0.0	2	0.1	7	0.4	23	1.2	34	1.8	8	0.4	0	0.0	74	3.9
WSW	0	0.0	0	0.0	3	0.2	15	0.8	5	0.3	0	0.0	0	0.0	23	1.2
W	0	0.0	0	0.0	5	0.3	8	0.4	6	0.3	0	0.0	0	0.0	19	1.0
WNW	0	0.0	0	0.0	4	0.2	6	0.3	13	0.7	1	0.1	0	0.0	24	1.3
NW	0	0.0	0	0.0	3	0.2	8	0.4	13	0.7	3	0.2	0	0.0	27	1.4
NNW	0	0.0	0	0.0	1	0.1	13	0.7	19	1.0	2	0.1	0	0.0	35	1.8
	0	0.0	8	0.4	65	3.4	196	10.3	260	13.7	72	3.8	10	0.5	611	32.1

MEAN WIND SPEED: 13.4
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT

DELTA T: (300-33FT)

LAPSE RATE: -0.4 TO 1.5 DEG C/100M
CLASS E

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT			
N	0	0.0	1	12	24	18	0	0.0	59	3.1	
NNE	0	0.0	1	14	15	4	0	0.0	34	1.8	
NE	0	0.0	5	15	13	0	0	0.0	33	1.7	
ENE	0	0.0	5	8	5	0	0	0.0	19	1.0	
E	0	0.1	8	9	0	0	0	0.0	19	1.0	
ESE	0	0.1	4	10	6	0	0	0.0	21	1.1	
SE	0	0.1	9	11	10	2	0	0.0	33	1.7	
SSE	0	0.1	3	20	7	2	0	0.0	34	1.8	
S	0	0.1	9	19	11	2	0	0.0	43	2.3	
SSW	0	0.1	11	17	60	9	1	0.1	100	5.3	
SW	0	0.1	7	18	57	7	0	0.0	91	4.8	
WSW	0	0.1	11	26	22	1	0	0.0	62	3.3	
W	0	0.0	15	20	6	2	0	0.0	43	2.3	
WNW	0	0.0	4	19	10	2	0	0.0	33	1.7	
NW	0	0.0	6	30	35	2	1	0.1	74	3.9	
NNW	0	0.0	6	18	25	7	2	0.1	60	3.2	
	0	0.0	22	266	306	55	4	0.2	758	39.9	

MEAN WIND SPEED: 12.2
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT

DELTA T: (300-33FT)

LAPSE RATE: 1.6 TO 4.0 DEG C/100M
CLASS F

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT				
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT					
N	0	0.0	0	0.0	0.2	7	0.4	15	0.8	6	0.3	0	0.0	31	1.6
NNE	0	0.0	1	0.1	0.0	10	0.5	11	0.6	1	0.1	0	0.0	23	1.2
NE	0	0.0	0	0.0	0.1	3	0.2	0	0.0	0	0.0	0	0.0	5	0.3
ENE	0	0.0	0	0.0	0.2	1	0.1	0	0.0	0	0.0	0	0.0	4	0.2
E	0	0.0	0	0.0	0.2	2	0.1	0	0.0	0	0.0	0	0.0	6	0.3
ESE	0	0.0	0	0.0	0.0	2	0.1	2	0.1	0	0.0	0	0.0	4	0.2
SE	0	0.0	0	0.0	0.3	6	0.3	3	0.2	2	0.1	0	0.0	17	0.9
SSE	0	0.0	1	0.1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	4	0.2
S	0	0.0	3	0.2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	4	0.2
SSW	0	0.0	0	0.0	0.1	1	0.1	6	0.3	1	0.1	0	0.0	10	0.5
SW	0	0.0	0	0.0	0.1	4	0.2	12	0.6	1	0.1	0	0.0	18	0.9
WSW	0	0.0	0	0.0	0.1	2	0.1	6	0.3	1	0.1	0	0.0	10	0.5
W	0	0.0	0	0.0	0.1	3	0.2	1	0.1	0	0.0	0	0.0	5	0.3
WNW	0	0.0	1	0.1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
NW	0	0.0	1	0.1	0.1	2	0.1	8	0.4	0	0.0	0	0.0	12	0.6
NNW	0	0.0	0	0.0	0.2	8	0.4	6	0.3	0	0.0	0	0.0	18	0.9
	0	0.0	7	0.4	32	1.7	52	2.7	3.7	12	0.6	0	0.0	173	9.1

MEAN WIND SPEED: 11.8
MISSING: 0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT

DELTA T: (300-33FT)

ALL STABILITY CLASSES

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	5	0.3	17	0.9	36	1.9	46	2.4	38	2.0	0	0.0	142	7.5
NNE	0	0.0	3	0.2	12	0.6	48	2.5	38	2.0	11	0.6	0	0.0	112	5.9
NE	0	0.0	3	0.2	15	0.8	32	1.7	27	1.4	2	0.1	0	0.0	79	4.2
ENE	0	0.0	5	0.3	12	0.6	31	1.6	9	0.5	0	0.0	0	0.0	57	3.0
E	0	0.0	2	0.1	18	0.9	23	1.2	0	0.0	0	0.0	0	0.0	43	2.3
ESE	0	0.0	2	0.1	8	0.4	16	0.8	12	0.6	0	0.0	0	0.0	38	2.0
SE	0	0.0	4	0.2	20	1.1	24	1.3	34	1.8	20	1.1	10	0.5	112	5.9
SSE	0	0.0	5	0.3	19	1.0	48	2.5	80	4.2	37	1.9	3	0.2	192	10.1
S	0	0.0	5	0.3	28	1.5	48	2.5	57	3.0	6	0.3	2	0.1	146	7.7
SSW	0	0.0	7	0.4	32	1.7	57	3.0	92	4.8	12	0.6	0	0.0	200	10.5
SW	0	0.0	5	0.3	30	1.6	63	3.3	114	6.0	17	0.9	0	0.0	229	12.0
WSW	0	0.0	2	0.1	29	1.5	61	3.2	41	2.2	2	0.1	0	0.0	135	7.1
W	0	0.0	0	0.0	24	1.3	37	1.9	17	0.9	3	0.2	0	0.0	81	4.3
WNW	0	0.0	1	0.1	16	0.8	32	1.7	24	1.3	1	0.1	0	0.0	74	3.9
NW	0	0.0	2	0.1	12	0.6	43	2.3	61	3.2	5	0.3	1	0.1	124	6.5
NNW	0	0.0	2	0.1	17	0.9	44	2.3	63	3.3	9	0.5	2	0.1	137	7.2

MEAN WIND SPEED: 12.2

MISSING HOURS: 307

18 0.9 1901 100.0

8.6 163 37.6 715 163 8.6

33.8 643 309 16.3 643 33.8

2.8 53 2.8 53 2.8 53

0 0.0 0 0.0 0 0.0

ARTIFICIAL ISLAND 07/01-09/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT

DELTA T: (300-33FT)

DIRECTION VS SPEED ONLY

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT				
N	0	0.0	0.2	19	0.9	1.7	46	2.1	38	1.7	0	0.0	146	6.6
NNE	0	0.0	0.1	13	0.6	2.2	38	1.7	11	0.5	0	0.0	113	5.1
NE	0	0.0	0.1	17	0.8	1.5	27	1.2	2	0.1	0	0.0	81	3.7
ENE	0	0.0	0.2	12	0.5	1.5	9	0.4	0	0.0	0	0.0	59	2.7
E	0	0.0	0.1	21	1.0	0.7	0	0.0	0	0.0	0	0.0	47	2.1
ESE	0	0.0	0.1	9	0.4	1.0	12	0.5	0	0.0	0	0.0	39	1.8
SE	0	0.0	0.2	24	1.1	3.4	45	2.0	21	1.0	10	0.5	138	6.3
SSE	0	0.0	0.3	37	1.7	2.6	81	3.7	39	1.8	3	0.1	224	10.2
S	0	0.0	0.4	45	2.0	2.7	62	2.8	11	0.5	2	0.1	189	8.6
SSW	0	0.0	0.5	47	2.1	3.4	101	4.6	13	0.6	0	0.0	247	11.2
SW	0	0.0	0.3	45	2.0	3.9	135	6.1	19	0.9	0	0.0	291	13.2
WSW	0	0.0	0.1	41	1.9	3.4	49	2.2	3	0.1	0	0.0	171	7.8
W	0	0.0	0.0	31	1.4	1.9	19	0.9	3	0.1	0	0.0	96	4.4
WNW	0	0.0	0.0	18	0.8	1.7	25	1.1	1	0.0	0	0.0	82	3.7
NW	0	0.0	0.2	17	0.8	2.0	61	2.8	5	0.2	1	0.0	133	6.0
NNW	0	0.0	0.1	27	1.2	2.1	63	2.9	9	0.4	2	0.1	150	6.8
	0	0.0	3.1	423	19.2	33.9	773	35.0	175	7.9	18	0.8	2206	100.0

MEAN WIND SPEED: 11.8

MISSING HOURS: 2

Section 2

300-33-ft. Lapse Rate Wind Distributions

10/01 - 12/01

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 30 FT
DELTA T: (300-33FT)

LAPSE RATE: LE -1.9 DEG C/100M
CLASS A

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT				
N	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	1	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	1	0.0	0	0.0	0	0.0	0	0.0	1	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	0.0	1	0.0	0	0.0	0	0.0	2	0.1
SSE	0	0.0	1	0.0	3	0.1	2	0.1	1	0.0	0	0.0	7	0.3
S	0	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	2	0.1
SSW	0	0.0	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0	2	0.1
SW	0	0.0	0	0.0	0	0.0	3	0.1	0	0.0	0	0.0	3	0.1
WSW	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
W	0	0.0	0	0.0	0	0.0	7	0.3	3	0.1	3	0.1	13	0.6
WNW	0	0.0	0	0.0	0	0.0	2	0.1	3	0.1	0	0.0	5	0.2
NW	0	0.0	0	0.0	2	0.1	2	0.1	8	0.4	0	0.0	12	0.6
NNW	0	0.0	0	0.0	0	0.0	0	0.0	9	0.4	0	0.0	9	0.4
	0	0.0	1	0.0	7	0.3	21	1.0	26	1.2	3	0.1	58	2.7

MEAN WIND SPEED: 12.2
MISSING: 0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -1.8 TO -1.7 DEG C/100M
CLASS B

WIND: 30 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT						
N	0	0.0	0	0.0	1	0.3	0	0.0	1	0.0	0	0.0	0	0.0	9	0.4
NNE	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
NE	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
ENE	0	0.0	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	2	0.1
E	0	0.0	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	0	0.0
SE	0	0.0	0	0.0	1	0.0	4	0.2	1	0.0	0	0.0	0	0.0	6	0.3
SSE	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
S	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
SSW	0	0.0	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	2	0.1	6	0.3	0	0.0	0	0.0	0	0.0	8	0.4
WSW	0	0.0	0	0.0	3	0.1	3	0.1	1	0.0	0	0.0	0	0.0	7	0.3
W	0	0.0	0	0.0	1	0.0	7	0.3	1	0.0	3	0.1	0	0.0	12	0.6
WNW	0	0.0	1	0.0	2	0.1	4	0.2	7	0.3	3	0.1	0	0.0	17	0.8
NW	0	0.0	0	0.0	1	0.0	4	0.2	8	0.4	0	0.0	0	0.0	13	0.6
NNW	0	0.0	0	0.0	0	0.0	8	0.4	11	0.5	1	0.0	0	0.0	20	0.9
	0	0.0	1	0.0	16	0.7	46	2.1	30	1.4	7	0.3	0	0.0	100	4.6

MEAN WIND SPEED: 11.8
MISSING: 0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 30 FT
DELTA T: (300-33FT)

