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February 29, 2008
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10 CFR 50.36
10 CFR 72.44

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: **COLUMBIA GENERATING STATION, DOCKET NO. 50-397**
INDEPENDENT SPENT FUEL STORAGE INSTALLATION, DOCKET NO. 72-35
2007 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

Dear Sir or Madam:

In accordance with 10 CFR 50.36a(a)(2), 10 CFR 72.44(d)(3), ISFSI Technical Specification 5.4.c, and Columbia's Technical Specification 5.6.2, the Annual Radioactive Effluent Release Report is hereby submitted as an enclosure to this letter. As required by the Columbia's Technical Specifications, the report includes a summary of the quantities of radioactive liquid, gaseous, and solid waste released from Columbia Generating Station during the reporting period.

No changes were made to Columbia Generating Station's Offsite Dose Calculation Manual (ODCM) in this reporting period.

There are no commitments being made to the NRC by this letter.

Respectfully,

D.K. Atkinson

DK Atkinson, Vice President
Nuclear Generation & Chief Nuclear Officer

Enclosures

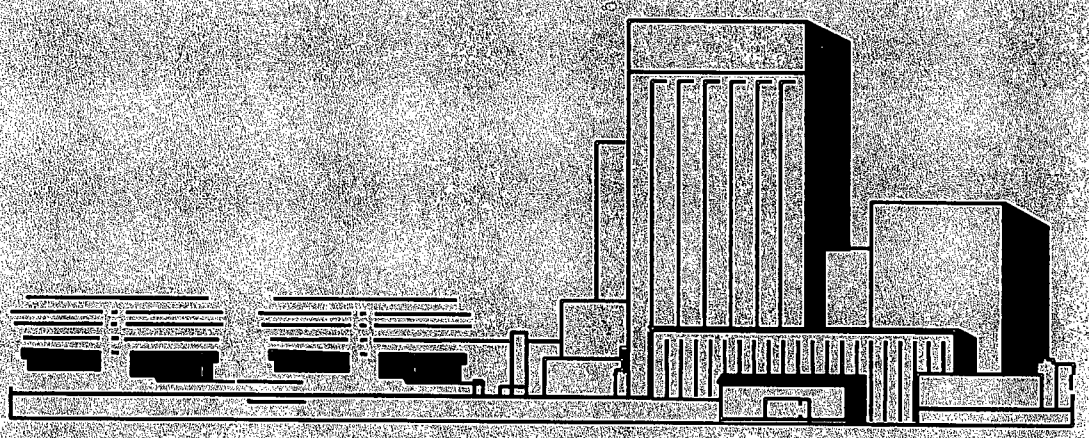
cc: EE Collins, Jr. - NRC RIV
CF Lyon - NRC NRR
NRC Sr. Resident Inspector - 988C
RN Sherman - BPA/1399
AW Conklin - Dept. of Health
K Rhoads - PNNL (w/o ODCM)
JO Luce - EFSEC (w/o ODCM)
D McBaugh - Dept. of Health
P Fox - ANI (w/o ODCM)
RL Dirkes - PNNL (w/o ODCM)
WA Horin - Winston & Strawn (w/o ODCM)
Director, SFPO - NRC NMSS

IE17
IE48
NRR

ENERGY NORTHWEST

Columbia Generating Station
Radioactive Effluent Release Report

January through December 2007



REFERENCES:
10 CFR 50.36a(a)(2)
10 CFR 72.44(d)(3)
CGS Technical Specification 5.6.2
ISFSI Technical Specification 5.4.c

Columbia Generating Station
Radioactive Effluent Release Report

January through December 2007

Energy Northwest

Submitted
February 2008

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1.0 Introduction

This report has been prepared in compliance with 10 CFR 50.36a(a)(2), 10 CFR 72.44(d)(3), Independent Spent Fuel Storage Installation (ISFSI) Technical Specification 5.4.c, and Columbia Generating Station Technical Specification 5.6.2. It includes a summary of the quantities of radioactive liquid and gaseous effluents and solid radwaste released from Columbia Generating Station during calendar year 2007. Effluent data is summarized on a quarterly basis.

2.0 Liquid Effluents

No planned releases of contaminated liquids from the liquid radwaste processing system were discharged to the Columbia River from Columbia Generating Station during calendar year 2007. The last planned discharge took place in 1998.

3.0 Gaseous Effluents

The gaseous radwaste effluents from Columbia Generating Station were released from three (3) release points:

Main Plant Vent -- mixed mode release
Turbine Building -- ground level release
Radwaste Building -- ground level release

The gaseous source terms from each release point are listed in Tables 3-1, 3-2, and 3-3. The activation gas argon-41 is included in these tables under fission gases to allow a match with the fission and activation gas totals of Table 3-4. Table 3-4 provides a summation of the total activity released, the average release rate, gross alpha radioactivity, and the estimated total error associated with the measurements of radioactivity in the gaseous effluents.

Radioactivity measurements for gaseous effluent releases are performed for fission and activation gases by collecting the samples in a Marinelli beaker and analyzing them using gamma spectroscopy. Air is analyzed for tritium by collection of water vapor on a desiccant with subsequent distillation and liquid scintillation counting. Particulates and iodines are sampled continuously and the sample media (particulate filters and charcoal cartridges) are analyzed weekly using gamma spectroscopy. Each quarter a chemical separation process is used to isolate strontium from the composite particulate filters and quantification is accomplished with liquid scintillation detection. The average energy per disintegration of fission and activation gases is not included in this report as it is not required by Technical Specifications and is not used for gaseous effluent release rate limit calculations.

When a radioisotope is not positively identified at levels greater than the Minimum Detectable Activity (MDA), a value of zero is used for release concentrations and offsite dose assessments. Table 3-6 contains the Lower Limit of Detection (LLD) values corresponding to the sampling methods and analytical instruments used for each principal radioisotope.

Dose calculations were performed for releases using the NRC GASPAR II computer program and parameters as defined in the Offsite Dose Calculation Manual (ODCM). Desert sigmas were not used in gaseous plume growth calculations. Throughout this report, the term 'dose' is used as defined in NRC Regulatory Guide 1.109-1977. Quarterly and annual doses to the potentially highest-exposed member of the public at and beyond the site boundary were calculated. In addition, quarterly and annual doses were calculated at locations identified in the annual land use census. ODCM limits are based on Part 20 and Appendix I to Part 50 of Title 10 of the Code of Federal Regulations. The threshold for air dose applies to fission and activation gases and is ten (10) millirad for beta and five (5) millirad for gamma quarterly and twenty (20) millirad for beta and ten (10) millirad for gamma annually. The threshold for organ dose applies to iodine, tritium, and particulates with half-lives greater than eight days and is seven and a half (7.5) millirem quarterly and fifteen (15) millirem annually. For fission and activation gases the dose rate limits are less than or equal to 500 mrem per year to the whole body and less than or equal to 3000 mrem per year to the skin. For iodines, particulates, and tritium the dose rate limit is less than or equal to 1500 mrem/year to any organ.

Dose calculations were also conducted for members of the public within the site boundary. The results are discussed and tabulated in Section 6.0.

The Kootenai building is located approximately 0.75 miles from the Reactor building. Within this building are the Emergency Operations Facility (EOF) and a backup chemistry laboratory. The release path for the radiochemical hood within the backup laboratory contains a HEPA filter and is monitored for radioactive releases even though no radiochemical work is routinely performed in this laboratory. During 2005, the laboratory liquid release path was physically blocked and the liquid release monitor deactivated. No evidence of gaseous or liquid release of licensed radioactive material was noted in 2007.

It is estimated that approximately 1.61E-02 Curies of tritium were released through unmonitored vents of the heating steam system within and outside the main power block (Turbine, Radwaste, Reactor, and General Services buildings).

A total of fifteen loaded spent fuel storage containers (SFSC) were in place in the ISFSI facility at the end of 2004 and no additional SFSCs have been added as of December 31, 2007. The SFSCs are performing as designed; consequently, there are no effluents from this facility.

There were no abnormal releases of gaseous effluent from the main power block during this reporting period.

The following summarizes an incident of effluent monitor inoperability.

During the 2007 refueling outage, the reactor building low range stack monitor was taken out of service for a period of 39 days due to planned corrective action to replace the helium compressor unit. The detector is a hyper-pure germanium semiconductor, unique in the United States for real-time radionuclide monitoring prior to discharge at release points. Compensatory measures (grab samples) were taken as required by the Offsite

Dose Calculation Manual. Gaseous waste streams are monitored prior to entry into the stack and the stack is also monitored by an intermediate and high range detector.

Gaseous Effluent Tables

Table 3-0 10 CFR Part 50 Appendix I Dose Compliance

Report Period: January -- December 2007

	1st Quarter	Quarter	3rd Quarter	4th Quarter	Year*
Noble Gas					
Gamma Air Dose (mrad)	1.43E-03	1.49E-03	2.92E-03	3.01E-03	6.55E-03
ODCM Limit	5	5	5	5	10
% of Limit	2.86E-02	2.98E-02	5.84E-02	6.02E-02	6.55E-02
Beta Air Dose (mrad)	5.03E-04	5.27E-04	1.15E-03	1.06E-03	2.42E-03
ODCM Limit	10	10	10	10	20
% of Limit	5.03E-03	5.27E-03	1.15E-02	1.06E-02	1.21E-02
Iodine-131, Iodine-133, Tritium, and Particulates with half-lives greater than eight days.					
Organ Dose (mrem)	8.21E-03	5.73E-03	6.32E-03	6.80E-03	2.40E-02
ODCM Limit	7.5	7.5	7.5	7.5	15
% of Limit	1.10E-01	7.64E-02	8.43E-02	9.07E-02	1.60E-01

* Calculated quarterly doses cannot be directly compared to the annual doses. Each above listed quarterly dose is the highest calculated dose based on a number of variables. Variables that make comparison difficult include location, meteorological data (quarterly joint frequency distribution (JFD) tables vs. annual JFD tables), receptor age, target organ, and characteristics of the emitted radionuclides.