LAPSE RATE: -1.6 TO -1.5 DEG C/100M
CLASS C

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT						
N	0	0.0	0	0.0	2	0.1	3	0.1	1	0.0	0	0.0	0	0.0	6	0.3
NNE	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
NE	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
ENE	0	0.0	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	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	0	0.0
SE	0	0.0	1	0.0	3	0.1	3	0.1	2	0.1	1	0.0	0	0.0	10	0.5
SSE	0	0.0	0	0.0	3	0.1	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
S	0	0.0	0	0.0	4	0.2	3	0.1	2	0.1	0	0.0	0	0.0	9	0.4
SSW	0	0.0	0	0.0	3	0.1	2	0.1	0	0.0	0	0.0	0	0.0	5	0.2
SW	0	0.0	0	0.0	4	0.2	2	0.1	0	0.0	0	0.0	0	0.0	6	0.3
WSW	0	0.0	0	0.0	6	0.3	2	0.1	0	0.0	0	0.0	0	0.0	8	0.4
W	0	0.0	0	0.0	3	0.1	7	0.3	1	0.0	0	0.0	0	0.0	11	0.5
WNW	0	0.0	0	0.0	2	0.1	5	0.2	5	0.2	2	0.1	0	0.0	14	0.6
NW	0	0.0	0	0.0	3	0.1	5	0.2	7	0.3	0	0.0	0	0.0	15	0.7
NNW	0	0.0	0	0.0	1	0.0	4	0.2	6	0.3	1	0.0	0	0.0	12	0.6
TOTAL	0	0.0	1	0.0	38	1.8	36	1.7	24	1.1	4	0.2	0	0.0	103	4.8

MEAN WIND SPEED: 9.9
MISSING: 0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -1.4 TO -0.5 DEG C/100M
CLASS D

WIND: 30 FT
DELTA T: (300-33FT)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	3	0.1	9	0.4	14	0.6	2	0.1	0	0.0	0	0.0	28	1.3
NNE	0	0.0	1	0.0	8	0.4	5	0.2	0	0.0	0	0.0	0	0.0	14	0.6
NE	0	0.0	1	0.0	10	0.5	6	0.3	0	0.0	0	0.0	0	0.0	17	0.8
NNE	0	0.0	2	0.1	6	0.3	2	0.1	0	0.0	0	0.0	0	0.0	10	0.5
E	0	0.0	4	0.2	5	0.2	0	0.0	0	0.0	0	0.0	0	0.0	9	0.4
ESE	0	0.0	0	0.0	3	0.1	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
SE	0	0.0	0	0.0	4	0.2	15	0.7	9	0.4	4	0.2	0	0.0	32	1.5
SSE	0	0.0	0	0.0	18	0.8	15	0.7	7	0.3	0	0.0	0	0.0	40	1.9
S	0	0.0	1	0.0	14	0.6	10	0.5	6	0.3	0	0.0	0	0.0	31	1.4
SSW	0	0.0	1	0.0	9	0.4	5	0.2	0	0.0	0	0.0	0	0.0	15	0.7
SW	0	0.0	0	0.0	7	0.3	19	0.9	5	0.2	0	0.0	0	0.0	31	1.4
WSW	0	0.0	0	0.0	10	0.5	15	0.7	4	0.2	0	0.0	0	0.0	29	1.3
W	0	0.0	0	0.0	8	0.4	28	1.3	32	1.5	0	0.0	0	0.0	68	3.1
WNW	0	0.0	0	0.0	7	0.3	21	1.0	24	1.1	4	0.2	0	0.0	56	2.6
NW	0	0.0	1	0.0	6	0.3	17	0.8	31	1.4	11	0.5	1	0.0	67	3.1
NNW	0	0.0	0	0.0	13	0.6	7	0.3	8	0.4	0	0.0	0	0.0	28	1.3
	0	0.0	14	0.6	137	6.3	179	8.3	128	5.9	19	0.9	1	0.0	478	22.1

MEAN WIND SPEED: 10.3
MISSING: 0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -0.4 TO 1.5 DEG C/100M
CLASS E

WIND: 30 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT								
N	0	1	42	15	2	0	0	0	0	0	0	0	0	0	60	2.8
NNE	0	4	28	1	0	0	0	0	0	0	0	0	0	0	33	1.5
NE	0	4	14	0	0	0	0	0	0	0	0	0	0	0	18	0.8
ENE	0	2	3	0	0	0	0	0	0	0	0	0	0	0	5	0.2
E	0	7	7	0	0	0	0	0	0	0	0	0	0	0	14	0.6
ESE	0	3	16	1	0	0	0	0	0	0	0	0	0	0	20	0.9
SE	0	3	26	22	13	2	0	0	0	0	0	0	0	0	66	3.1
SSE	0	3	33	20	8	0	0	0	0	0	0	0	0	0	64	3.0
S	0	7	22	52	14	1	0	0	0	0	0	0	0	0	96	4.4
SSW	0	6	30	55	15	3	0	0	0	0	0	0	0	0	109	5.0
SW	0	4	33	19	6	0	0	0	0	0	0	0	0	0	62	2.9
WSW	0	2	13	10	4	0	0	0	0	0	0	0	0	0	29	1.3
W	0	10	19	28	6	1	0	0	0	0	0	0	0	0	64	3.0
WNW	0	7	19	54	6	2	0	0	0	0	0	0	0	0	88	4.1
NW	0	5	53	56	21	1	0	0	0	0	0	0	0	0	136	6.3
NNW	0	7	22	34	7	0	0	0	0	0	0	0	0	0	70	3.2
	0	75	380	367	102	4.7	10	0.5	0	0.0	0	0.0	0	934	43.2	

MEAN WIND SPEED: 8.1
MISSING: 0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: 1.6 TO 4.0 DEG C/100M
CLASS F

WIND: 30 FT
DELTA T: (300-33FT)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT						
N	0	0.0	30	1.4	8	0.4	0	0.0	0	0.0	0	0.0	43	2.0
NNE	0	0.0	26	1.2	1	0.0	0	0.0	0	0.0	0	0.0	29	1.3
NE	0	0.0	13	0.6	2	0.1	0	0.0	0	0.0	0	0.0	22	1.0
ENE	0	0.0	6	0.3	0	0.0	0	0.0	0	0.0	0	0.0	8	0.4
E	0	0.0	5	0.2	4	0.2	0	0.0	0	0.0	0	0.0	9	0.4
ESE	0	0.0	3	0.1	8	0.4	0	0.0	0	0.0	0	0.0	11	0.5
SE	0	0.0	1	0.0	17	0.8	13	0.6	0	0.0	0	0.0	49	2.3
SSE	0	0.0	4	0.2	14	0.6	20	0.9	2	0.1	0	0.0	40	1.9
S	0	0.0	2	0.1	12	0.6	18	0.8	1	0.0	0	0.0	33	1.5
SSW	0	0.0	1	0.0	21	1.0	17	0.8	1	0.0	0	0.0	40	1.9
SW	0	0.0	3	0.1	43	2.0	3	0.1	0	0.0	0	0.0	49	2.3
WSW	0	0.0	2	0.1	10	0.5	1	0.0	0	0.0	0	0.0	13	0.6
W	0	0.0	1	0.0	5	0.2	4	0.2	0	0.0	0	0.0	10	0.5
WNW	0	0.0	2	0.1	10	0.5	3	0.1	0	0.0	0	0.0	15	0.7
NW	0	0.0	2	0.1	12	0.6	2	0.1	0	0.0	0	0.0	16	0.7
NNW	0	0.0	1	0.0	12	0.6	2	0.1	0	0.0	0	0.0	15	0.7
	0	0.0	43	2.0	243	11.2	99	4.6	17	0.8	0	0.0	402	18.6

MEAN WIND SPEED: 6.6
MISSING: 0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 30 FT
DELTA T: (300-33FT)

ALL STABILITY CLASSES

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT	SUM PERCENT				
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	9	0.4	84	3.9	47	2.2	7	0.3	0	0.0	0	0.0	147	6.8
NNE	0	0.0	7	0.3	67	3.1	7	0.3	0	0.0	0	0.0	0	0.0	81	3.7
NE	0	0.0	12	0.6	47	2.2	10	0.5	0	0.0	0	0.0	0	0.0	69	3.2
ENE	0	0.0	10	0.5	19	0.9	4	0.2	0	0.0	0	0.0	0	0.0	33	1.5
E	0	0.0	18	0.8	21	1.0	0	0.0	0	0.0	0	0.0	0	0.0	39	1.8
ESE	0	0.0	6	0.3	29	1.3	1	0.0	0	0.0	0	0.0	0	0.0	36	1.7
SE	0	0.0	5	0.2	56	2.6	74	3.4	49	2.3	7	0.3	0	0.0	191	8.8
SSE	0	0.0	9	0.4	85	3.9	60	2.8	19	0.9	0	0.0	0	0.0	173	8.0
S	0	0.0	10	0.5	58	2.7	84	3.9	23	1.1	1	0.0	0	0.0	176	8.1
SSW	0	0.0	8	0.4	68	3.1	81	3.7	16	0.7	3	0.1	0	0.0	176	8.1
SW	0	0.0	7	0.3	89	4.1	52	2.4	11	0.5	0	0.0	0	0.0	159	7.4
WSW	0	0.0	4	0.2	46	2.1	31	1.4	9	0.4	0	0.0	0	0.0	90	4.2
W	0	0.0	11	0.5	37	1.7	82	3.8	43	2.0	7	0.3	0	0.0	180	8.3
WNW	0	0.0	11	0.5	40	1.9	89	4.1	45	2.1	11	0.5	0	0.0	196	9.1
NW	0	0.0	8	0.4	78	3.6	86	4.0	75	3.5	12	0.6	1	0.0	260	12.0
NNW	0	0.0	10	0.5	48	2.2	55	2.5	41	1.9	2	0.1	0	0.0	156	7.2

0 0.0 145 6.7 872 40.3 763 35.3 338 15.6 43 2.0 1 0.0 2162 100.0

MEAN WIND SPEED: 8.6

MISSING HOURS: 46

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 30 FT
DELTA T: (300-33FT)

DIRECTION VS SPEED ONLY

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	9	0.4	84	3.8	48	2.2	7	0.3	0	0.0	0	0.0	148	6.7
NNE	0	0.0	7	0.3	67	3.0	9	0.4	0	0.0	0	0.0	0	0.0	83	3.8
NE	0	0.0	12	0.5	47	2.1	10	0.5	0	0.0	0	0.0	0	0.0	69	3.1
ENE	0	0.0	10	0.5	19	0.9	4	0.2	0	0.0	0	0.0	0	0.0	33	1.5
E	0	0.0	18	0.8	21	1.0	0	0.0	0	0.0	0	0.0	0	0.0	39	1.8
ESE	0	0.0	6	0.3	29	1.3	1	0.0	0	0.0	0	0.0	0	0.0	36	1.6
SE	0	0.0	5	0.2	57	2.6	75	3.4	55	2.5	7	0.3	0	0.0	199	9.0
SSE	0	0.0	9	0.4	88	4.0	61	2.8	19	0.9	0	0.0	0	0.0	177	8.0
S	0	0.0	10	0.5	60	2.7	84	3.8	23	1.0	1	0.0	0	0.0	178	8.1
SSW	0	0.0	8	0.4	70	3.2	85	3.9	16	0.7	3	0.1	0	0.0	182	8.2
SW	0	0.0	7	0.3	90	4.1	55	2.5	11	0.5	0	0.0	0	0.0	163	7.4
WSW	0	0.0	4	0.2	48	2.2	34	1.5	9	0.4	0	0.0	0	0.0	95	4.3
W	0	0.0	11	0.5	38	1.7	84	3.8	45	2.0	7	0.3	0	0.0	185	8.4
WNW	0	0.0	11	0.5	42	1.9	89	4.0	45	2.0	11	0.5	0	0.0	198	9.0
NW	0	0.0	8	0.4	78	3.5	87	3.9	76	3.4	12	0.5	1	0.0	262	11.9
NNW	0	0.0	10	0.5	48	2.2	59	2.7	41	1.9	2	0.1	0	0.0	160	7.2
	0	0.0	145	6.6	886	40.1	785	35.6	347	15.7	43	1.9	1	0.0	2207	100.0

MISSING HOURS: 1

MEAN WIND SPEED: 8.7

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT
DELTA T: (300-33FT)

LAPSE RATE: -1.8 TO -1.7 DEG C/100M
CLASS B

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT						
N	0	0.0	0	0.0	1	0.0	2	0.1	1	0.0	0	0.0	4	0.2
NNE	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	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	2	0.1	0	0.0	0	0.0	0	0.0	2	0.1
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	1	0.0	0	0.0	4	0.2	0	0.0	1	0.0	6	0.3
SSE	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
S	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
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	2	0.0	1	0.0	5	0.2	0	0.0	0	0.0	6	0.3
W	0	0.0	2	0.1	5	0.2	1	0.0	0	0.0	0	0.0	8	0.4
WNW	0	0.0	1	0.0	4	0.2	4	0.2	1	0.0	4	0.2	15	0.7
NW	0	0.0	1	0.0	3	0.1	6	0.3	3	0.1	3	0.1	16	0.8
NNW	0	0.0	0	0.0	3	0.1	4	0.2	6	0.3	0	0.0	13	0.6
	0	0.0	1	0.0	3	0.1	11	0.5	8	0.4	1	0.0	24	1.1
	0	0.0	12	0.6	22	1.0	37	1.8	19	0.9	9	0.4	99	4.7

MEAN WIND SPEED: 15.3
MISSING: 1

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT

DELTA T: (300-33FT)

LAPSE RATE: -1.4 TO -0.5 DEG C/100M
CLASS D

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	3	0.1	3	0.1	10	0.5	6	0.3	2	0.1	0	0.0	24	1.1
NNE	0	0.0	0	0.0	4	0.2	11	0.5	1	0.0	0	0.0	0	0.0	16	0.8
NE	0	0.0	0	0.0	1	0.0	12	0.6	0	0.0	0	0.0	0	0.0	13	0.6
ENE	0	0.0	1	0.0	4	0.2	4	0.2	2	0.1	0	0.0	0	0.0	11	0.5
E	0	0.0	3	0.1	2	0.1	4	0.2	0	0.0	0	0.0	0	0.0	9	0.4
ESE	0	0.0	1	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	3	0.1
SE	0	0.0	0	0.0	5	0.2	3	0.1	14	0.7	7	0.3	4	0.2	33	1.6
SSE	0	0.0	2	0.1	8	0.4	10	0.5	11	0.5	1	0.0	0	0.0	32	1.5
S	0	0.0	1	0.0	8	0.4	10	0.5	9	0.4	0	0.0	0	0.0	28	1.3
SSW	0	0.0	2	0.1	1	0.0	6	0.3	3	0.1	0	0.0	0	0.0	12	0.6
SW	0	0.0	0	0.0	2	0.1	8	0.4	14	0.7	6	0.3	0	0.0	30	1.4
WSW	0	0.0	1	0.0	9	0.4	11	0.5	6	0.3	4	0.2	0	0.0	31	1.5
W	0	0.0	1	0.0	4	0.2	16	0.8	29	1.4	28	1.3	3	0.1	81	3.8
WNW	0	0.0	0	0.0	1	0.0	8	0.4	17	0.8	16	0.8	6	0.3	48	2.3
NW	0	0.0	0	0.0	5	0.2	9	0.4	15	0.7	25	1.2	13	0.6	67	3.2
NNW	0	0.0	0	0.0	5	0.2	10	0.5	5	0.2	6	0.3	0	0.0	26	1.2
	0	0.0	15	0.7	62	2.9	134	6.4	132	6.3	95	4.5	26	1.2	464	22.0

MEAN WIND SPEED: 14.0
MISSING: 14

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -0.4 TO 1.5 DEG C/100M
CLASS E

WIND: 150 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT				
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT					
N	0	0.0	0	0.0	0.2	19	0.9	20	0.9	2	0.1	0	0.0	46	2.2
NNE	0	0.0	1	0.0	0.2	24	1.1	1	0.0	0	0.0	0	0.0	30	1.4
NE	0	0.0	0	0.0	0.7	13	0.6	0	0.0	0	0.0	0	0.0	27	1.3
ENE	0	0.0	0	0.0	0.2	5	0.2	0	0.0	0	0.0	0	0.0	6	0.3
E	0	0.0	1	0.0	0.2	4	0.2	3	0.1	0	0.0	0	0.0	8	0.4
ESE	0	0.0	3	0.1	0.1	3	0.4	0	0.0	0	0.0	0	0.0	15	0.7
SE	0	0.0	2	0.1	0.4	13	0.6	14	0.7	13	0.6	6	0.3	57	2.7
SSE	0	0.0	1	0.0	0.4	14	0.7	11	0.5	9	0.4	0	0.0	44	2.1
S	0	0.0	5	0.2	1.0	20	0.9	35	1.7	10	0.5	1	0.0	93	4.4
SSW	0	0.0	3	0.1	1.0	37	1.8	40	1.9	12	0.6	6	0.3	119	5.6
SW	0	0.0	3	0.1	1.0	31	1.5	15	0.7	5	0.2	0	0.0	76	3.6
WSW	0	0.0	5	0.2	0.5	13	0.6	10	0.5	1	0.0	0	0.0	40	1.9
W	0	0.0	1	0.0	0.6	23	1.1	26	1.2	4	0.2	1	0.0	67	3.2
WNW	0	0.0	0	0.0	0.3	27	1.3	41	1.9	6	0.3	2	0.1	83	3.9
NW	0	0.0	2	0.1	0.6	42	2.0	68	3.2	14	0.7	3	0.1	141	6.7
NNW	0	0.0	1	0.0	0.4	20	0.9	24	1.1	10	0.5	0	0.0	63	3.0
	0	0.0	28	1.3	8.0	309	14.7	305	14.5	86	4.1	19	0.9	915	43.4

MEAN WIND SPEED: 12.1
MISSING: 19

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT

DELTA T: (300-33FT)

LAPSE RATE: 1.6 TO 4.0 DEG C/100M
CLASS F

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT				
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT					
N	0	0.0	0	0.0	0.3	17	0.8	3	0.1	0	0.0	0	0.0	26	1.2
NNE	0	0.0	1	0.0	0.0	16	0.8	4	0.2	0	0.0	0	0.0	22	1.0
NE	0	0.0	2	0.1	0.1	18	0.9	2	0.1	0	0.0	0	0.0	25	1.2
ENE	0	0.0	0	0.0	0.1	7	0.3	2	0.1	0	0.0	0	0.0	12	0.6
E	0	0.0	0	0.0	0.0	3	0.1	1	0.0	0	0.0	0	0.0	5	0.2
ESE	0	0.0	0	0.0	0.0	4	0.2	2	0.1	0	0.0	0	0.0	7	0.3
SE	0	0.0	0	0.0	0.1	3	0.1	6	0.3	13	0.6	6	0.3	31	1.5
SSE	0	0.0	1	0.0	0.1	10	0.5	14	0.7	4	0.2	0	0.0	32	1.5
S	0	0.0	3	0.1	0.3	15	0.7	22	1.0	0	0.0	1	0.0	48	2.3
SSW	0	0.0	3	0.1	0.0	22	1.0	23	1.1	1	0.0	0	0.0	50	2.4
SW	0	0.0	1	0.0	0.5	38	1.8	6	0.3	0	0.0	0	0.0	55	2.6
WSW	0	0.0	2	0.1	0.1	12	0.6	0	0.0	0	0.0	0	0.0	16	0.8
W	0	0.0	0	0.0	0.3	3	0.1	4	0.2	0	0.0	0	0.0	13	0.6
WNW	0	0.0	1	0.0	0.1	6	0.3	2	0.1	0	0.0	0	0.0	12	0.6
NW	0	0.0	0	0.0	0.1	13	0.6	4	0.2	0	0.0	0	0.0	20	0.9
NNW	0	0.0	3	0.1	0.2	7	0.3	3	0.1	0	0.0	0	0.0	17	0.8
	0	0.0	17	0.8	2.7	194	9.2	98	4.6	18	0.9	7	0.3	391	18.5

MEAN WIND SPEED: 11.2

MISSING: 11

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT
DELTA T: (300-33FT)

ALL STABILITY CLASSES

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT				
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT					
N	0	0.0	3	0.1	14	0.7	49	2.3	31	1.5	7	0.3	104	0.0	4.9
NNE	0	0.0	2	0.1	10	0.5	52	2.5	6	0.3	0	0.0	70	0.0	3.3
NE	0	0.0	2	0.1	21	1.0	44	2.1	3	0.1	0	0.0	70	0.0	3.3
ENE	0	0.0	1	0.0	12	0.6	17	0.8	4	0.2	0	0.0	34	0.0	1.6
E	0	0.0	5	0.2	8	0.4	11	0.5	1	0.0	0	0.0	25	0.0	1.2
ESE	0	0.0	5	0.2	5	0.2	19	0.9	3	0.1	0	0.0	32	0.0	1.5
SE	0	0.0	2	0.1	22	1.0	29	1.4	40	1.9	37	1.8	153	1.1	7.3
SSE	0	0.0	5	0.2	29	1.4	42	2.0	45	2.1	18	0.9	141	0.1	6.7
S	0	0.0	9	0.4	44	2.1	50	2.4	73	3.5	12	0.6	190	0.1	9.0
SSW	0	0.0	8	0.4	25	1.2	71	3.4	76	3.6	13	0.6	199	0.3	9.4
SW	0	0.0	5	0.2	37	1.8	83	3.9	43	2.0	11	0.5	179	0.0	8.5
WSW	0	0.0	8	0.4	27	1.3	47	2.2	18	0.9	6	0.3	106	0.0	5.0
W	0	0.0	2	0.1	27	1.3	54	2.6	73	3.5	38	1.8	204	0.5	9.7
WNW	0	0.0	1	0.0	13	0.6	47	2.2	75	3.6	28	1.3	177	0.6	8.4
NW	0	0.0	2	0.1	22	1.0	75	3.6	97	4.6	57	2.7	269	0.8	12.8
NNW	0	0.0	4	0.2	19	0.9	47	2.2	47	2.2	36	1.7	155	0.1	7.4
	0	0.0	64	3.0	335	15.9	737	35.0	635	30.1	263	12.5	2108	3.5	100.0

MISSING HOURS: 100

MEAN WIND SPEED: 12.7

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT

DELTA T: (300-33FT)

DIRECTION VS SPEED ONLY

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	3	0.1	14	0.6	50	2.3	31	1.4	7	0.3	0	0.0	105	4.9
NNE	0	0.0	2	0.1	10	0.5	53	2.5	7	0.3	0	0.0	0	0.0	72	3.3
NE	0	0.0	2	0.1	21	1.0	44	2.0	3	0.1	0	0.0	0	0.0	70	3.2
ENE	0	0.0	1	0.0	12	0.6	17	0.8	4	0.2	0	0.0	0	0.0	34	1.6
E	0	0.0	5	0.2	8	0.4	11	0.5	1	0.0	0	0.0	0	0.0	25	1.2
ESE	0	0.0	5	0.2	5	0.2	19	0.9	3	0.1	0	0.0	0	0.0	32	1.5
SE	0	0.0	2	0.1	23	1.1	31	1.4	42	1.9	42	1.9	23	1.1	163	7.6
SSE	0	0.0	5	0.2	30	1.4	44	2.0	45	2.1	18	0.8	2	0.1	144	6.7
S	0	0.0	9	0.4	44	2.0	50	2.3	73	3.4	12	0.6	2	0.1	190	8.8
SSW	0	0.0	8	0.4	27	1.3	75	3.5	77	3.6	13	0.6	6	0.3	206	9.6
SW	0	0.0	6	0.3	38	1.8	85	3.9	44	2.0	11	0.5	0	0.0	184	8.5
WSW	0	0.0	8	0.4	29	1.3	50	2.3	18	0.8	6	0.3	0	0.0	111	5.2
W	0	0.0	2	0.1	29	1.3	55	2.6	74	3.4	40	1.9	10	0.5	210	9.7
WNW	0	0.0	1	0.0	14	0.6	47	2.2	76	3.5	28	1.3	13	0.6	179	8.3
NW	0	0.0	2	0.1	22	1.0	75	3.5	97	4.5	58	2.7	16	0.7	270	12.5
NNW	0	0.0	4	0.2	19	0.9	48	2.2	50	2.3	36	1.7	2	0.1	159	7.4