Table 3-1 Main Plant Vent Releases
Fission Gases and Iodines

Report Period: January -- December 2007

Nuclides Released	1st Quarter (Ci)	2nd Quarter (Ci)	3rd Quarter (Ci)	4th Quarter (Ci)	Year (Ci)
A. Fission gases					
krypton-85	<MDA	<MDA	<MDA	<MDA	<MDA
krypton-85m	<MDA	<MDA	<MDA	<MDA	<MDA
krypton-87	<MDA	<MDA	<MDA	<MDA	<MDA
krypton-88	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-133	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-133m	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-135	<MDA	<MDA	3.50E+00	<MDA	3.50E+00
xenon-135m	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-138	<MDA	<MDA	<MDA	<MDA	<MDA
Others					
argon-41	1.18E+01	8.04E+00	2.20E+01	1.50E+01	5.69E+01
Total for period *	1.18E+01	8.04E+00	2.55E+01	1.50E+01	6.04E+01
B. Iodines					
iodine-131	<MDA	4.95E-06	<MDA	<MDA	4.95E-06
iodine-132	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-133	<MDA	1.18E-05	<MDA	<MDA	1.18E-05
iodine-134	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-135	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period *	0.00E+00	1.68E-05	0.00E+00	0.00E+00	1.68E-05

MDA = Less than the "a posteriori" minimal detectable activity (microcuries per unit mass or volume).

* MDA values are not included in the totals.

Table 3-1 Main Plant Vent Releases (Continued)
Particulates and Tritium

Report Period: January -- December 2007

Nuclides Released	1st Quarter (Ci)	2nd Quarter (Ci)	3rd Quarter (Ci)	4th Quarter (Ci)	Year (Ci)
C. Particulates					
strontium-89	1.40E-06	9.97E-07	2.81E-07	4.08E-07	3.09E-06
strontium-90	<MDA	<MDA	<MDA	<MDA	<MDA
cesium-134	<MDA	<MDA	<MDA	<MDA	<MDA
cesium-137	<MDA	<MDA	<MDA	<MDA	<MDA
barium-lanthanum-140	<MDA	<MDA	<MDA	<MDA	<MDA
silver-110m	<MDA	<MDA	<MDA	<MDA	<MDA
cerium-141	<MDA	<MDA	<MDA	<MDA	<MDA
cerium-144	<MDA	<MDA	<MDA	<MDA	<MDA
cobalt-58	1.25E-05	4.04E-05	5.23E-06	<MDA	5.82E-05
cobalt-60	2.62E-05	4.29E-04	6.08E-05	1.39E-05	5.30E-04
iron-59	<MDA	2.42E-05	2.73E-06	<MDA	2.69E-05
manganese-54	3.01E-06	5.62E-05	1.09E-05	9.20E-07	7.11E-05
zinc-65	3.92E-05	1.52E-04	3.58E-05	1.11E-05	2.38E-04
chrome-51	<MDA	1.14E-04	<MDA	<MDA	1.14E-04
antimony-125	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period*	8.23E-05	8.17E-04	1.16E-04	2.63E-05	1.04E-03
Others with T 1/2 < 8 days					
arsenic-76	<MDA	<MDA	<MDA	<MDA	<MDA
bromine-82	<MDA	<MDA	<MDA	<MDA	<MDA
copper-64	<MDA	<MDA	<MDA	<MDA	<MDA
molybdenum-99	<MDA	<MDA	<MDA	<MDA	<MDA
rhenium-188	<MDA	<MDA	<MDA	<MDA	<MDA
sodium-24	1.41E-05	<MDA	<MDA	<MDA	1.41E-05
technetium-99m	1.53E-04	<MDA	<MDA	<MDA	1.53E-04
zinc-69m	<MDA	<MDA	<MDA	<MDA	<MDA
Total with T 1/2 < 8 days*	1.67E-04	0.00E+00	0.00E+00	0.00E+00	1.67E-04
D. Tritium					
tritium	1.17E+00	8.32E-01	1.29E+00	7.63E-01	4.05E+00

MDA = Less than the "a posteriori" minimal detectable activity (microcuries per unit mass or volume).

* MDA values are not included in the totals.

Table 3-2 Turbine Building Releases
Fission Gases and Iodines

Report Period: January -- December 2007

Nuclides Released	1st Quarter (Ci)	2nd Quarter (Ci)	3rd Quarter (Ci)	4th Quarter (Ci)	Year (Ci)
A. Fission gases					
krypton-85	<MDA	<MDA	<MDA	<MDA	<MDA
krypton-85m	<MDA	<MDA	<MDA	<MDA	<MDA
krypton-87	<MDA	<MDA	<MDA	<MDA	<MDA
krypton-88	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-133	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-133m	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-135	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-135m	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-138	<MDA	<MDA	<MDA	<MDA	<MDA
Others					
argon-41	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period *	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
B. Iodines					
iodine-131	<MDA	6.65E-06	<MDA	<MDA	6.65E-06
iodine-132	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-133	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-134	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-135	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period *	0.00E+00	6.65E-06	0.00E+00	0.00E+00	6.65E-06

MDA = Less than the "a posteriori" minimal detectable activity (microcuries per unit mass or volume).

* MDA values are not included in the totals.

Table 3-2 Turbine Building Releases (Continued)
Particulates and Tritium

Report Period: January -- December 2007

Nuclides Released	1st Quarter (Ci)	2nd Quarter (Ci)	3rd Quarter (Ci)	4th Quarter (Ci)	Year (Ci)
C. Particulates					
strontium-89	1.27E-05	4.52E-06	3.58E-06	6.34E-06	2.72E-05
strontium-90	<MDA	<MDA	<MDA	<MDA	<MDA
cesium-134	<MDA	<MDA	<MDA	<MDA	<MDA
cesium-137	<MDA	<MDA	<MDA	<MDA	<MDA
barium-lanthanum-140	<MDA	<MDA	<MDA	<MDA	<MDA
cerium-141	<MDA	<MDA	<MDA	<MDA	<MDA
cerium-144	<MDA	<MDA	<MDA	<MDA	<MDA
cobalt-58	<MDA	<MDA	<MDA	<MDA	<MDA
cobalt-60	<MDA	5.85E-06	<MDA	<MDA	5.85E-06
iron-59	<MDA	<MDA	<MDA	<MDA	<MDA
manganese-54	<MDA	<MDA	<MDA	<MDA	<MDA
zinc-65	<MDA	<MDA	<MDA	<MDA	<MDA
chrome-51	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period*	1.27E-05	1.04E-05	3.58E-06	6.34E-06	3.30E-05
Others with T 1/2 < 8 days					
molybdenum-99	<MDA	<MDA	<MDA	<MDA	<MDA
Total with T 1/2 < 8 days*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
D. Tritium					
tritium	1.41E+01	7.15E+00	9.91E+00	8.87E+00	4.00E+01

MDA = Less than the "a posteriori" minimal detectable activity (microcuries per unit mass or volume).

* MDA values are not included in the totals.

Table 3-3 Radwaste Building Releases
Fission Gases and Iodines

Report Period: January -- December 2007

Nuclides Released	1st Quarter (Ci)	2nd Quarter (Ci)	3rd Quarter (Ci)	4th Quarter (Ci)	Year (Ci)
A. Fission gases					
krypton-85	<MDA	<MDA	<MDA	<MDA	<MDA
krypton-85m	<MDA	<MDA	<MDA	<MDA	<MDA
krypton-87	<MDA	<MDA	<MDA	<MDA	<MDA
krypton-88	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-133	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-133m	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-135	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-135m	<MDA	<MDA	<MDA	<MDA	<MDA
xenon-138	<MDA	<MDA	<MDA	<MDA	<MDA
Others					
argon-41	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period *	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
B. Iodines					
iodine-131	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-132	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-133	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-134	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-135	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period *	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

MDA = Less than the "a posteriori" minimal detectable activity (microcuries per unit mass or volume).

* MDA values are not included in the totals.

Table 3-3 Radwaste Building Releases (Continued)
Particulates and Tritium

Report Period: January -- December 2007

Nuclides Released	1st Quarter (Ci)	2nd Quarter (Ci)	3rd Quarter (Ci)	4th Quarter (Ci)	Year (Ci)
C. Particulates					
strontium-89	2.17E-07	2.05E-07	6.27E-08	1.37E-07	6.21E-07
strontium-90	<MDA	<MDA	<MDA	<MDA	<MDA
cesium-134	<MDA	<MDA	<MDA	<MDA	<MDA
cesium-137	<MDA	<MDA	<MDA	<MDA	<MDA
barium-lanthanum-140	<MDA	<MDA	<MDA	<MDA	<MDA
cerium-141	<MDA	<MDA	<MDA	<MDA	<MDA
cerium-144	<MDA	<MDA	<MDA	<MDA	<MDA
cobalt-58	<MDA	<MDA	<MDA	<MDA	<MDA
cobalt-60	<MDA	<MDA	<MDA	<MDA	<MDA
iron-59	<MDA	<MDA	<MDA	<MDA	<MDA
manganese-54	<MDA	<MDA	<MDA	<MDA	<MDA
zinc-65	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period*	2.17E-07	2.05E-07	6.27E-08	1.37E-07	6.21E-07
Others with T 1/2 < 8 days					
molybdenum-99	<MDA	<MDA	<MDA	<MDA	<MDA
Total with T 1/2 < 8 days*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
D. Tritium					
tritium	3.02E-01	1.61E-01	2.03E-01	1.45E-01	8.12E-01

MDA = Less than the "a posteriori" minimal detectable activity (microcuries per unit mass or volume).

* MDA values are not included in the totals.

Table 3-4 Summation of Releases
Gaseous Effluents

Report Period: January -- December 2007

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year	Est* Total %Error
A. Fission and activation gases						
Total release (Ci)	1.18E+01	8.04E+00	2.55E+01	1.50E+01	6.04E+01	4.20E+01
Average release rate (µCi/s)	1.52E+00	1.02E+00	3.21E+00	1.89E+00	1.92E+00	
Percent of ODCM limit (%)	1.09E-03	2.53E-04	1.18E-03	8.46E-04	9.40E-04	
B. Iodines						
Total I-131 (Ci)	<MDA	1.16E-05	<MDA	<MDA	1.16E-05	4.60E+01
Average release rate (µCi/s)	<MDA	1.48E-06	<MDA	<MDA	3.68E-07	
Percent of ODCM limit (%)	0.00E+00	1.36E-05	0.00E+00	0.00E+00	4.3E-06	
C. Particulates						
Particulates with half-lives >8 days (Ci)	9.52E-05	8.27E-04	1.19E-04	3.28E-05	1.07E-03	4.50E+01
Average release rate (µCi/s)	1.22E-05	1.05E-04	1.50E-05	4.13E-06	3.41E-05	
Percent of ODCM limit (%)	5.68E-06	1.05E-05	2.18E-06	3.50E-06	6.7E-06	
Gross alpha radioactivity (Ci)	2.94E-06	9.80E-07	7.40E-07	7.67E-07	5.42E-06	7.30E+01
D. Tritium						
Total release (Ci)	1.55E+01	8.14E+00	1.14E+01	9.78E+00	4.48E+01	2.50E+01
Average release rate (µCi/s)	2.00E+00	1.04E+00	1.43E+00	1.23E+00	1.42E+00	
Percent of ODCM limit (%)	1.76E-03	6.21E-04	9.74E-04	1.30E-03	1.04E-03	

MDA = Less than the "a posteriori" minimal detectable activity (microcuries per unit mass or volume).

ODCM release rate limits are based on dose rate. For fission and activation gases the dose rate limits are less than or equal to 500 mrem/year to the whole body and less than or equal to 3000 mrem/year to the skin. For all periods the dose rate to the whole body was higher than that to the skin and therefore, the Percent of ODCM limit is calculated for the whole body limit. For I-131, particulates, and tritium the dose rate limit is less than or equal to 1500 mrem/year to any organ. The ODCM dose factors and the highest site boundary dispersion value for each period were used in the calculation.

* Measurement errors are sample-specific. The values reported represent an approximate overall error. The major contributors of this error are measurements associated with sample volume and release point flow rates and estimates of plateout factors.

Table 3-5 Gaseous Purges and Vents

Report Period: January -- December 2007

Type	Number	Total Time (hr.)	Maximum Time (hr.)	Minimum Time (hr.)	Mean Time (hr.)
Purge	2.00E+00	8.85E+01	6.08E+01	2.77E+01	4.42E+01
Vent	3.20E+01	3.34E+01	3.75E+00	1.83E-01	1.04E+00

Columbia Generating Station is a continuous release plant. All purges and vents are discharged through the Standby Gas Treatment System and released through the reactor building stack that is sampled and continuously monitored for radioactive gaseous waste.

Table 3-6 Lower Limits of Detection
Gaseous Effluents

Report Period: January -- December 2007

Fission Gases

Nuclide	Required LLD† (μCi/cc)	Achieved Analysis LLD (μCi/cc)
krypton-87	1.00E-04	1.05E-08
krypton-88	1.00E-04	1.29E-08
xenon-133	1.00E-04	1.00E-08
xenon-133m	1.00E-04	3.25E-08
xenon-135	1.00E-04	3.77E-09
xenon-138	1.00E-04	4.48E-08

Iodines

iodine-131	1.00E-12	6.04E-14
iodine-133	1.00E-10	1.28E-12

Particulates

strontium-89	1.00E-11	1.16E-14
strontium-90	1.00E-11	5.12E-15
cesium-134	1.00E-11	5.11E-14
cesium-137	1.00E-11	4.70E-14
molybdenum-99	1.00E-11	9.12E-13
cerium-141	1.00E-11	4.88E-14
cerium-144	1.00E-11	1.97E-13
cobalt-58	1.00E-11	4.44E-14
cobalt-60	1.00E-11	7.86E-14
iron-59	1.00E-11	1.07E-13
manganese-54	1.00E-11	4.56E-14
zinc-65	1.00E-11	1.01E-13
Gross Alpha	1.00E-11	9.01E-16

Tritium

hydrogen-3	1.00E-06	5.85E-11

† From ODCM Table 6.2.2.1-1

4.0 Solid Radwaste

This section of the annual effluent report provides information required by both the Columbia Generating Station Offsite Dose Calculation Manual and by Nuclear Regulatory Commission Regulatory Guide 1.21-1974.

Solid Radwaste Information required by the Offsite Dose Calculation Manual

January -- December 2007

Class A

1. Container Volumes

5 gal. Pail	1 ft3
16 gal. Drum	2.23 ft3
8 gal. Drum	1.6 ft3
55 gal. Drum	7.5 ft3
B-25 Steel Box	96 ft3
B-88 Steel Box	109 ft3
EL-142 Polyethylene HIC	132.4 ft3
B-25 Overpack Steel Box	138 ft3
ES-190 Steel Liner	170.2 ft3
EL-190 Polyethylene HIC	174.3 ft3
20' SeaLand Container	1280 ft3
Turbine Sealand Container	1600 ft3
Reactor Feedwater Heater	2440 ft3
T14 Box	2522 ft3
T24 Box	2703 ft3
Rotor Box	3929 ft3

2. Total Curies

   1.53E+03 Ci

3. Principal Radionuclides

Nuclide	Curies	Percent
Co-60	5.89E+02	3.85E+01
Zn-65	4.02E+02	2.63E+01
Fe-55	2.37E+02	1.55E+01
Mn-54	1.28E+02	8.38E+00
Co-58	7.04E+01	4.60E+00

Cr-51	5.35E+01	3.50E+00
Fe-59	1.73E+01	1.13E+00
Ni-63	1.23E+01	8.07E-01
Ag-110m	4.91E+00	3.21E-01
C-14	4.01E+00	2.62E-01
Nb-95	2.26E+00	1.48E-01
Sb-124	2.02E+00	1.32E-01
Zr-95	1.33E+00	8.72E-02
Cs-137	1.14E+00	7.49E-02
Ce-144	9.93E-01	6.49E-02
Mo-99	9.84E-01	6.44E-02
Sr-89	6.21E-01	4.06E-02
Ni-59	5.41E-01	3.54E-02
H-3	3.00E-01	1.96E-02

4. Source

Resins	1.52E+03 Ci
Dry Active Waste (DAW)	8.78E+00 Ci
Irradiated Components	0.00E+00 Ci
Other (Sealed Source & Mixed Waste)	2.28E-02 Ci

5. Type of Container

   All containers shipped as Limited Quantity, LSA, SCO or Radioactive material in IP-1, IP-2, Type A or Type B (including casks) as appropriate.

6. Solidification Agent

   None

Class B

1. Container Volumes

   EL-142 Polyethylene HIC 132.4 ft^3

2. Total Curies

   4.35E+01 Ci

3. Principal Radionuclides

Nuclide	Curies	Percent
Co-60	2.36E+01	5.42E+01
Fe-55	9.55E+00	2.19E+01

Zn-65	7.03E+00	1.62E+01
Co-58	2.19E+00	5.03E+00
Cr-51	4.93E-01	1.13E+00
Fe-59	2.76E-01	6.34E-01
Ni-63	1.04E-01	2.39E-01
H-3	7.68E-02	1.76E-01
Ag-110m	6.55E-02	1.51E-01
Mn-54	5.02E-02	1.15E-01
Sb-124	3.73E-02	8.57E-02
Sr-89	2.34E-02	5.38E-02
Sr-90	1.02E-02	2.34E-02
Cs-137	6.03E-03	1.39E-02
Ni-59	3.44E-03	7.90E-03
C-14	1.06E-03	2.44E-03
Pu-241	8.34E-04	1.92E-03

4. Source

Resins	4.35E+01 Ci
DAW	0.00E+00 Ci
Irradiated Components	0.00E+00 Ci
Other (Sealed Source & Mixed Waste)	9.99E-03 Ci

5. Type of Container

   Type B

6. Solidification Agent

   None

Class C

There were no Class C shipments made during calendar year 2007

Solid Radwaste Information required by NRC Regulatory Guide 1.21

January -- December 2007

Solid waste shipped offsite for burial or disposal (not irradiated fuel).