MEAN WIND SPEED: 12.7

MISSING HOURS: 54

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -1.8 TO -1.7 DEG C/100M
CLASS B

WIND: 300 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0.1
NNE	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.0
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
ENE	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0.1
E	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
SE	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.0
SSE	0	0	2	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
SSW	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0.0
SW	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.0
WSW	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0.0
W	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.0
WNW	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0.0
NW	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0.0
NNW	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0.0
	0	0	11	23	1.1	30	1.4	23	1.1	1.4	23	1.1	13	0.6	100	4.6

MEAN WIND SPEED: 16.0
MISSING: 0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -1.6 TO -1.5 DEG C/100M
CLASS C

WIND: 300 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	3	0.1
NNE	0	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	2	0.1
NE	0	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	2	0.1
ENE	0	0.0	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	0	0.0
ESE	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
SE	0	0.0	0	0.0	1	0.0	1	0.0	0	0.0	2	0.1	2	0.1	6	0.3
SSE	0	0.0	0	0.0	4	0.2	2	0.1	0	0.0	0	0.0	0	0.0	6	0.3
S	0	0.0	1	0.0	2	0.1	3	0.1	3	0.1	0	0.0	0	0.0	9	0.4
SSW	0	0.0	0	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	2	0.1
SW	0	0.0	0	0.0	1	0.0	4	0.2	1	0.0	0	0.0	0	0.0	6	0.3
WSW	0	0.0	1	0.0	1	0.0	6	0.3	2	0.1	0	0.0	0	0.0	10	0.5
W	0	0.0	0	0.0	4	0.2	3	0.1	4	0.2	1	0.0	1	0.0	13	0.6
WNNW	0	0.0	0	0.0	0	0.0	2	0.1	7	0.3	1	0.0	2	0.1	12	0.6
NW	0	0.0	0	0.0	0	0.0	5	0.2	3	0.1	7	0.3	0	0.0	15	0.7
NNW	0	0.0	0	0.0	1	0.0	4	0.2	3	0.1	5	0.2	2	0.1	15	0.7
TOTAL	0	0.0	2	0.1	18	0.8	35	1.6	24	1.1	17	0.8	7	0.3	103	4.8

MEAN WIND SPEED: 13.3
MISSING: 0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -1.4 TO -0.5 DEG C/100M
CLASS D

WIND: 300 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT	
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6					
	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT
N	0	0.0	1	0.3	9	0.4	1	0.0	0	0.0	20	0.9
NNE	0	0.0	2	0.3	7	0.3	0	0.0	0	0.0	17	0.8
NE	0	0.0	1	0.4	5	0.2	0	0.0	0	0.0	15	0.7
ENE	0	0.1	3	0.1	4	0.2	0	0.0	0	0.0	12	0.6
E	0	0.1	2	0.2	1	0.0	0	0.0	0	0.0	9	0.4
ESE	0	0.0	0	0.1	0	0.0	0	0.0	0	0.0	4	0.2
SE	0	0.0	2	0.4	7	0.3	7	0.3	5	0.2	29	1.3
SSE	0	0.0	8	0.4	14	0.6	2	0.1	0	0.0	32	1.5
S	0	0.1	4	0.2	14	0.6	0	0.0	0	0.0	27	1.2
SSW	0	0.0	3	0.3	5	0.2	0	0.0	0	0.0	20	0.9
SW	0	0.0	1	0.5	11	0.6	9	0.4	0	0.0	31	1.4
WSW	0	0.0	0	0.4	13	0.6	4	0.2	0	0.0	32	1.5
W	0	0.1	3	0.6	9	0.4	27	1.2	11	0.5	83	3.8
WNW	0	0.0	5	0.2	12	0.7	16	0.6	11	0.5	49	2.3
NW	0	0.0	3	0.3	7	0.3	12	0.6	11	0.5	66	3.1
NNW	0	0.0	2	0.1	6	0.3	28	1.3	16	0.7	66	3.1
	0	0.0	6	0.3	11	0.5	6	0.3	3	0.1	32	1.5
	0	0.0	46	2.1	123	5.7	96	4.4	46	2.1	478	22.1

MEAN WIND SPEED: 15.0
MISSING: 0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT
DELTA T: (300-33FT)

LAPSE RATE: -0.4 TO 1.5 DEG C/100M
CLASS E

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	24.7-30.0	30.1-35.4	35.5-40.8	
N	0	0	8	10	20	7	0.3	1	0.0	46	
NNE	0	0	4	8	24	1	0.0	0	0.0	37	
NE	0	0	1	7	7	0	0.0	0	0.0	15	
ENE	0	1	9	3	1	0	0.0	0	0.0	14	
E	0	0	5	2	2	0	0.0	0	0.0	9	
ESE	0	2	0	5	3	0	0.0	0	0.0	10	
SE	0	0	4	8	11	8	0.4	9	0.4	40	
SSE	0	2	3	8	14	13	0.6	5	0.2	45	
S	0	4	14	11	30	21	1.0	3	0.1	83	
SSW	0	1	12	26	50	31	1.4	13	0.6	133	
SW	0	1	14	41	29	9	0.4	1	0.0	95	
WSW	0	2	10	18	16	6	0.3	0	0.0	52	
W	0	1	9	15	29	7	0.3	3	0.1	64	
WNW	0	2	8	19	40	16	0.7	3	0.1	88	
NW	0	1	5	21	62	43	2.0	5	0.2	137	
NNW	0	0	4	19	22	19	0.9	2	0.1	66	
	0	0	110	221	360	181	8.4	45	2.1	934	
	0	0	5.1	10.2	16.7	16.7	8.4	2.1	2.1	43.2	

MEAN WIND SPEED: 14.5
MISSING: 0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: 1.6 TO 4.0 DEG C/100M
CLASS F

WIND: 300 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	0	0.0	1	0.0	13	0.6	8	0.4	1	0.0	0	0.0	23	1.1
NNE	0	0.0	0	0.0	3	0.1	5	0.2	12	0.6	6	0.3	0	0.0	26	1.2
NE	0	0.0	0	0.0	3	0.1	3	0.1	12	0.6	0	0.0	0	0.0	18	0.8
ENE	0	0.0	1	0.0	2	0.1	8	0.4	3	0.1	1	0.0	0	0.0	15	0.7
E	0	0.0	0	0.0	1	0.0	4	0.2	1	0.0	1	0.0	0	0.0	7	0.3
ESE	0	0.0	0	0.0	2	0.1	2	0.1	6	0.3	2	0.1	0	0.0	12	0.6
SE	0	0.0	2	0.1	2	0.1	3	0.1	7	0.3	1	0.0	5	0.2	20	0.9
SSE	0	0.0	2	0.1	3	0.1	6	0.3	4	0.2	3	0.1	12	0.6	30	1.4
S	0	0.0	2	0.1	4	0.2	3	0.1	24	1.1	17	0.8	1	0.0	51	2.4
SSW	0	0.0	1	0.0	3	0.1	9	0.4	32	1.5	24	1.1	0	0.0	69	3.2
SW	0	0.0	0	0.0	2	0.1	11	0.5	32	1.5	1	0.0	0	0.0	46	2.1
WSW	0	0.0	0	0.0	2	0.1	3	0.1	20	0.9	3	0.1	0	0.0	28	1.3
W	0	0.0	0	0.0	4	0.2	3	0.1	2	0.1	2	0.1	2	0.1	13	0.6
WNW	0	0.0	0	0.0	3	0.1	0	0.0	3	0.1	0	0.0	0	0.0	6	0.3
NW	0	0.0	0	0.0	4	0.2	8	0.4	7	0.3	4	0.2	0	0.0	23	1.1
NNW	0	0.0	1	0.0	1	0.0	6	0.3	6	0.3	1	0.0	0	0.0	15	0.7
	0	0.0	9	0.4	40	1.9	87	4.0	179	8.3	67	3.1	20	0.9	402	18.6

MEAN WIND SPEED: 14.7
MISSING: 0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT
DELTA T: (300-33FT)

ALL STABILITY CLASSES

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	2	0.1	10	0.5	33	1.5	38	1.8	11	0.5	1	0.0	95	4.4
NNE	0	0.0	1	0.0	11	0.5	21	1.0	43	2.0	7	0.3	0	0.0	83	3.8
NE	0	0.0	0	0.0	6	0.3	22	1.0	25	1.2	0	0.0	0	0.0	53	2.5
ENE	0	0.0	4	0.2	14	0.6	18	0.8	8	0.4	2	0.1	0	0.0	46	2.1
E	0	0.0	2	0.1	8	0.4	11	0.5	5	0.2	1	0.0	0	0.0	27	1.2
ESE	0	0.0	3	0.1	4	0.2	11	0.5	9	0.4	2	0.1	0	0.0	29	1.3
SE	0	0.0	2	0.1	12	0.6	29	1.3	30	1.4	19	0.9	23	1.1	115	5.3
SSE	0	0.0	8	0.4	24	1.1	31	1.4	33	1.5	23	1.1	22	1.0	141	6.5
S	0	0.0	11	0.5	26	1.2	26	1.2	84	3.9	44	2.0	4	0.2	195	9.0
SSW	0	0.0	3	0.1	21	1.0	51	2.4	97	4.5	59	2.7	13	0.6	244	11.3
SW	0	0.0	1	0.0	20	0.9	65	3.0	82	3.8	21	1.0	1	0.0	190	8.8
WSW	0	0.0	5	0.2	17	0.8	47	2.2	48	2.2	15	0.7	0	0.0	132	6.1
W	0	0.0	2	0.1	24	1.1	41	1.9	69	3.2	41	1.9	27	1.2	204	9.4
WNW	0	0.0	2	0.1	15	0.7	34	1.6	72	3.3	37	1.7	18	0.8	178	8.2
NW	0	0.0	2	0.1	11	0.5	44	2.0	92	4.3	97	4.5	22	1.0	268	12.4
NNW	0	0.0	1	0.0	13	0.6	46	2.1	47	2.2	45	2.1	10	0.5	162	7.5

MEAN WIND SPEED: 14.7

MISSING HOURS: 46

0 0.0 49 2.3 236 10.9 530 24.5 782 36.2 424 19.6 141 6.5 2162 100.0

ARTIFICIAL ISLAND 10/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT

DELTA T: (300-33FT)