1. Type of Waste

Waste Stream	Unit	Annual Cumulative	Est. Total Error %
a. Spent resins, filter sludge, evaporator bottoms, etc.	m^3	1.66E+02	
	Ci	1.56E+03	2.5E+01%
b. Dry Active Waste	m^3	1.93E+03	
	Ci	8.78E+00	2.5E+01%
c. Irradiated Components	m^3	0.00E+00	
	Ci	0.00E+00	None
d. Other Waste (Sealed Source & mixed waste)	m^3	4.01E+-01	
	Ci	3.27E-02	None

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

a. Dewatered Spent Resins -- All Classes

Nuclide	Curies	Percent
Co-60	6.10E+02	3.90E+01
Zn-65	4.07E+02	2.60E+01
Fe-55	2.46E+02	1.57E+01
Mn-54	1.28E+02	8.19E+00
Co-58	7.15E+01	4.57E+00
Cr-51	5.16E+01	3.30E+00
Fe-59	1.76E+01	1.12E+00
Ni-63	1.24E+01	7.90E-01
Ag-110m	4.95E+00	3.17E-01
C-14	4.01E+00	2.56E-01
Nb-95	2.19E+00	1.40E-01
Sb-124	2.06E+00	1.32E-01
Zr-95	1.27E+00	8.12E-02
Cs-137	1.12E+00	7.17E-02
Ce-144	9.93E-01	6.35E-02
Mo-99	9.84E-01	6.29E-02
Sr-89	6.11E-01	3.90E-02
H-3	3.70E-01	2.36E-02

b. Dry Active Waste (DAW) -- All Classes

Nuclide	Curies	Percent
Cr-51	2.44E+00	2.78E+01
Co-60	2.44E+00	2.78E+01
Zn-65	2.01E+00	2.29E+01
Co-58	1.04E+00	1.18E+01
Ni-59	2.34E-01	2.67E+00
Mn-54	2.01E-01	2.29E+00
Fe-55	9.14E-02	1.04E+00
Nb-95	6.66E-02	7.58E-01
Zr-95	6.35E-02	7.23E-01
Sb-125	4.94E-02	5.62E-01
Ni-63	4.52E-02	5.15E-01
Sr-89	3.34E-02	3.81E-01
Cs-137	3.05E-02	3.47E-01
Ag-110m	2.97E-02	3.39E-01
H-3	6.69E-03	7.62E-02
C-14	1.41E-03	1.61E-02
Cs-134	7.79E-04	8.87E-03

c. Irradiated Components
None

d. Other Waste (Sealed Source & Mixed Waste)

Nuclide	Curies	Percent
DU	2.27E-02	6.93E+01
Sr-90	9.99E-03	3.05E+01
U-234	1.82E-05	5.56E-02
Ce-144	7.16E-06	2.19E-02
H-3	5.46E-06	1.67E-02
Zr-95	3.40E-06	1.04E-02
Y-91	2.91E-06	8.89E-03
Pm-147	2.57E-06	7.87E-03
Co-60	2.39E-06	7.29E-03

Sr-89	1.90E-06	5.82E-03

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
61	Tractor - Trailer via Public Highway	US Ecology, Inc. P.O. Box 638 Hanford Reservation Richland, WA. 99352
1*	Tractor - Trailer via Public Highway	Perma-Fix of Fla 1940 N.W. 67th Pl Gainesville, FL 32653

(* After processing by Perma-Fix of Florida, Inc, portions of this shipment will be forwarded for disposal.)

Irradiated Fuel Shipments (Disposition)

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

5.0 Meteorological Data

The meteorological data contained in Tables 5-1 through 5-10 was obtained from the meteorological tower located 2500 feet (762 m) west of Columbia Generating Station. Data was recovered from instruments at the 33-foot (10 m) and 245-foot (75 m) levels. The meteorological data is a composite file generated from the automated data recovery systems for the calendar year 2007. Data is archived on the Energy Northwest Local Area Network.

Joint data recovery for 2007 was 96.1% from the 33-foot level and 96.6% from the 245-foot level. Redundant wind and temperature sensors are installed at both levels of the meteorological tower. These redundant sensors are labeled System 'A' and System 'B'. For the 33-foot level, the joint frequency distribution was calculated using the System 'B' sensors except for May, June, and September when the System 'A' sensors were used. For the 245-foot level, the joint frequency distribution was calculated using the System 'B' sensors for April, July, August, November, and December. For the remainder of the year, the system 'A' sensors were used.

The data in Tables 5-1 through 5-8 lists the joint frequency distributions at the 33-foot and 245-foot levels by quarter for 2007. These tables show the total hours at various wind speeds for each sector and stability class. The NRC stability classes A through G and eleven wind speed categories along with the 16 wind direction sectors were used to prepare each joint frequency table. Table 5-9 and 5-10 list the annual joint frequency distributions for those levels for 2007.

Data below 1.00 MPH is recorded as a calm.

Table 5-1 1st Quarter Average, 33 Ft Above Ground Level (AGL)

Joint Frequency Distribution

(version 4.0)

Sensor Criteria		Time Frame		Data Recovery Rate	
Wind Speed:	33 Foot Sensors	Starting Date:	1/1/07	Maximum Hours In Period:	2160
Wind Direction:	33 Foot Sensors	Ending Date:	3/31/07	Hours Missing:	11
Delta T:	245 Foot - 33 Foot Sensors			Hours Used:	2149
Signal Path:	Mixed			Recovery Rate:	99.5%
Processing:	15 Minute Averaged				

STABILITY CLASS: A

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
2.2	4.5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4.5	6.7	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	5
6.7	8.9	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
8.9	11.2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
11.2	13.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.4	17.9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
17.9	22.4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		5	0	0	0	0	0	1	1	2	0	1	0	2	1	0	0	13

STABILITY CLASS: B

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2	4.5	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	4
4.5	6.7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
6.7	8.9	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
8.9	11.2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
11.2	13.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.4	17.9	0	0	0	0	0	0	0	0	1	1	2	0	1	0	0	0	5
17.9	22.4	0	0	0	0	0	0	0	0	0	0	2	5	1	0	0	0	8
22.4	29.1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		0	2	1	0	0	0	0	0	2	4	5	6	2	0	0	3	25

STABILITY CLASS: C

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	3	4	1	2	0	0	0	0	0	0	0	0	0	0	0	1	11
2.2	4.5	5	4	4	1	1	0	0	0	0	0	0	0	0	0	3	1	19
4.5	6.7	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	9	13
6.7	8.9	1	0	1	0	0	0	0	1	1	2	0	0	0	0	4	5	15
8.9	11.2	1	0	0	0	0	0	0	1	5	7	0	0	0	0	6	2	22
11.2	13.4	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3
13.4	17.9	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	3
17.9	22.4	0	1	1	0	0	0	0	0	0	0	0	3	2	0	0	0	7
22.4	29.1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
29.1	40.3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		12	10	7	3	1	0	0	2	7	11	4	5	2	0	14	18	96

STABILITY CLASS: D

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	16	9	6	4	4	4	3	5	4	4	2	2	2	6	8	12	91
2.2	4.5	29	11	1	3	2	0	7	11	21	14	5	12	5	11	18	31	181
4.5	6.7	11	13	2	4	1	0	2	19	18	17	2	4	2	7	47	32	181
6.7	8.9	5	3	2	1	0	0	1	15	22	16	4	1	1	4	18	19	112
8.9	11.2	1	1	1	0	0	0	0	3	15	7	4	1	2	6	8	3	52
11.2	13.4	1	0	0	0	0	0	0	0	6	7	2	0	0	1	8	0	25
13.4	17.9	1	1	1	0	0	0	0	0	2	11	11	6	2	7	3	1	46
17.9	22.4	0	2	0	0	0	0	0	0	0	5	10	8	1	3	2	0	31
22.4	29.1	0	0	0	0	0	0	0	0	0	7	18	0	0	0	0	0	25
29.1	40.3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		64	40	13	12	7	4	13	53	88	88	61	34	15	45	112	98	747

Table 5-1 1st Quarter Average, 33 Ft AGL (Continued)

STABILITY CLASS: E

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	6	8	1	3	0	0	3	2	4	10	8	7	6	12	17	5	92
2.2	4.5	19	10	5	0	0	1	1	14	18	8	5	8	6	8	20	26	149
4.5	6.7	3	2	3	0	0	0	0	9	17	13	3	5	5	8	15	19	102
6.7	8.9	1	0	5	0	0	0	1	8	23	12	5	4	5	3	7	5	79
8.9	11.2	0	0	0	0	0	0	0	10	18	6	0	3	4	2	11	3	57
11.2	13.4	0	0	0	0	0	0	1	2	8	6	2	4	3	2	4	0	32
13.4	17.9	0	0	0	0	0	0	2	0	7	15	11	3	3	9	3	0	53
17.9	22.4	0	0	0	0	0	0	0	0	1	9	6	0	0	4	2	0	22
22.4	29.1	0	0	0	0	0	0	0	0	0	7	8	1	1	0	0	0	17
29.1	40.3	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		29	20	14	3	0	1	8	45	96	87	48	36	33	48	79	58	605

STABILITY CLASS: F

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	5	1	6	1	2	1	2	5	4	3	8	7	7	3	10	13	78
2.2	4.5	17	5	6	2	0	0	0	3	10	7	5	3	2	12	23	25	120
4.5	6.7	4	2	3	3	0	0	0	10	12	7	6	1	1	2	11	8	70
6.7	8.9	0	0	2	0	0	0	0	7	21	7	5	2	5	4	7	5	65
8.9	11.2	0	0	0	0	0	0	0	2	13	1	0	0	1	1	1	0	19
11.2	13.4	0	0	0	0	0	0	0	2	4	2	0	0	0	2	0	0	10
13.4	17.9	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	6
17.9	22.4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		26	8	17	6	2	1	2	29	65	30	27	13	16	24	52	51	369

STABILITY CLASS: G

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	3	0	0	0	0	0	1	2	2	2	3	0	1	4	7	26
2.2	4.5	9	0	4	1	0	0	0	0	9	5	3	2	1	2	9	12	57
4.5	6.7	0	0	3	1	0	0	0	0	10	0	1	0	0	0	3	5	23
6.7	8.9	0	0	3	1	0	0	0	0	9	1	1	0	0	0	1	1	17
8.9	11.2	0	0	0	2	0	0	0	0	4	0	2	0	0	0	0	0	8
11.2	13.4	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
13.4	17.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.9	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		10	3	10	5	0	0	0	2	35	8	9	5	1	3	17	25	133