DIRECTION VS SPEED ONLY

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										GE 24.6		SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT	SUM PERCENT				
N	0	0.0	2	0.1	10	0.5	33	1.5	40	1.8	11	0.5	1	0.0	97	4.4
NNE	0	0.0	1	0.0	11	0.5	21	1.0	44	2.0	7	0.3	0	0.0	84	3.8
NE	0	0.0	0	0.0	6	0.3	22	1.0	25	1.1	0	0.0	0	0.0	53	2.4
ENE	0	0.0	4	0.2	14	0.6	18	0.8	8	0.4	2	0.1	0	0.0	46	2.1
E	0	0.0	2	0.1	8	0.4	11	0.5	5	0.2	1	0.0	0	0.0	27	1.2
ESE	0	0.0	3	0.1	4	0.2	11	0.5	9	0.4	2	0.1	0	0.0	29	1.3
SE	0	0.0	2	0.1	14	0.6	31	1.4	31	1.4	23	1.0	25	1.1	126	5.7
SSE	0	0.0	8	0.4	26	1.2	31	1.4	33	1.5	23	1.0	22	1.0	143	6.5
S	0	0.0	11	0.5	26	1.2	26	1.2	84	3.8	44	2.0	4	0.2	195	8.8
SSW	0	0.0	3	0.1	21	1.0	53	2.4	99	4.5	59	2.7	13	0.6	248	11.2
SW	0	0.0	1	0.0	22	1.0	67	3.0	85	3.8	21	1.0	1	0.0	197	8.9
WSW	0	0.0	6	0.3	19	0.9	49	2.2	49	2.2	15	0.7	0	0.0	138	6.3
W	0	0.0	2	0.1	25	1.1	43	1.9	70	3.2	42	1.9	28	1.3	210	9.5
WNW	0	0.0	2	0.1	16	0.7	34	1.5	72	3.3	37	1.7	18	0.8	179	8.1
NW	0	0.0	2	0.1	11	0.5	44	2.0	93	4.2	98	4.4	22	1.0	270	12.2
NNW	0	0.0	1	0.0	13	0.6	46	2.1	51	2.3	45	2.0	10	0.5	166	7.5

MEAN WIND SPEED: 14.6

MISSING HOURS: 0

Section 3

300-33-ft. Lapse Rate Wind Distributions

7/01 - 12/01

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: LE -1.9 DEG C/100M
CLASS A

WIND: 30 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT				
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT					
N	0	0.0	0	0.0	0.1	1	0.0	0	0.0	0	0.0	0	0.0	4	0.1
NNE	0	0.0	1	0.0	0.1	0	0.0	0	0.0	0	0.0	0	0.0	8	0.2
NE	0	0.0	2	0.0	0.1	0	0.0	0	0.0	0	0.0	0	0.0	11	0.3
ENE	0	0.0	2	0.0	0.1	0	0.0	0	0.0	0	0.0	0	0.0	8	0.2
E	0	0.0	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	2	0.0
SE	0	0.0	0	0.0	0.1	8	0.2	1	0.0	0	0.0	0	0.0	17	0.4
SSE	0	0.0	2	0.0	0.2	4	0.1	0	0.0	0	0.0	0	0.0	20	0.5
S	0	0.0	0	0.0	0.1	1	0.0	0	0.0	0	0.0	0	0.0	7	0.2
SSW	0	0.0	0	0.0	0.3	5	0.1	0	0.0	0	0.0	0	0.0	16	0.4
SW	0	0.0	0	0.0	0.3	15	0.4	0	0.0	0	0.0	0	0.0	26	0.6
WSW	0	0.0	0	0.0	0.2	4	0.1	0	0.0	0	0.0	0	0.0	13	0.3
W	0	0.0	0	0.0	0.1	10	0.2	5	0.1	3	0.1	0	0.0	23	0.6
WNW	0	0.0	0	0.0	0.1	2	0.0	3	0.1	0	0.0	0	0.0	8	0.2
NW	0	0.0	0	0.0	0.1	2	0.0	8	0.2	0	0.0	0	0.0	15	0.4
NNW	0	0.0	1	0.0	0.1	1	0.0	9	0.2	0	0.0	0	0.0	15	0.4
	0	0.0	8	0.2	2.0	63	1.6	38	0.9	4	0.1	0	0.0	193	4.8

MEAN WIND SPEED: 8.9
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -1.8 TO -1.7 DEG C/100M
CLASS B

WIND: 30 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT						
N	0	0	6	12	1	0	0	0	0	0	0	0	0	0	19	0.5
NNE	0	0	6	11	0	0	0	0	0	0	0	0	0	0	17	0.4
NE	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0.0
ENE	0	0	1	6	0	0	0	0	0	0	0	0	0	0	7	0.2
E	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.0
ESE	0	1	0	1	2	0	0	0	0	0	0	0	0	0	4	0.1
SE	0	0	1	5	6	1	0	1	0	0	0	0	0	0	13	0.3
SSE	0	0	7	3	3	0	0	0	0	0	0	0	0	0	13	0.3
S	0	0	6	1	2	0	0	0	0	0	0	0	0	0	10	0.2
SSW	0	0	3	2	0	0	0	0	0	0	0	0	0	0	5	0.1
SW	0	0	9	15	1	0	0	0	0	0	0	0	0	0	25	0.6
WSW	0	1	7	6	1	1	0	0	0	0	0	0	0	0	15	0.4
W	0	0	2	9	2	2	0	0	0	0	0	0	0	0	16	0.4
WNW	0	2	4	5	7	3	0	0	0	0	0	0	0	0	21	0.5
NW	0	0	4	4	8	0	0	0	0	0	0	0	0	0	16	0.4
NNW	0	1	3	14	11	1	0	0	0	0	0	0	0	0	30	0.7
	0	6	60	96	44	8	1.1	0.2	0	0	0	0	0	214	5.3	

MEAN WIND SPEED: 10.1
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 30 FT
DELTA T: (300-33FT)

LAPSE RATE: -1.6 TO -1.5 DEG C/100M
CLASS C

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT				
N	0	0	8	4	1	0	0	0	0	0	0	0	13	0.3
NNE	0	0	6	8	1	0	0	0	0	0	0	0	15	0.4
NE	0	0	3	5	0	0	0	0	0	0	0	0	8	0.2
ENE	0	0	1	2	0	0	0	0	0	0	0	0	3	0.1
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
ESE	0	0	0	3	1	1	0	0	0	0	0	0	4	0.1
SE	0	1	5	3	1	7	0	2	0	0	0	0	18	0.4
SSE	0	0	8	2	7	0	0	0	0	0	0	0	17	0.4
S	0	0	6	3	1	3	0	0	0	0	0	0	12	0.3
SSW	0	0	8	4	1	1	0	0	0	0	0	0	13	0.3
SW	0	0	5	9	1	1	0	0	0	0	0	0	15	0.4
WSW	0	0	8	6	0	0	0	0	0	0	0	0	14	0.3
W	0	0	3	10	1	1	0	0	0	0	0	0	14	0.3
WNW	0	0	5	7	5	7	0	2	0	0	0	0	19	0.5
NW	0	0	4	8	7	8	0	2	0	0	0	0	19	0.5
NNW	0	1	3	14	7	14	0	2	1	0	0	0	26	0.6
	0	0	73	88	42	1.0	2.2	5	0.1	0	0	0	210	5.2

MEAN WIND SPEED: 9.6
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -0.4 TO 1.5 DEG C/100M
CLASS E

WIND: 30 FT
DELTA T: (300-33FT)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT				
N	0	8	74	55	4	0	0	0	0.0	0.0	0	0.0	141	3.5
NNE	0	7	61	16	1	0	0	0	0.0	0.0	0	0.0	85	2.1
NE	0	14	37	0	0	0	0	0	0.0	0.0	0	0.0	51	1.3
ENE	0	11	19	0	0	0	0	0	0.0	0.0	0	0.0	30	0.7
E	0	17	24	0	0	0	0	0	0.0	0.0	0	0.0	41	1.0
ESE	0	6	31	8	0	0	0	0	0.0	0.0	0	0.0	45	1.1
SE	0	3	39	41	14	2	0	0	0.0	0.0	0	0.0	99	2.4
SSE	0	5	42	41	10	0	0	0	0.0	0.0	0	0.0	98	2.4
S	0	9	36	78	15	2	0	0	0.0	0.0	0	0.0	140	3.4
SSW	0	8	50	121	18	3	0	0	0.0	0.0	0	0.0	200	4.9
SW	0	5	62	61	7	0	0	0	0.0	0.0	0	0.0	135	3.3
WSW	0	3	43	33	4	0	0	0	0.0	0.0	0	0.0	83	2.0
W	0	12	37	35	6	1	0	0	0.0	0.0	0	0.0	91	2.2
WNW	0	11	41	63	6	2	0	0	0.0	0.0	0	0.0	123	3.0
NW	0	9	90	76	22	1	0	0	0.0	0.0	0	0.0	198	4.9
NNW	0	9	54	56	12	1	0	0	0.0	0.0	0	0.0	132	3.2
	0	137	740	684	119	12	0	0	0.3	0.3	0	0.0	1692	41.6

MEAN WIND SPEED: 7.7
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: 1.6 TO 4.0 DEG C/100M
CLASS F

WIND: 30 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT						
N	0	0.0	6	0.1	47	1.2	29	0.7	0	0.0	0	0.0	82	2.0
NNE	0	0.0	3	0.1	43	1.1	1	0.0	0	0.0	0	0.0	47	1.2
NE	0	0.0	13	0.3	29	0.7	2	0.0	0	0.0	0	0.0	44	1.1
ENE	0	0.0	9	0.2	8	0.2	0	0.0	0	0.0	0	0.0	17	0.4
E	0	0.0	7	0.2	9	0.2	0	0.0	0	0.0	0	0.0	16	0.4
ESE	0	0.0	4	0.1	12	0.3	3	0.1	0	0.0	0	0.0	19	0.5
SE	0	0.0	1	0.0	19	0.5	18	0.4	13	0.3	0	0.0	51	1.3
SSE	0	0.0	4	0.1	14	0.3	20	0.5	2	0.0	0	0.0	40	1.0
S	0	0.0	2	0.0	13	0.3	18	0.4	1	0.0	0	0.0	34	0.8
SSW	0	0.0	1	0.0	21	0.5	22	0.5	1	0.0	0	0.0	45	1.1
SW	0	0.0	3	0.1	52	1.3	15	0.4	0	0.0	0	0.0	70	1.7
WSW	0	0.0	2	0.0	15	0.4	3	0.1	0	0.0	0	0.0	20	0.5
W	0	0.0	1	0.0	9	0.2	4	0.1	0	0.0	0	0.0	14	0.3
WNW	0	0.0	4	0.1	12	0.3	3	0.1	0	0.0	0	0.0	19	0.5
NW	0	0.0	2	0.0	21	0.5	4	0.1	0	0.0	0	0.0	27	0.7
NNW	0	0.0	2	0.0	21	0.5	7	0.2	0	0.0	0	0.0	30	0.7
	0	0.0	64	1.6	345	8.5	149	3.7	17	0.4	0	0.0	575	14.2

MEAN WIND SPEED: 6.5
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: GT 4.0 DEG C/100M
CLASS G

WIND: 30 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	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	3	0.1	0	0.0	0	0.0	0	0.0	3	0.1
NE	0	0.0	0	0.0	10	0.2	0	0.0	0	0.0	0	0.0	10	0.2
ENE	0	0.0	4	0.1	4	0.1	0	0.0	0	0.0	0	0.0	8	0.2
E	0	0.0	2	0.0	5	0.1	0	0.0	0	0.0	0	0.0	7	0.2
ESE	0	0.0	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0	2	0.0
SE	0	0.0	0	0.0	5	0.1	11	0.3	10	0.2	0	0.0	26	0.6
SSE	0	0.0	1	0.0	12	0.3	3	0.1	1	0.0	0	0.0	17	0.4
S	0	0.0	0	0.0	3	0.1	0	0.0	0	0.0	0	0.0	3	0.1
SSW	0	0.0	0	0.0	5	0.1	0	0.0	0	0.0	0	0.0	5	0.1
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	0.1	0	0.0	0	0.0	0	0.0	3	0.1
W	0	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	2	0.0
WNW	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
NW	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
NNW	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.0
	0	0.0	10	0.2	54	1.3	15	0.4	11	0.3	0	0.0	90	2.2

MEAN WIND SPEED: 7.0
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 30 FT

DELTA T: (300-33FT)