STABILITY CLASS: ALL

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	31	25	14	10	6	5	9	13	14	19	20	19	15	22	39	38	299
2.2	4.5	81	31	21	7	3	1	8	28	58	34	18	25	14	33	73	97	532
4.5	6.7	23	19	11	8	1	0	2	38	58	37	12	10	9	17	77	74	396
6.7	8.9	7	3	13	2	0	0	2	32	77	39	15	7	12	11	37	35	292
8.9	11.2	2	1	1	2	0	0	0	16	56	23	6	4	7	9	26	8	161
11.2	13.4	1	0	0	0	0	0	1	5	20	16	5	4	3	5	12	0	72
13.4	17.9	1	1	1	0	0	0	2	0	11	30	28	10	6	17	6	1	114
17.9	22.4	0	3	1	0	0	0	0	0	1	15	19	16	4	7	4	0	70
22.4	29.1	0	0	0	0	0	0	0	0	0	14	28	3	1	0	0	0	46
29.1	40.3	0	0	0	0	0	0	0	0	0	1	4	1	0	0	0	0	6
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		146	83	62	29	10	6	24	132	295	228	155	99	71	121	274	253	1988

	A	B	C	D	E	F	G	TOTALS
CALM	0	0	4	50	49	36	22	161

Table 5-2 1st Quarter Average, 245 Ft AGL

Joint Frequency Distribution

(version 4.0)

Sensor Criteria		Time Frame		Data Recovery Rate	
Wind Speed:	33 Foot Sensors	Starting Date:	1/1/07	Maximum Hours In Period:	2160
Wind Direction:	33 Foot Sensors	Ending Date:	3/31/07	Hours Missing:	11
Delta T:	245 Foot - 33 Foot Sensors			Hours Used:	2149
Signal Path:	Mixed			Recovery Rate:	99.5%
Processing:	15 Minute Averaged				

STABILITY CLASS: A

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2	4.5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4.5	6.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.7	8.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.9	11.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.2	13.4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
13.4	17.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.9	22.4	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	3
22.4	29.1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		1	0	0	0	0	0	0	1	1	0	4	0	0	0	0	0	7

STABILITY CLASS: B

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2	4.5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	3
4.5	6.7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
6.7	8.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
8.9	11.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11.2	13.4	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
13.4	17.9	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
17.9	22.4	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	3
22.4	29.1	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	5
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		2	0	1	0	0	0	0	0	1	3	3	6	2	0	0	6	24

STABILITY CLASS: C

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
2.2	4.5	2	1	1	1	0	0	0	0	0	0	0	0	0	0	1	2	8
4.5	6.7	2	2	0	0	0	0	0	0	0	0	0	1	0	1	2	4	12
6.7	8.9	2	0	0	0	0	0	0	1	2	0	0	0	0	0	1	9	15
8.9	11.2	1	0	0	0	0	0	0	0	5	2	0	0	0	0	3	3	14
11.2	13.4	0	0	0	0	0	0	0	0	2	5	0	0	0	0	2	2	11
13.4	17.9	0	0	0	0	0	0	0	0	2	3	1	0	0	0	1	0	7
17.9	22.4	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
22.4	29.1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	4
29.1	40.3	0	0	0	0	0	0	0	0	0	0	1	3	1	0	0	0	5
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		10	3	2	1	0	0	0	1	11	12	2	7	2	1	10	21	83

STABILITY CLASS: D

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	7	3	5	2	4	3	2	4	6	3	4	0	0	3	4	3	53
2.2	4.5	18	14	3	7	2	5	4	4	6	7	5	7	4	6	7	16	115
4.5	6.7	18	12	6	1	0	3	1	10	11	14	5	3	5	1	11	17	118
6.7	8.9	11	9	4	1	0	0	1	13	11	11	4	2	2	5	11	15	100
8.9	11.2	7	1	1	2	1	0	3	8	20	16	3	1	4	6	16	13	102
11.2	13.4	6	1	0	1	0	0	0	3	10	13	4	1	1	2	10	16	68
13.4	17.9	8	3	2	0	0	0	0	1	9	8	3	3	1	6	23	7	74
17.9	22.4	2	0	2	0	0	0	0	0	2	9	9	4	2	8	11	0	49
22.4	29.1	0	5	2	0	0	0	0	0	0	8	15	6	1	5	4	0	46
29.1	40.3	0	0	0	0	0	0	0	0	0	4	20	5	3	0	1	0	33
40.3	90	1	0	0	0	0	0	0	0	0	0	10	1	0	0	0	0	12
TOTALS		78	48	25	14	7	11	11	43	75	93	82	33	23	42	98	87	770

Table 5-2 1st Quarter Average, 245 Ft AGL (Continued)

STABILITY CLASS: E

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	3	1	6	1	1	2	1	3	5	3	3	0	2	1	0	1	33
2.2	4.5	7	7	7	2	1	2	3	7	8	4	4	4	6	4	6	5	77
4.5	6.7	8	2	7	0	1	0	1	5	7	5	4	3	6	4	5	14	72
6.7	8.9	10	7	5	0	0	0	1	7	10	3	1	2	4	6	9	17	82
8.9	11.2	5	4	1	1	0	0	1	4	8	9	6	5	1	4	16	17	82
11.2	13.4	1	0	1	2	0	0	1	3	12	12	3	1	4	2	12	8	62
13.4	17.9	0	1	1	3	0	0	1	2	22	21	4	3	5	1	14	7	85
17.9	22.4	0	0	1	1	0	0	1	2	5	15	7	4	4	7	12	6	65
22.4	29.1	0	0	1	0	0	0	0	0	2	16	18	5	6	13	3	2	66
29.1	40.3	0	0	0	0	0	0	0	0	0	6	15	3	1	4	1	0	30
40.3	90	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	4
TOTALS		34	22	30	10	3	4	10	33	79	94	68	31	39	46	78	77	658

STABILITY CLASS: F

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	2	2	2	1	0	5	2	1	3	4	1	0	1	1	0	0	25
2.2	4.5	10	9	7	1	2	2	4	4	2	3	0	5	1	0	6	1	57
4.5	6.7	8	11	2	3	2	2	1	2	6	6	0	3	2	0	6	11	65
6.7	8.9	7	2	10	2	0	0	0	3	6	7	2	1	1	1	2	12	56
8.9	11.2	6	2	5	3	0	0	0	3	12	6	4	2	0	1	6	8	58
11.2	13.4	2	1	1	1	0	0	0	2	7	3	6	2	0	3	6	7	41
13.4	17.9	5	0	0	0	0	0	0	4	12	16	6	0	1	7	6	7	64
17.9	22.4	0	0	0	0	0	0	0	2	2	8	4	1	1	2	8	2	30
22.4	29.1	0	0	0	0	0	0	0	0	1	0	1	0	0	5	0	1	8
29.1	40.3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		40	27	27	11	4	9	7	21	51	54	24	14	7	20	40	49	405

STABILITY CLASS: G

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	0	1	0	2	1	1	1	0	0	1	0	1	2	1	0	12
2.2	4.5	3	3	2	3	1	1	3	1	4	4	6	1	2	1	1	2	38
4.5	6.7	2	1	1	0	0	1	5	5	2	2	4	2	3	0	1	3	32
6.7	8.9	4	1	0	1	1	0	0	4	6	4	2	1	2	1	0	3	30
8.9	11.2	2	0	0	1	0	0	0	0	3	2	3	3	0	0	1	4	19
11.2	13.4	2	0	0	0	0	0	0	1	0	1	0	0	0	0	1	2	7
13.4	17.9	0	0	0	0	0	0	0	1	3	1	2	0	0	0	1	3	11
17.9	22.4	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		14	5	4	5	4	3	9	13	18	15	19	7	8	4	6	17	151

STABILITY CLASS: ALL

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	15	6	14	4	7	11	6	9	14	10	9	0	5	7	5	5	127
2.2	4.5	41	34	21	14	6	10	14	16	20	18	15	17	13	11	21	28	299
4.5	6.7	40	28	16	4	3	6	8	22	26	27	13	12	16	6	25	50	302
6.7	8.9	34	19	19	4	1	0	2	28	35	25	9	6	9	13	23	58	285
8.9	11.2	21	7	7	7	1	0	4	15	48	35	16	11	5	11	42	46	276
11.2	13.4	11	2	2	4	0	0	1	10	31	37	13	4	5	7	31	35	193
13.4	17.9	13	4	3	3	0	0	1	8	49	49	16	6	7	14	45	24	242
17.9	22.4	3	0	3	1	0	0	1	4	10	35	25	9	8	17	31	8	155
22.4	29.1	0	5	4	0	0	0	0	0	3	24	37	18	7	23	7	3	131
29.1	40.3	0	0	0	0	0	0	0	0	0	11	36	13	6	4	2	0	72
40.3	90	1	0	0	0	0	0	0	0	0	0	13	2	0	0	0	0	16
TOTALS		179	105	89	41	18	27	37	112	236	271	202	98	81	113	232	257	2098

	A	B	C	D	E	F	G	TOTALS
CALM	0	0	0	20	16	12	3	51

Table 5-3 2nd Quarter Average, 33 Ft AGL

Joint Frequency Distribution

(version 4.0)

Sensor Criteria		Time Frame		Data Recovery Rate	
Wind Speed:	33 Foot Sensors	Starting Date:	4/1/07	Maximum Hours In Period:	2184
Wind Direction:	33 Foot Sensors	Ending Date:	6/30/07	Hours Missing:	311
Delta T:	245 Foot - 33 Foot Sensors			Hours Used:	1873
Signal Path:	Mixed			Recovery Rate:	85.8%
Processing:	15 Minute Averaged				

STABILITY CLASS: A

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2	4.5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4.5	6.7	0	1	0	1	0	0	0	0	0	0	0	1	1	1	0	0	5
6.7	8.9	0	5	1	0	0	0	0	0	0	0	0	0	0	1	0	0	7
8.9	11.2	3	1	0	0	0	0	0	0	2	1	0	0	0	0	0	0	7
11.2	13.4	0	1	0	0	0	0	0	0	3	7	1	0	0	1	0	0	13
13.4	17.9	0	0	0	0	0	0	0	1	2	9	0	0	0	1	0	0	13
17.9	22.4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		4	8	1	1	0	0	0	1	7	18	1	3	1	4	3	0	52