ALL STABILITY CLASSES

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT				
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT					
N	0	0.0	0.0	0.5	155	3.8	129	3.2	21	0.5	0	0.0	0.0	325	8.0
NNE	0	0.0	12	0.3	137	3.4	57	1.4	11	0.3	0	0.0	0.0	217	5.3
NE	0	0.0	30	0.7	100	2.5	23	0.6	0	0.0	0	0.0	0.0	153	3.8
ENE	0	0.0	30	0.7	52	1.3	20	0.5	0	0.0	0	0.0	0.0	102	2.5
E	0	0.0	32	0.8	50	1.2	2	0.0	0	0.0	0	0.0	0.0	84	2.1
ESE	0	0.0	12	0.3	56	1.4	27	0.7	7	0.2	0	0.0	0.0	102	2.5
SE	0	0.0	7	0.2	83	2.0	119	2.9	82	2.0	15	0.4	0	306	7.5
SSE	0	0.0	12	0.3	129	3.2	125	3.1	82	2.0	2	0.0	2	352	8.7
S	0	0.0	18	0.4	103	2.5	156	3.8	53	1.3	3	0.1	0	333	8.2
SSW	0	0.0	11	0.3	125	3.1	201	4.9	28	0.7	3	0.1	0	368	9.1
SW	0	0.0	8	0.2	157	3.9	163	4.0	16	0.4	0	0.0	0	344	8.5
WSW	0	0.0	6	0.1	103	2.5	77	1.9	9	0.2	0	0.0	0	195	4.8
W	0	0.0	13	0.3	70	1.7	105	2.6	47	1.2	7	0.2	0	242	6.0
WNW	0	0.0	18	0.4	85	2.1	114	2.8	46	1.1	11	0.3	0	274	6.7
NW	0	0.0	15	0.4	134	3.3	129	3.2	78	1.9	12	0.3	1	369	9.1
NNW	0	0.0	16	0.4	101	2.5	126	3.1	51	1.3	3	0.1	0	297	7.3

MEAN WIND SPEED: 8.5

MISSING HOURS: 353

0 0.0 260 6.4 1640 40.4 1573 38.7 531 13.1 56 1.4 3 0.1 4063 100.0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 30 FT

DELTA T: (300-33FT)

DIRECTION VS SPEED ONLY

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT	
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT		
N	0	20	159	131	21	0	0	0.0	0.0	0.0	331	7.5
NNE	0	13	138	59	11	0	0	0.0	0.0	0.0	221	5.0
NE	0	30	102	23	0	0	0	0.0	0.0	0.0	155	3.5
ENE	0	31	53	20	0	0	0	0.0	0.0	0.0	104	2.4
E	0	33	52	2	0	0	0	0.0	0.0	0.0	87	2.0
ESE	0	12	57	1.3	8	0	0	0.0	0.0	0.0	107	2.4
SE	0	8	92	2.1	91	15	0	0.0	0.0	0.0	337	7.6
SSE	0	12	161	131	85	2	2	0.0	0.0	0.0	400	9.1
S	0	21	130	176	59	3	0	0.0	0.0	0.0	389	8.8
SSW	0	11	144	234	32	3	0	0.0	0.0	0.0	424	9.6
SW	0	8	181	189	19	3	0	0.0	0.0	0.0	397	9.0
WSW	0	7	113	94	10	0	0	0.0	0.0	0.0	224	5.1
W	0	13	79	2.1	49	7	0	0.0	0.0	0.0	261	5.9
WNW	0	18	92	113	46	11	0	0.0	0.0	0.0	283	6.4
NW	0	18	139	131	79	12	1	0.0	0.0	0.0	380	8.6
NNW	0	16	114	130	51	3	0	0.0	0.0	0.0	314	7.1
	0	271	1806	1717	561	56	3	1.3	12.7	56	4414	100.0

MEAN WIND SPEED: 8.4

MISSING HOURS: 2

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: LE -1.9 DEG C/100M
CLASS A

WIND: 150 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	0	0.0	3	0.1	1	0.0	1	0.0	1	0.0	0	0.0	6	0.1
NNE	0	0.0	1	0.0	1	0.0	6	0.1	0	0.0	0	0.0	0	0.0	8	0.2
NE	0	0.0	2	0.0	5	0.1	3	0.1	0	0.0	0	0.0	0	0.0	10	0.2
ENE	0	0.0	1	0.0	2	0.0	5	0.1	0	0.0	0	0.0	0	0.0	8	0.2
E	0	0.0	0	0.0	1	0.0	2	0.0	0	0.0	0	0.0	0	0.0	3	0.1
ESE	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
SE	0	0.0	0	0.0	2	0.0	6	0.1	2	0.0	3	0.1	2	0.0	15	0.4
SSE	0	0.0	1	0.0	3	0.1	4	0.1	7	0.2	3	0.1	0	0.0	18	0.4
S	0	0.0	0	0.0	8	0.2	1	0.0	0	0.0	0	0.0	0	0.0	9	0.2
SSW	0	0.0	0	0.0	8	0.2	3	0.1	1	0.0	0	0.0	0	0.0	12	0.3
SW	0	0.0	0	0.0	10	0.2	7	0.2	7	0.2	0	0.0	0	0.0	24	0.6
WSW	0	0.0	0	0.0	6	0.1	11	0.3	2	0.0	1	0.0	0	0.0	20	0.5
W	0	0.0	0	0.0	3	0.1	8	0.2	7	0.2	4	0.1	2	0.0	24	0.6
WNW	0	0.0	0	0.0	3	0.1	2	0.0	2	0.0	1	0.0	0	0.0	8	0.2
NW	0	0.0	0	0.0	2	0.0	2	0.0	4	0.1	5	0.1	0	0.0	13	0.3
NNW	0	0.0	1	0.0	2	0.0	1	0.0	2	0.0	7	0.2	0	0.0	13	0.3
	0	0.0	7	0.2	59	1.5	62	1.5	35	0.9	25	0.6	4	0.1	192	4.8

MEAN WIND SPEED: 10.9
MISSING: 1

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT
DELTA T: (300-33FT)

LAPSE RATE: -1.8 TO -1.7 DEG C/100M
CLASS B

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT	
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT		
N	0	0	3	0.1	3	0.1	1	0.0	0	0.0	13	0.3
NNE	0	0	6	0.1	5	0.1	0	0.0	0	0.0	11	0.3
NE	0	0	0	0.0	7	0.2	1	0.0	0	0.0	8	0.2
ENE	0	0	1	0.0	6	0.1	1	0.0	0	0.0	8	0.2
E	0	0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
ESE	0	1	0	0.0	1	0.0	0	0.0	0	0.0	2	0.0
SE	0	0	1	0.0	2	0.0	5	0.1	2	0.0	14	0.3
SSE	0	0	6	0.1	2	0.0	5	0.1	2	0.0	15	0.4
S	0	1	4	0.1	1	0.0	1	0.0	0	0.0	8	0.2
SSW	0	0	2	0.0	1	0.0	1	0.0	0	0.0	4	0.1
SW	0	0	5	0.1	10	0.2	8	0.2	2	0.0	25	0.6
WSW	0	0	6	0.1	6	0.1	6	0.1	0	0.0	18	0.4
W	0	0	2	0.0	4	0.1	6	0.1	1	0.0	17	0.4
WNW	0	0	3	0.1	5	0.1	6	0.1	3	0.1	20	0.5
NW	0	0	1	0.0	4	0.1	4	0.1	6	0.1	15	0.4
NNW	0	1	3	0.1	6	0.1	14	0.3	8	0.2	33	0.8
	0	0	44	1.1	66	1.6	61	1.5	28	0.7	212	5.3

MEAN WIND SPEED: 12.7
MISSING: 2

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT
DELTA T: (300-33FT)

LAPSE RATE: -1.6 TO -1.5 DEG C/100M
CLASS C

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	0	0.0	4	0.1	5	0.1	0	0.0	1	0.0	0	0.0	11	0.3
NNE	0	0.0	0	0.0	2	0.0	5	0.1	4	0.1	0	0.0	0	0.0	11	0.3
NE	0	0.0	0	0.0	3	0.1	6	0.1	2	0.0	0	0.0	0	0.0	11	0.3
ENE	0	0.0	0	0.0	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0	2	0.0
E	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
ESE	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
SE	0	0.0	0	0.0	4	0.1	3	0.1	3	0.1	5	0.1	2	0.0	17	0.4
SSE	0	0.0	2	0.0	6	0.1	2	0.0	5	0.1	6	0.1	0	0.0	21	0.5
S	0	0.0	0	0.0	4	0.1	0	0.0	3	0.1	0	0.0	0	0.0	7	0.2
SSW	0	0.0	0	0.0	4	0.1	2	0.0	2	0.0	0	0.0	0	0.0	8	0.2
SW	0	0.0	1	0.0	7	0.2	9	0.2	2	0.0	1	0.0	0	0.0	20	0.5
WSW	0	0.0	0	0.0	3	0.1	7	0.2	3	0.1	0	0.0	0	0.0	13	0.3
W	0	0.0	0	0.0	3	0.1	7	0.2	7	0.2	1	0.0	0	0.0	18	0.4
WNW	0	0.0	0	0.0	0	0.0	5	0.1	6	0.1	2	0.0	2	0.0	15	0.4
NW	0	0.0	1	0.0	2	0.0	9	0.2	5	0.1	7	0.2	0	0.0	24	0.6
NNW	0	0.0	0	0.0	2	0.0	6	0.1	11	0.3	5	0.1	1	0.0	25	0.6
	0	0.0	5	0.1	45	1.1	69	1.7	53	1.3	28	0.7	5	0.1	205	5.1

MEAN WIND SPEED: 12.1
MISSING: 5

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT
DELTA T: (300-33FT)

LAPSE RATE: -1.4 TO -0.5 DEG C/100M
CLASS D

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT	
N	0	0.1	9	14	19	5	0	0.1	51	1.3	
NNE	0	0.0	8	18	11	2	0	0.0	40	1.0	
NE	0	0.0	4	19	11	0	0	0.0	34	0.8	
ENE	0	0.1	5	18	2	0	0	0.0	28	0.7	
E	0	0.1	9	9	0	0	0	0.0	21	0.5	
ESE	0	0.0	3	6	2	0	0	0.0	12	0.3	
SE	0	0.0	6	10	30	13	11	0.3	71	1.8	
SSE	0	0.1	11	28	64	26	3	0.1	135	3.4	
S	0	0.0	18	42	58	7	0	0.0	126	3.1	
SSW	0	0.1	13	51	14	0	0	0.0	82	2.0	
SW	0	0.0	13	32	41	10	0	0.0	96	2.4	
WSW	0	0.0	13	22	11	4	0	0.0	51	1.3	
W	0	0.0	6	29	33	28	3	0.1	100	2.5	
WNW	0	0.0	7	19	24	17	6	0.1	73	1.8	
NW	0	0.0	9	20	29	26	13	0.6	98	2.4	
NNW	0	0.0	5	26	17	9	0	0.0	57	1.4	
	0	0.0	139	363	366	147	36	3.7	1075	26.8	

MEAN WIND SPEED: 13.3
MISSING: 14

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -0.4 TO 1.5 DEG C/100M
CLASS E

WIND: 150 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT	
N	0	0.0	12	31	53	4	0	0	0.1	104	2.6
NNE	0	0.0	16	51	13	0	0	0	0.0	82	2.0
NE	0	0.0	24	33	3	0	0	0	0.0	63	1.6
ENE	0	0.0	15	8	0	0	0	0	0.0	25	0.6
E	0	0.0	12	8	1	0	0	0	0.0	27	0.7
ESE	0	0.0	11	26	2	0	0	0	0.0	43	1.1
SE	0	0.0	14	27	24	13	6	0	0.1	87	2.2
SSE	0	0.0	14	32	19	11	0	0	0.0	80	2.0
S	0	0.0	33	38	47	10	2	0	0.0	139	3.5
SSW	0	0.0	29	78	80	13	6	0	0.1	209	5.2
SW	0	0.0	37	83	41	5	0	0	0.0	170	4.2
WSW	0	0.0	21	43	20	1	0	0	0.0	91	2.3
W	0	0.0	26	41	29	4	1	0	0.0	104	2.6
WNW	0	0.0	21	49	44	6	2	0	0.0	127	3.2
NW	0	0.0	19	81	88	15	3	0	0.1	209	5.2
NNW	0	0.0	18	41	38	13	2	0	0.0	113	2.8
	0	0.0	62	670	502	95	22	0	0.5	1673	41.8