STABILITY CLASS: B

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2.2	4.5	3	3	5	0	0	0	0	1	0	0	0	0	0	0	0	0	12
4.5	6.7	1	3	4	1	0	0	0	1	0	2	0	0	0	0	1	1	14
6.7	8.9	0	3	3	1	0	1	1	2	2	0	0	0	0	0	0	0	13
8.9	11.2	3	6	2	0	0	0	0	3	13	4	3	2	0	0	1	0	37
11.2	13.4	0	0	0	0	0	0	0	0	2	6	2	2	2	0	1	0	15
13.4	17.9	0	0	0	0	0	0	1	0	1	9	2	2	2	2	1	1	21
17.9	22.4	0	0	0	0	0	0	0	0	0	0	1	3	1	0	1	0	6
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	3
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		8	16	15	2	0	1	2	7	18	21	8	11	5	2	6	2	124

STABILITY CLASS: C

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	4
2.2	4.5	3	4	10	4	4	7	0	4	1	1	1	1	2	0	1	2	45
4.5	6.7	3	7	1	4	2	0	4	4	11	3	4	1	0	0	3	5	52
6.7	8.9	2	3	6	2	1	2	1	9	10	8	4	3	1	1	2	3	58
8.9	11.2	4	0	3	0	0	0	0	4	9	3	4	1	0	1	2	0	31
11.2	13.4	1	0	0	0	0	0	0	0	0	10	2	3	1	1	2	0	20
13.4	17.9	0	0	0	0	0	0	2	0	2	5	2	0	1	2	1	1	16
17.9	22.4	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	4
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	3
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		14	14	20	10	8	10	7	21	33	30	18	11	6	6	14	11	233

STABILITY CLASS: D

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	2	2	1	4	1	5	1	5	1	1	1	1	1	1	2	29
2.2	4.5	8	1	10	7	3	12	6	12	11	8	2	6	7	7	5	4	109
4.5	6.7	5	8	4	10	5	3	1	13	18	11	11	4	5	1	5	3	107
6.7	8.9	3	1	8	2	3	4	3	10	27	17	3	0	8	9	1	7	106
8.9	11.2	3	2	4	0	0	4	1	5	12	13	8	6	9	8	5	2	82
11.2	13.4	0	1	0	0	0	0	2	1	6	6	3	3	5	4	5	2	38
13.4	17.9	0	2	0	0	0	0	0	0	4	6	2	5	4	2	19	1	45
17.9	22.4	0	1	0	0	0	0	0	0	0	1	1	2	0	2	16	0	23
22.4	29.1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	3
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		19	18	28	20	15	24	18	42	83	63	32	27	39	35	58	21	542

Table 5-3 2nd Quarter Average, 33 Ft AGL (Continued)

STABILITY CLASS: E

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	2	3	4	3	2	2	5	1	1	2	4	3	2	4	1	5	44
2.2	4.5	4	4	3	4	3	1	5	8	6	6	7	9	7	8	4	7	86
4.5	6.7	4	0	2	1	0	2	6	7	6	4	5	9	5	7	9	7	74
6.7	8.9	3	0	1	0	0	0	5	4	9	7	3	4	4	12	10	10	72
8.9	11.2	1	0	0	0	0	1	5	6	10	2	0	1	3	14	12	2	57
11.2	13.4	0	0	0	0	0	0	0	1	1	2	0	0	4	11	11	1	31
13.4	17.9	0	0	0	0	0	0	0	0	0	3	3	0	3	2	9	1	21
17.9	22.4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		14	7	10	8	5	6	26	27	33	26	23	26	28	58	57	33	387

STABILITY CLASS: F

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	2	2	3	1	0	1	2	2	7	2	0	2	1	4	5	4	38
2.2	4.5	12	1	6	2	1	1	5	7	19	7	5	4	1	5	4	13	93
4.5	6.7	2	0	3	2	0	0	4	14	7	7	3	2	2	10	5	5	66
6.7	8.9	1	0	0	1	0	0	1	5	17	9	2	4	3	5	7	1	56
8.9	11.2	0	0	1	0	0	0	0	4	8	0	1	1	1	5	1	0	22
11.2	13.4	0	0	0	0	0	0	0	0	0	0	1	0	0	2	1	0	4
13.4	17.9	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
17.9	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		17	3	13	6	1	2	12	32	58	26	12	13	8	31	23	23	280

STABILITY CLASS: G

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	3	7	5	1	0	0	1	3	1	1	1	1	1	0	2	3	30
2.2	4.5	13	6	5	1	0	0	1	6	10	6	2	0	0	0	1	8	59
4.5	6.7	9	0	3	0	0	0	0	3	10	5	2	1	0	1	0	9	43
6.7	8.9	2	0	0	0	0	0	0	4	10	2	0	0	0	0	5	4	27
8.9	11.2	0	0	0	1	0	0	0	2	2	3	0	0	0	1	1	0	10
11.2	13.4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
13.4	17.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.9	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		27	13	13	3	0	0	2	19	33	17	5	2	1	2	9	24	170

STABILITY CLASS: ALL

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	9	15	15	6	7	5	13	7	14	6	6	7	5	9	10	14	148
2.2	4.5	44	19	39	18	11	21	17	38	47	28	17	20	17	20	15	34	405
4.5	6.7	24	19	17	19	7	5	15	42	52	32	25	18	13	20	23	30	361
6.7	8.9	11	12	19	6	4	7	11	34	75	43	12	11	16	28	25	25	339
8.9	11.2	14	9	10	1	0	5	6	24	56	26	16	11	13	29	22	4	246
11.2	13.4	1	2	0	0	0	0	2	3	12	31	9	8	12	19	20	3	122
13.4	17.9	0	2	0	0	0	0	3	1	9	33	9	7	10	9	30	4	117
17.9	22.4	0	1	0	0	0	0	0	0	0	2	4	6	1	3	20	0	37
22.4	29.1	0	0	0	0	0	0	0	0	0	0	1	5	1	1	5	0	13
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		103	79	100	50	29	43	67	149	265	201	99	93	88	138	170	114	1788

	A	B	C	D	E	F	G	TOTALS
CALM	0	0	2	10	12	26	35	85

Table 5-4 2nd Quarter Average, 245 Ft AGL

Joint Frequency Distribution

(version 4.0)

Sensor Criteria		Time Frame		Data Recovery Rate	
Wind Speed:	33 Foot Sensors	Starting Date:	4/1/07	Maximum Hours In Period:	2184
Wind Direction:	33 Foot Sensors	Ending Date:	6/30/07	Hours Missing:	264
Delta T:	245 Foot - 33 Foot Sensors			Hours Used:	1920
Signal Path:	Mixed			Recovery Rate:	87.9%
Processing:	15 Minute Averaged				

STABILITY CLASS: A

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2	4.5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4.5	6.7	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2
6.7	8.9	0	3	2	0	0	0	0	0	0	0	0	0	2	0	0	0	7
8.9	11.2	1	5	0	0	0	0	0	0	1	0	0	0	0	1	0	0	8
11.2	13.4	1	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	5
13.4	17.9	0	0	0	0	0	0	0	0	1	13	2	0	1	0	0	0	17
17.9	22.4	0	0	0	0	0	0	0	1	0	6	0	0	0	1	0	0	8
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		3	8	2	1	0	0	0	1	5	20	2	2	4	2	3	0	53

STABILITY CLASS: B

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
2.2	4.5	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	8
4.5	6.7	1	3	4	0	0	0	1	0	0	2	0	0	0	0	0	1	12
6.7	8.9	0	4	4	3	0	0	0	1	3	0	0	0	0	1	0	0	16
8.9	11.2	0	5	4	1	0	1	1	2	6	4	0	0	0	0	0	0	24
11.2	13.4	2	1	0	0	0	0	0	0	3	7	2	2	0	0	1	1	19
13.4	17.9	0	0	0	0	0	0	0	0	2	12	4	2	3	2	1	1	27
17.9	22.4	0	0	0	0	0	0	1	0	0	3	2	2	1	0	1	0	10
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	4	1	0	1	0	6
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		7	15	14	5	1	1	3	3	14	28	8	11	5	3	5	3	126

STABILITY CLASS: C

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	3
2.2	4.5	3	3	5	3	2	4	2	1	2	0	0	3	0	0	1	1	30
4.5	6.7	3	2	3	4	4	5	1	5	5	4	1	0	1	0	0	3	41
6.7	8.9	4	2	4	4	1	3	2	3	14	7	3	4	0	1	3	4	59
8.9	11.2	3	0	5	3	1	0	1	5	10	5	4	4	1	1	2	2	47
11.2	13.4	1	0	2	1	0	0	0	0	3	8	2	2	0	1	1	0	21
13.4	17.9	1	0	0	0	0	0	1	1	1	9	4	4	1	2	1	2	27
17.9	22.4	0	0	0	0	0	0	0	0	1	0	1	0	1	1	1	0	5
22.4	29.1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	4
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	3
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		15	8	19	15	8	12	7	16	36	33	16	19	5	7	12	12	240

STABILITY CLASS: D

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	1	1	0	2	3	1	1	2	2	2	0	0	0	0	0	16
2.2	4.5	5	1	4	6	2	5	7	12	12	8	5	3	8	4	1	3	86
4.5	6.7	7	3	5	7	4	3	5	9	15	12	9	7	5	3	7	2	103
6.7	8.9	1	3	5	10	5	7	1	9	13	11	4	2	6	0	3	3	83
8.9	11.2	3	0	0	2	1	2	3	2	19	23	5	0	9	7	2	5	83
11.2	13.4	3	2	1	5	0	3	2	1	5	13	4	6	4	9	2	0	60
13.4	17.9	0	0	0	0	0	3	1	3	7	9	6	4	6	11	4	2	56
17.9	22.4	0	0	0	0	0	0	0	0	0	4	2	6	2	5	15	2	36
22.4	29.1	0	0	0	0	0	0	0	0	0	1	2	4	2	3	18	0	30
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		20	10	16	30	14	26	20	37	73	83	39	32	42	44	55	17	558