MEAN WIND SPEED: 11.3
MISSING: 19

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT

DELTA T: (300-33FT)

LAPSE RATE: 1.6 TO 4.0 DEG C/100M
CLASS F

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT	
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT		
N	0	0	8	28	17	1	0	0	0	0	54	1.3
NNE	0	0	12	29	6	0	0	0	0	0	49	1.2
NE	0	0	6	23	2	0	0	0	0	0	33	0.8
ENE	0	0	4	9	2	0	0	0	0	0	16	0.4
E	0	0	7	4	2	0	0	0	0	0	14	0.3
ESE	0	0	6	8	4	0	0	0	0	0	18	0.4
SE	0	0	6	6	8	13	6	0	0	0	40	1.0
SSE	0	0	3	11	14	4	0	0	0	0	34	0.8
S	0	0	7	15	22	0	1	0	0	0	49	1.2
SSW	0	0	2	25	27	1	0	0	0	0	59	1.5
SW	0	0	12	49	10	0	0	0	0	0	72	1.8
WSW	0	0	4	18	3	0	0	0	0	0	28	0.7
W	0	0	7	4	4	0	0	0	0	0	17	0.4
WNW	0	0	4	8	2	0	0	0	0	0	15	0.4
NW	0	0	3	19	7	0	0	0	0	0	30	0.7
NNW	0	0	7	17	7	0	0	0	0	0	34	0.8
	0	0	98	273	137	19	7	0	0	0	562	14.0

MEAN WIND SPEED: 10.7
MISSING: 13

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: GT 4.0 DEG C/100M
CLASS G

WIND: 150 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6					SUM PERCENT				
N	0	0.0	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	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
NE	0	0.0	1	0.0	2	0.0	1	0.0	1	0.0	0	0.0	0	0.0	5	0.1
ENE	0	0.0	0	0.0	0	0.0	3	0.1	0	0.0	0	0.0	0	0.0	3	0.1
E	0	0.0	1	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	3	0.1
ESE	0	0.0	1	0.0	0	0.0	4	0.1	1	0.0	0	0.0	0	0.0	6	0.1
SE	0	0.0	0	0.0	2	0.0	4	0.1	1	0.0	2	0.0	4	0.1	13	0.3
SSE	0	0.0	1	0.0	2	0.0	7	0.2	8	0.2	3	0.1	2	0.0	23	0.6
S	0	0.0	0	0.0	0	0.0	4	0.1	4	0.1	2	0.0	0	0.0	10	0.2
SSW	0	0.0	0	0.0	2	0.0	5	0.1	8	0.2	0	0.0	0	0.0	15	0.4
SW	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
WSW	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
W	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
WNW	0	0.0	0	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	2	0.0
NW	0	0.0	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.0
NNW	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
	0	0.0	4	0.1	12	0.3	34	0.8	24	0.6	7	0.2	6	0.1	87	2.2

MEAN WIND SPEED: 12.6
MISSING: 3

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
 BY ATMOSPHERIC STABILITY CLASS
 WIND: 150 FT
 DELTA T: (300-33FT)

ALL STABILITY CLASSES

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT				
N	0	0.0	39	1.0	85	2.1	93	2.3	13	0.3	0	0.0	239	6.0
NNE	0	0.0	45	1.1	115	2.9	34	0.8	2	0.0	0	0.0	202	5.0
NE	0	0.0	44	1.1	92	2.3	20	0.5	0	0.0	0	0.0	164	4.1
ENE	0	0.0	27	0.7	51	1.3	5	0.1	0	0.0	0	0.0	90	2.2
E	0	0.0	31	0.8	25	0.6	3	0.1	0	0.0	0	0.0	70	1.7
ESE	0	0.0	21	0.5	45	1.1	9	0.2	0	0.0	0	0.0	83	2.1
SE	0	0.0	35	0.9	58	1.4	73	1.8	53	1.3	33	0.8	257	6.4
SSE	0	0.0	45	1.1	86	2.1	122	3.0	55	1.4	5	0.1	326	8.1
S	0	0.0	74	1.8	101	2.5	135	3.4	20	0.5	3	0.1	348	8.7
SSW	0	0.0	60	1.5	165	4.1	133	3.3	14	0.3	6	0.1	389	9.7
SW	0	0.0	84	2.1	191	4.8	109	2.7	18	0.4	0	0.0	408	10.2
WSW	0	0.0	53	1.3	108	2.7	45	1.1	6	0.1	0	0.0	222	5.5
W	0	0.0	47	1.2	94	2.3	86	2.1	38	0.9	10	0.2	281	7.0
WNW	0	0.0	39	1.0	88	2.2	85	2.1	29	0.7	13	0.3	260	6.5
NW	0	0.0	38	0.9	135	3.4	137	3.4	59	1.5	16	0.4	391	9.8
NNW	0	0.0	37	0.9	98	2.4	89	2.2	42	1.0	4	0.1	276	6.9
	0	0.0	133	3.3	719	17.9	1537	38.4	1178	29.4	349	8.7	4006	100.0

MISSING HOURS: 410

MEAN WIND SPEED: 11.9

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 150 FT
DELTA T: (300-33FT)

DIRECTION VS SPEED ONLY

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	0	0.2	42	1.0	87	2.0	93	2.1	13	0.3	0	0.0	244	5.6
NNE	0	0.0	6	0.1	46	1.1	116	2.7	35	0.8	2	0.0	0	0.0	205	4.7
NE	0	0.0	8	0.2	46	1.1	92	2.1	20	0.5	0	0.0	0	0.0	166	3.8
ENE	0	0.0	8	0.2	27	0.6	53	1.2	5	0.1	0	0.0	0	0.0	93	2.1
E	0	0.0	12	0.3	33	0.8	25	0.6	3	0.1	0	0.0	0	0.0	73	1.7
ESE	0	0.0	8	0.2	22	0.5	45	1.0	9	0.2	0	0.0	0	0.0	84	1.9
SE	0	0.0	5	0.1	40	0.9	64	1.5	86	2.0	59	1.4	33	0.8	287	6.6
SSE	0	0.0	13	0.3	67	1.5	104	2.4	124	2.8	57	1.3	5	0.1	370	8.5
S	0	0.0	22	0.5	91	2.1	115	2.6	142	3.3	22	0.5	3	0.1	395	9.1
SSW	0	0.0	12	0.3	81	1.9	185	4.2	144	3.3	14	0.3	6	0.1	442	10.1
SW	0	0.0	11	0.3	102	2.3	219	5.0	126	2.9	19	0.4	0	0.0	477	10.9
WSW	0	0.0	12	0.3	64	1.5	123	2.8	51	1.2	7	0.2	0	0.0	257	5.9
W	0	0.0	9	0.2	55	1.3	100	2.3	88	2.0	40	0.9	10	0.2	302	6.9
WNW	0	0.0	6	0.1	42	1.0	93	2.1	86	2.0	29	0.7	13	0.3	269	6.2
NW	0	0.0	8	0.2	42	1.0	137	3.1	137	3.1	60	1.4	16	0.4	400	9.2
NNW	0	0.0	6	0.1	48	1.1	102	2.3	92	2.1	42	1.0	4	0.1	294	6.7

MEAN WIND SPEED: 11.7

MISSING HOURS: 58

0 0.0 155 3.6 848 19.5 1660 38.1 1241 28.5 364 8.4 90 2.1 4358 100.0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT
DELTA T: (300-33FT)

LAPSE RATE: LE -1.9 DEG C/100M

CLASS A

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT				
N	0	0	3	0.1	1	0.0	0	0.0	0	0.0	0	0.0	7	0.2
NNE	0	1	5	0.1	1	0.0	0	0.0	0	0.0	0	0.0	12	0.3
NE	0	2	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	0.1
ENE	0	2	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	9	0.2
E	0	0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.0
ESE	0	1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
SE	0	0	3	0.1	4	0.1	2	0.0	3	0.1	0	0.0	18	0.4
SSE	0	1	3	0.1	5	0.1	2	0.0	0	0.0	0	0.0	16	0.4
S	0	0	8	0.2	0	0.0	0	0.0	0	0.0	0	0.0	9	0.2
SSW	0	1	4	0.1	1	0.0	0	0.0	0	0.0	0	0.0	9	0.2
SW	0	1	7	0.2	9	0.2	0	0.0	0	0.0	0	0.0	23	0.6
WSW	0	0	9	0.2	15	0.4	1	0.0	1	0.0	0	0.0	26	0.6
W	0	0	3	0.1	5	0.1	4	0.1	4	0.1	4	0.1	22	0.5
WNW	0	0	2	0.0	1	0.0	1	0.0	2	0.0	0	0.0	7	0.2
NW	0	1	2	0.0	3	0.1	9	0.1	9	0.2	0	0.0	17	0.4
NNW	0	0	2	0.0	0	0.0	1	0.0	7	0.2	0	0.0	10	0.2
	0	10	54	1.3	31	0.8	27	0.7	7	0.2	193	4.8		

MEAN WIND SPEED: 11.2
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT

DELTA T: (300-33FT)

LAPSE RATE: -1.8 TO -1.7 DEG C/100M
CLASS B

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT				
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT					
N	0	0.0	0	0.0	0.1	7	0.2	2	0.0	1	0.0	0	0.0	13	0.3
NNE	0	0.0	0	0.0	0.1	7	0.2	1	0.0	0	0.0	0	0.0	11	0.3
NE	0	0.0	0	0.0	0.0	4	0.1	3	0.1	0	0.0	0	0.0	7	0.2
ENE	0	0.0	0	0.0	0.0	6	0.1	1	0.0	0	0.0	0	0.0	9	0.2
E	0	0.0	0	0.0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
ESE	0	0.0	0	0.0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0
SE	0	0.0	1	0.0	0.0	1	0.0	5	0.1	5	0.1	2	0.0	15	0.4
SSE	0	0.0	0	0.0	0.1	2	0.0	4	0.1	3	0.1	0	0.0	13	0.3
S	0	0.0	0	0.0	0.1	0	0.0	1	0.0	0	0.0	0	0.0	4	0.1
SSW	0	0.0	1	0.0	0.1	3	0.1	1	0.0	1	0.0	0	0.0	11	0.3
SW	0	0.0	0	0.0	0.1	8	0.2	7	0.2	2	0.0	0	0.0	22	0.5
WSW	0	0.0	0	0.0	0.1	7	0.2	6	0.1	0	0.0	0	0.0	18	0.4
W	0	0.0	0	0.0	0.0	5	0.1	4	0.1	1	0.0	6	0.1	18	0.4
WNW	0	0.0	0	0.0	0.1	5	0.1	5	0.1	6	0.1	2	0.0	22	0.5
NW	0	0.0	0	0.0	0.0	3	0.1	3	0.1	6	0.1	1	0.0	13	0.3
NNW	0	0.0	0	0.0	0.1	8	0.2	14	0.3	7	0.2	3	0.1	36	0.9
	0	0.0	2	0.0	42	1.0	67	1.6	57	1.4	32	0.8	14	214	5.3

MEAN WIND SPEED: 13.2
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT

DELTA T: (300-33FT)

LAPSE RATE: -1.6 TO -1.5 DEG C/100M
CLASS C

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT				
N	0	0.0	4	6	0	1	0.0	0.0	0.0	0.0	0.0	0.0	11	0.3
NNE	0	0.0	3	5	4	1	0.1	0.0	0.0	0.0	0.0	0.0	13	0.3
NE	0	0.0	3	4	2	0	0.1	0.0	0.0	0.0	0.0	0.0	9	0.2
ENE	0	0.0	0	3	0	0	0.1	0.0	0.0	0.0	0.0	0.0	3	0.1
E	0	0.0	0	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	0.0
ESE	0	0.0	2	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	3	0.1
SE	0	0.0	3	1	1	1	0.0	0.0	0.0	0.0	0.0	0.0	15	0.4
SSE	0	0.0	7	3	6	6	0.1	0.1	0.1	0.1	0.1	0.1	22	0.5
S	0	0.0	2	3	3	5	0.1	0.1	0.1	0.1	0.0	0.0	9	0.2
SSW	0	0.0	3	3	2	1	0.1	0.0	0.0	0.0	0.0	0.0	10	0.2
SW	0	0.0	4	9	3	1	0.1	0.1	0.0	0.0	0.0	0.0	16	0.4
WSW	0	0.0	2	8	4	0	0.0	0.1	0.0	0.0	0.0	0.0	15	0.4
W	0	0.0	4	6	4	1	0.1	0.1	0.0	0.0	0.0	0.0	18	0.4
WNW	0	0.0	2	6	7	1	0.1	0.2	0.0	0.0	0.0	0.0	18	0.4
NW	0	0.0	0	7	8	7	0.0	0.2	0.2	0.0	0.0	0.0	22	0.5
NNW	0	0.0	2	4	12	5	0.0	0.1	0.3	0.1	0.0	0.0	25	0.6
	0	0.0	41	70	58	28	1.7	1.4	0.7	0.2	0.0	0.0	210	5.2

MEAN WIND SPEED: 12.4
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -1.4 TO -0.5 DEG C/100M
CLASS D

WIND: 300 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT								
N	0	0.0	3	0.1	4	0.1	11	0.3	14	0.3	15	0.4	0	0.0	47	1.2
NNE	0	0.0	2	0.0	4	0.1	15	0.4	13	0.3	5	0.1	0	0.0	39	1.0
NE	0	0.0	1	0.0	4	0.1	15	0.4	15	0.4	2	0.0	0	0.0	37	0.9
ENE	0	0.0	3	0.1	4	0.1	12	0.3	7	0.2	0	0.0	0	0.0	26	0.6
E	0	0.0	2	0.0	7	0.2	13	0.3	1	0.0	0	0.0	0	0.0	23	0.6
ESE	0	0.0	1	0.0	3	0.1	6	0.1	4	0.1	0	0.0	0	0.0	14	0.3
SE	0	0.0	1	0.0	3	0.1	11	0.3	21	0.5	13	0.3	11	0.3	60	1.5
SSE	0	0.0	1	0.0	15	0.4	27	0.7	73	1.8	28	0.7	3	0.1	147	3.6
S	0	0.0	3	0.1	12	0.3	35	0.9	59	1.5	5	0.1	1	0.0	115	2.8
SSW	0	0.0	2	0.0	12	0.3	43	1.1	29	0.7	0	0.0	0	0.0	86	2.1
SW	0	0.0	2	0.0	8	0.2	31	0.8	47	1.2	17	0.4	0	0.0	105	2.6
WSW	0	0.0	2	0.0	6	0.1	29	0.7	14	0.3	4	0.1	0	0.0	55	1.4
W	0	0.0	1	0.0	10	0.2	20	0.5	33	0.8	27	0.7	11	0.3	102	2.5
WNW	0	0.0	0	0.0	7	0.2	13	0.3	29	0.7	13	0.3	11	0.3	73	1.8
NW	0	0.0	1	0.0	5	0.1	14	0.3	26	0.6	31	0.8	16	0.4	93	2.3
NNW	0	0.0	0	0.0	7	0.2	24	0.6	25	0.6	8	0.2	3	0.1	67	1.6
	0	0.0	25	0.6	111	2.7	319	7.9	410	10.1	168	4.1	56	1.4	1089	26.8

MEAN WIND SPEED: 14.1
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: -0.4 TO 1.5 DEG C/100M
CLASS E

WIND: 300 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT					
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT						
N	0	0.0	4	0.1	9	0.2	22	0.5	44	1.1	25	0.6	1	0.0	105	2.6
NNE	0	0.0	0	0.0	5	0.1	22	0.5	39	1.0	5	0.1	0	0.0	71	1.7
NE	0	0.0	0	0.0	6	0.1	22	0.5	20	0.5	0	0.0	0	0.0	48	1.2
ENE	0	0.0	2	0.0	14	0.3	11	0.3	6	0.1	0	0.0	0	0.0	33	0.8
E	0	0.0	2	0.0	13	0.3	11	0.3	2	0.0	0	0.0	0	0.0	28	0.7
ESE	0	0.0	3	0.1	4	0.1	15	0.4	9	0.2	0	0.0	0	0.0	31	0.8
SE	0	0.0	1	0.0	13	0.3	19	0.5	21	0.5	10	0.2	9	0.2	73	1.8
SSE	0	0.0	4	0.1	6	0.1	28	0.7	21	0.5	15	0.4	5	0.1	79	1.9
S	0	0.0	6	0.1	23	0.6	30	0.7	41	1.0	22	0.5	4	0.1	126	3.1
SSW	0	0.0	4	0.1	23	0.6	43	1.1	110	2.7	40	1.0	13	0.3	233	5.7
SW	0	0.0	3	0.1	21	0.5	59	1.5	86	2.1	16	0.4	1	0.0	186	4.6
WSW	0	0.0	4	0.1	21	0.5	44	1.1	38	0.9	7	0.2	0	0.0	114	2.8
W	0	0.0	1	0.0	24	0.6	35	0.9	35	0.9	9	0.2	3	0.1	107	2.6
WNW	0	0.0	2	0.0	12	0.3	38	0.9	50	1.2	16	0.4	3	0.1	121	3.0
NW	0	0.0	1	0.0	11	0.3	51	1.3	97	2.4	45	1.1	6	0.1	211	5.2
NNW	0	0.0	2	0.0	10	0.2	37	0.9	47	1.2	26	0.6	4	0.1	126	3.1
	0	0.0	39	1.0	215	5.3	487	12.0	666	16.4	236	5.8	49	1.2	1692	41.6

MEAN WIND SPEED: 13.5
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

LAPSE RATE: 1.6 TO 4.0 DEG C/100M
CLASS F

WIND: 300 FT
DELTA T: (300-33FT)

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT	
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT		SUM PERCENT		
N	0	0	4	20	23	7	0	0	0	0	54	1.3
NNE	0	1	3	15	23	7	0	0	0	0	49	1.2
NE	0	0	5	6	12	0	0	0	0	0	23	0.6
ENE	0	1	5	9	3	1	0	0	0	0	19	0.5
E	0	0	5	6	1	1	0	0	0	0	13	0.3
ESE	0	0	2	4	8	2	0	0	0	0	16	0.4
SE	0	0	8	9	10	3	0	5	0	0	37	0.9
SSE	0	0	5	7	4	3	0	12	0	0	34	0.8
S	0	0	5	3	24	17	0	1	0	0	55	1.4
SSW	0	0	5	10	38	25	0	0	0	0	79	1.9
SW	0	0	3	15	44	2	0	0	0	0	64	1.6
WSW	0	0	3	5	26	4	0	0	0	0	38	0.9
W	0	0	5	6	3	2	0	2	0	0	18	0.4
WNW	0	0	4	0	3	0	0	0	0	0	8	0.2
NW	0	1	5	10	15	4	0	0	0	0	35	0.9
NNW	0	1	5	14	12	1	0	0	0	0	33	0.8
	0	0	72	139	249	79	20	1.9	0.5	575	14.2	

MEAN WIND SPEED: 13.8
MISSING: 0

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT

DELTA T: (300-33FT)

ALL STABILITY CLASSES

WIND SPEED GROUPS (MPH)

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT			
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT				
N	0	0.0	27	0.7	69	1.7	84	2.1	49	1.2	1	0.0	237	5.8
NNE	0	0.1	23	0.6	69	1.7	81	2.0	18	0.4	0	0.0	195	4.8
NE	0	0.1	21	0.5	54	1.3	52	1.3	2	0.0	0	0.0	132	3.2
ENE	0	0.0	26	0.6	49	1.2	17	0.4	2	0.0	0	0.0	103	2.5
E	0	0.1	26	0.6	34	0.8	5	0.1	1	0.0	0	0.0	70	1.7
ESE	0	0.1	12	0.3	27	0.7	21	0.5	2	0.0	0	0.0	67	1.6
SE	0	0.1	32	0.8	53	1.3	64	1.6	39	1.0	33	0.8	227	5.6
SSE	0	0.0	43	1.1	79	1.9	113	2.8	60	1.5	25	0.6	333	8.2
S	0	0.0	54	1.3	74	1.8	141	3.5	50	1.2	6	0.1	341	8.4
SSW	0	0.0	53	1.3	108	2.7	189	4.7	71	1.7	13	0.3	444	10.9
SW	0	0.1	50	1.2	128	3.2	196	4.8	38	0.9	1	0.0	419	10.3
WSW	0	0.0	46	1.1	108	2.7	89	2.2	17	0.4	0	0.0	267	6.6
W	0	0.0	48	1.2	78	1.9	86	2.1	44	1.1	27	0.7	285	7.0
WNW	0	0.0	31	0.8	66	1.6	96	2.4	38	0.9	18	0.4	252	6.2
NW	0	0.0	23	0.6	87	2.1	153	3.8	102	2.5	23	0.6	392	9.6
NNW	0	0.0	30	0.7	90	2.2	110	2.7	54	1.3	12	0.3	299	7.4
	0	0.0	545	13.4	1173	28.9	1497	36.8	587	14.4	159	3.9	4063	100.0

MISSING HOURS: 353

MEAN WIND SPEED: 13.5

ARTIFICIAL ISLAND 7/01-12/01

JOINT DISTRIBUTION OF WIND DIRECTION AND SPEED
BY ATMOSPHERIC STABILITY CLASS

WIND: 300 FT

DELTA T: (300-33FT)

DIRECTION VS SPEED ONLY

DIRECTION	WIND SPEED GROUPS (MPH)										SUM PERCENT		
	0.0-0.5	0.6-3.5	3.6-7.5	7.6-12.5	12.6-18.5	18.6-24.5	GE 24.6	SUM PERCENT	SUM PERCENT	SUM PERCENT			
N	0	0.0	0.2	71	1.6	86	1.9	49	1.1	1	0.0	243	5.5
NNE	0	0.0	0.1	24	0.5	69	1.6	18	0.4	0	0.0	197	4.5
NE	0	0.0	0.1	23	0.5	54	1.2	2	0.0	0	0.0	134	3.0
ENE	0	0.0	0.2	26	0.6	51	1.2	2	0.0	0	0.0	105	2.4
E	0	0.0	0.1	29	0.7	34	0.8	5	0.1	1	0.0	74	1.7
ESE	0	0.0	0.1	13	0.3	27	0.6	2	0.0	0	0.0	68	1.5
SE	0	0.0	0.1	38	0.9	65	1.5	44	1.0	35	0.8	264	6.0
SSE	0	0.0	0.3	63	1.4	88	2.0	62	1.4	25	0.6	367	8.3
S	0	0.0	0.5	71	1.6	86	1.9	55	1.2	6	0.1	384	8.7
SSW	0	0.0	0.3	68	1.5	128	2.9	72	1.6	13	0.3	495	11.2
SW	0	0.0	0.2	67	1.5	153	3.5	40	0.9	1	0.0	488	11.1
WSW	0	0.0	0.2	60	1.4	124	2.8	18	0.4	0	0.0	309	7.0
W	0	0.0	0.1	56	1.3	85	1.9	45	1.0	28	0.6	306	6.9
WNW	0	0.0	0.1	34	0.8	71	1.6	38	0.9	18	0.4	261	5.9
NW	0	0.0	0.1	28	0.6	89	2.0	103	2.3	23	0.5	403	9.1
NNW	0	0.0	0.1	40	0.9	93	2.1	54	1.2	12	0.3	316	7.2
	0	0.0	2.7	669	15.2	1288	29.2	1571	35.6	605	13.7	4414	100.0

MEAN WIND SPEED: 13.2 MISSING HOURS: 2