Table 5-4 2nd Quarter Average, 245 Ft AGL (Continued)

STABILITY CLASS: E

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	3	0	2	1	1	2	0	1	1	0	1	0	0	0	1	13
2.2	4.5	1	2	3	2	1	4	4	0	1	2	3	6	3	2	0	3	37
4.5	6.7	2	2	4	1	2	1	1	4	8	2	3	4	5	8	7	2	56
6.7	8.9	1	1	0	4	0	0	3	5	3	3	1	3	8	11	4	2	49
8.9	11.2	1	0	1	1	0	0	2	4	3	2	5	2	5	6	8	4	44
11.2	13.4	1	0	1	1	0	1	1	4	3	8	2	4	3	7	12	4	52
13.4	17.9	0	0	0	1	0	0	3	5	8	7	3	1	3	12	18	5	66
17.9	22.4	1	0	0	0	0	0	0	0	1	5	0	0	5	19	19	0	50
22.4	29.1	0	0	0	0	0	0	0	0	0	1	4	0	2	9	15	0	31
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		7	8	9	12	4	7	16	22	28	31	21	21	34	74	83	21	398

STABILITY CLASS: F

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	1	1	1	1	1	1	0	2	1	0	2	0	2	13
2.2	4.5	1	1	2	3	4	1	3	2	2	8	4	4	2	1	3	4	45
4.5	6.7	3	4	2	3	1	1	1	5	2	5	9	5	5	1	5	2	54
6.7	8.9	2	2	3	4	0	0	1	4	5	6	2	5	1	6	4	4	49
8.9	11.2	1	0	2	0	0	0	3	3	5	6	5	2	1	5	5	1	39
11.2	13.4	1	0	0	1	0	0	0	2	3	6	2	2	2	5	8	2	34
13.4	17.9	0	0	0	1	0	0	0	2	6	9	2	0	3	9	9	1	42
17.9	22.4	0	0	0	0	0	0	1	1	0	0	2	0	1	13	5	0	23
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		8	7	9	13	6	3	10	20	24	40	28	19	15	45	39	16	302

STABILITY CLASS: G

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	1	0	2	0	1	0	1	0	1	1	3	2	3	0	0	15
2.2	4.5	3	3	4	1	3	2	5	0	5	4	10	5	1	1	2	2	51
4.5	6.7	6	2	0	3	0	0	1	3	2	4	5	3	0	0	1	4	34
6.7	8.9	7	2	1	0	2	0	0	2	5	5	1	3	2	0	1	2	33
8.9	11.2	2	0	2	0	0	0	0	3	3	0	3	0	0	0	4	6	23
11.2	13.4	2	0	0	1	0	0	0	0	3	2	1	0	0	1	3	2	15
13.4	17.9	6	0	0	1	0	0	0	2	2	1	2	0	0	0	12	5	31
17.9	22.4	1	0	0	0	0	0	0	1	1	0	0	0	0	0	5	0	8
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		27	8	7	8	5	3	6	12	21	17	23	14	5	5	28	21	210

STABILITY CLASS: ALL

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	2	6	1	5	5	6	4	4	4	4	5	5	2	5	1	3	62
2.2	4.5	17	12	20	16	12	16	21	15	22	22	22	21	14	8	7	13	258
4.5	6.7	22	16	18	19	11	10	10	26	32	29	27	19	17	12	20	14	302
6.7	8.9	15	17	19	25	8	10	7	24	43	32	11	17	19	19	15	15	296
8.9	11.2	11	10	14	7	2	3	10	19	47	40	22	8	16	20	21	18	268
11.2	13.4	11	3	4	9	0	4	3	7	23	45	13	16	9	23	27	9	206
13.4	17.9	7	0	0	3	0	3	5	13	27	60	23	11	17	36	45	16	266
17.9	22.4	2	0	0	0	0	0	2	3	3	18	7	8	10	39	46	2	140
22.4	29.1	0	0	0	0	0	0	0	0	0	2	7	9	5	16	36	0	75
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	4	1	2	7	0	14
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		87	64	76	84	38	52	62	111	201	252	137	118	110	180	225	90	1887

	A	B	C	D	E	F	G	TOTALS
CALM	0	1	1	8	4	10	9	33

Table 5-5 3rd Quarter Average, 33 Ft AGL

Joint Frequency Distribution

(version 4.0)

Sensor Criteria		Time Frame		Data Recovery Rate	
Wind Speed:	33 Foot Sensors	Starting Date:	7/1/07	Maximum Hours In Period:	2208
Wind Direction:	33 Foot Sensors	Ending Date:	9/30/07	Hours Missing:	18
Delta T:	245 Foot - 33 Foot Sensors			Hours Used:	2190
Signal Path:	Mixed			Recovery Rate:	99.2%
Processing:	15 Minute Averaged				

STABILITY CLASS: A

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
2.2	4.5	0	2	4	1	1	0	0	0	1	1	0	0	0	0	0	1	11
4.5	6.7	2	6	9	3	0	0	0	0	0	0	0	0	0	0	0	0	20
6.7	8.9	4	9	1	0	0	0	1	0	2	0	0	0	0	0	0	1	18
8.9	11.2	2	3	1	0	0	0	0	0	2	0	0	0	0	0	0	0	8
11.2	13.4	0	5	0	0	0	0	0	0	3	1	1	0	0	0	0	0	10
13.4	17.9	1	1	0	0	0	0	0	0	7	2	0	0	0	0	0	0	11
17.9	22.4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		9	26	15	5	1	0	1	0	16	4	1	0	0	0	0	2	80

STABILITY CLASS: B

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	1	6
2.2	4.5	5	4	11	0	3	1	0	1	0	0	1	0	0	0	1	2	29
4.5	6.7	2	6	2	7	1	1	3	0	1	1	0	0	0	0	0	0	24
6.7	8.9	0	5	1	2	1	4	0	4	6	1	1	0	0	0	0	3	28
8.9	11.2	1	1	0	2	1	0	0	1	6	5	1	0	0	0	0	0	18
11.2	13.4	1	0	0	0	0	0	0	0	11	7	1	1	0	0	1	0	22
13.4	17.9	1	2	0	0	0	0	0	0	3	6	0	1	2	0	0	0	15
17.9	22.4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	5
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		11	19	15	13	6	6	3	7	27	20	4	2	2	0	2	10	147

STABILITY CLASS: C

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	2	1	2	2	2	0	1	0	0	0	0	0	0	0	3	2	15
2.2	4.5	2	8	3	3	3	4	5	6	2	3	3	2	2	1	1	2	50
4.5	6.7	2	3	5	2	1	3	10	5	14	5	1	2	1	1	0	3	58
6.7	8.9	3	5	2	1	1	4	4	11	13	1	0	0	0	4	0	1	50
8.9	11.2	1	3	0	1	0	1	1	6	8	7	1	0	0	1	3	1	34
11.2	13.4	1	4	0	0	0	0	0	1	6	3	3	0	0	0	2	2	22
13.4	17.9	0	2	0	0	0	0	0	0	3	3	2	0	4	1	3	2	20
17.9	22.4	0	0	0	0	0	0	0	0	0	0	0	1	1	0	4	0	6
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		11	26	12	9	7	12	21	29	46	22	10	5	8	8	16	13	255

STABILITY CLASS: D

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	7	2	5	3	1	7	2	5	1	3	2	2	2	1	1	45
2.2	4.5	6	6	7	6	6	8	11	29	17	9	3	2	3	4	4	6	127
4.5	6.7	6	5	4	5	1	1	14	28	31	17	4	1	4	3	4	8	136
6.7	8.9	4	2	2	0	2	5	9	19	20	9	2	2	4	3	1	6	90
8.9	11.2	4	1	0	1	0	2	7	6	15	12	3	3	5	3	5	3	70
11.2	13.4	0	3	0	0	0	0	2	4	2	5	3	3	3	5	4	6	40
13.4	17.9	3	0	0	0	0	0	0	0	7	9	2	3	3	1	22	4	54
17.9	22.4	0	0	0	0	0	0	0	0	0	1	0	0	2	3	11	3	20
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		24	24	15	17	12	17	50	88	97	63	20	16	26	24	52	37	582

Table 5-5 3rd Quarter Average, 33 Ft AGL (Continued)

STABILITY CLASS: E

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	5	1	0	2	4	1	3	0	5	3	3	0	4	2	2	3	38
2.2	4.5	5	3	4	0	1	5	3	15	8	10	5	0	6	4	5	9	83
4.5	6.7	9	1	4	1	0	2	8	16	5	1	1	1	6	5	8	19	87
6.7	8.9	3	0	0	0	0	1	9	10	12	0	4	3	5	10	12	10	79
8.9	11.2	2	2	0	0	0	0	3	6	10	3	2	0	3	10	19	6	66
11.2	13.4	0	2	0	0	0	0	0	3	2	0	1	0	1	10	17	1	37
13.4	17.9	0	0	0	0	0	0	0	0	3	1	0	0	0	12	28	2	46
17.9	22.4	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	3
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		24	9	8	3	5	9	26	50	45	18	17	4	25	54	92	50	439

STABILITY CLASS: F

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	4	6	4	1	2	6	2	6	5	4	2	6	1	4	1	4	58
2.2	4.5	6	8	5	2	0	4	5	16	16	13	9	3	3	3	4	10	107
4.5	6.7	6	6	2	2	0	0	5	15	9	6	3	0	3	3	6	4	70
6.7	8.9	3	1	1	0	0	0	1	10	13	2	2	2	2	4	5	7	53
8.9	11.2	0	0	0	0	0	0	2	2	2	4	1	0	1	0	1	1	14
11.2	13.4	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3	0	5
13.4	17.9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
17.9	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		19	21	12	5	2	10	15	49	47	29	18	11	10	14	21	26	309

STABILITY CLASS: G

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	9	10	9	4	3	2	1	3	3	4	5	1	2	1	1	9	67
2.2	4.5	13	26	24	2	0	0	2	11	6	6	1	1	1	3	3	6	105
4.5	6.7	8	5	11	0	0	0	1	7	16	9	2	0	1	1	5	7	73
6.7	8.9	0	0	1	0	0	0	0	6	12	1	0	0	0	0	1	5	26
8.9	11.2	0	1	0	0	0	0	0	2	5	1	0	0	0	0	0	2	11
11.2	13.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.4	17.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.9	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		30	42	45	6	3	2	4	29	42	21	8	2	4	5	10	29	282

STABILITY CLASS: ALL

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	22	26	18	17	14	10	14	11	18	12	13	9	9	9	8	20	230
2.2	4.5	37	57	58	14	14	22	26	78	50	42	22	8	15	15	18	36	512
4.5	6.7	35	32	37	20	3	7	41	71	76	39	11	4	15	13	23	41	468
6.7	8.9	17	22	8	3	4	14	24	60	78	14	9	7	11	21	19	33	344
8.9	11.2	10	11	1	4	1	3	13	23	48	32	8	3	9	14	28	13	221
11.2	13.4	2	14	0	0	0	0	2	8	26	16	9	4	4	15	27	9	136
13.4	17.9	5	5	0	0	0	0	0	0	23	21	5	4	9	14	54	8	148
17.9	22.4	0	0	0	0	0	0	0	1	1	1	1	1	3	4	16	7	35
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		128	167	122	58	36	56	120	252	320	177	78	40	75	105	193	167	2094

	A	B	C	D	E	F	G	TOTALS
CALM	0	1	3	13	10	26	43	96

Table 5-6 3rd Quarter Average, 245 Ft AGL

Joint Frequency Distribution

(version 4.0)

Sensor Criteria		Time Frame		Data Recovery Rate	
Wind Speed:	33 Foot Sensors	Starting Date:	7/1/07	Maximum Hours In Period:	2208
Wind Direction:	33 Foot Sensors	Ending Date:	9/30/07	Hours Missing:	18
Delta T:	245 Foot - 33 Foot Sensors			Hours Used:	2190
Signal Path:	Mixed			Recovery Rate:	99.2%
Processing:	15 Minute Averaged				

STABILITY CLASS: A

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2	4.5	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	5
4.5	6.7	0	3	3	7	0	1	0	0	0	1	1	0	0	0	0	0	16
6.7	8.9	0	5	4	5	0	0	0	0	0	0	0	0	0	0	0	0	14
8.9	11.2	2	7	2	1	0	0	1	0	1	1	0	0	0	0	0	0	15
11.2	13.4	1	4	1	0	0	0	0	0	1	1	0	0	0	0	0	0	8
13.4	17.9	0	6	0	0	0	0	0	0	1	8	2	0	0	0	0	0	17
17.9	22.4	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	4
22.4	29.1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		5	26	11	15	0	1	1	0	3	15	3	0	0	0	0	0	80

STABILITY CLASS: B

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	4
2.2	4.5	2	3	1	5	2	3	1	0	0	1	0	0	0	0	1	1	20
4.5	6.7	3	5	3	6	1	1	0	0	0	0	1	0	0	0	0	0	20
6.7	8.9	2	3	3	2	2	1	3	3	1	0	1	0	0	0	1	0	22
8.9	11.2	2	4	0	2	5	2	1	2	8	3	0	1	0	0	0	1	31
11.2	13.4	0	1	0	0	0	0	0	0	1	6	1	0	0	0	0	0	9
13.4	17.9	2	1	0	0	0	0	0	0	6	14	4	1	1	0	1	0	30
17.9	22.4	0	1	0	0	0	0	0	1	0	3	1	0	1	1	0	0	8
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		11	18	7	16	11	7	5	6	16	27	8	2	2	1	6	5	148

STABILITY CLASS: C

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	1	0	1	3	1	0	1	0	0	0	0	0	1	0	1	10
2.2	4.5	5	0	3	2	0	1	2	1	2	2	0	4	0	1	2	2	27
4.5	6.7	1	3	6	4	3	1	6	6	2	6	2	2	1	1	0	1	45
6.7	8.9	2	0	3	2	0	3	9	7	10	7	1	0	1	0	2	2	49
8.9	11.2	2	5	3	0	2	1	3	5	16	5	0	0	2	3	2	1	50
11.2	13.4	0	2	0	0	1	0	1	3	5	6	2	1	0	1	2	1	25
13.4	17.9	1	6	0	0	0	0	0	1	4	10	4	0	1	1	1	2	31
17.9	22.4	0	0	0	0	0	0	0	0	1	1	1	0	0	2	6	0	11
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	1	2	0	2	2	7
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		12	17	15	9	9	7	21	24	40	37	10	8	7	10	17	12	255

STABILITY CLASS: D

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	1	1	0	1	4	1	4	2	0	0	0	0	1	1	0	17
2.2	4.5	5	2	5	6	6	9	2	12	14	10	5	2	1	5	3	4	91
4.5	6.7	1	5	5	3	2	4	10	18	21	23	4	1	2	1	7	6	113
6.7	8.9	5	3	2	3	3	1	6	12	30	14	7	1	2	1	4	4	98
8.9	11.2	7	1	2	0	1	3	10	10	14	18	2	2	4	2	4	4	84
11.2	13.4	4	0	1	1	0	1	4	4	9	11	5	0	3	3	1	2	49
13.4	17.9	2	5	0	0	0	0	3	1	5	14	3	4	5	2	11	1	56
17.9	22.4	0	0	0	0	0	0	1	1	0	7	1	1	4	5	9	4	33
22.4	29.1	0	0	0	0	0	0	0	0	1	1	0	1	4	3	24	3	37
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		25	17	16	13	13	22	37	62	96	98	27	12	25	23	69	28	583

Table 5-6 3rd Quarter Average, 245 Ft AGL (Continued)

Wind Speed		STABILITY CLASS: E																
Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	2	2	1	2	0	0	1	1	0	0	0	0	0	9
2.2	4.5	2	2	1	2	0	3	1	4	7	3	4	1	0	2	2	4	38
4.5	6.7	3	1	1	1	1	0	4	6	5	3	3	1	5	7	2	4	47
6.7	8.9	4	1	3	1	1	0	7	7	9	5	2	0	2	3	7	5	57
8.9	11.2	0	1	1	0	0	1	2	6	6	2	2	0	2	3	8	9	43
11.2	13.4	3	1	0	0	0	0	1	1	6	4	2	1	1	7	13	13	53
13.4	17.9	3	1	0	0	0	0	1	6	10	7	4	1	3	14	25	9	84
17.9	22.4	0	3	1	0	0	0	0	1	1	8	2	0	1	10	35	3	65
22.4	29.1	0	0	0	0	0	0	0	0	0	1	1	0	1	11	34	1	49
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		15	10	7	6	4	5	18	31	44	34	21	4	15	58	128	48	448

Wind Speed		STABILITY CLASS: F																
Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	0	2	2	1	2	1	0	3	1	1	1	1	0	4	0	20
2.2	4.5	2	3	4	2	1	4	3	7	2	4	2	1	2	5	1	1	44
4.5	6.7	2	1	4	3	5	1	3	12	10	4	5	2	6	2	1	5	66
6.7	8.9	3	3	1	0	0	0	2	10	11	10	2	1	1	4	6	4	58
8.9	11.2	2	2	0	1	0	0	2	3	7	3	1	0	2	4	7	6	40
11.2	13.4	3	0	1	0	0	0	1	6	8	4	1	0	0	4	5	8	41
13.4	17.9	0	1	0	0	0	0	1	0	7	7	2	0	0	5	13	5	41
17.9	22.4	0	1	0	0	0	0	0	0	1	2	1	0	0	3	5	3	16
22.4	29.1	0	0	0	0	0	0	0	0	0	0	2	0	0	1	3	0	6
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		13	11	12	8	7	7	13	38	49	35	17	5	12	28	45	32	332

Wind Speed		STABILITY CLASS: G																
Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	3	1	2	1	3	2	0	1	0	0	1	1	0	0	0	16
2.2	4.5	7	8	3	11	5	5	7	7	10	4	6	4	5	3	1	7	93
4.5	6.7	5	8	8	6	1	1	2	5	5	8	1	5	3	3	3	5	69
6.7	8.9	1	4	4	4	1	0	0	9	11	6	6	0	2	1	2	4	55
8.9	11.2	1	1	2	2	0	0	0	3	4	1	1	0	0	1	3	7	26
11.2	13.4	0	0	0	1	0	0	1	3	2	2	0	0	0	0	4	8	21
13.4	17.9	1	0	0	0	0	0	0	4	5	3	1	0	0	0	6	9	29
17.9	22.4	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	6	9
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		16	25	18	26	8	9	12	31	38	25	15	10	11	9	19	46	318

Wind Speed		STABILITY CLASS: ALL																
Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	4	5	4	8	9	11	6	5	6	2	2	2	2	2	6	2	76
2.2	4.5	24	19	18	30	14	25	16	31	35	24	17	12	8	16	10	19	318
4.5	6.7	15	26	30	30	13	9	25	47	43	45	17	11	17	14	13	21	376
6.7	8.9	17	19	20	17	7	5	27	48	72	42	19	2	8	9	22	19	353
8.9	11.2	16	21	10	6	8	7	19	29	56	33	6	3	10	13	24	28	289
11.2	13.4	11	8	3	2	1	1	8	17	32	34	11	2	4	15	25	32	206
13.4	17.9	9	20	0	0	0	0	5	12	38	63	20	6	10	22	57	26	288
17.9	22.4	1	6	1	0	0	0	1	3	3	25	6	1	6	22	55	16	146
22.4	29.1	0	0	0	0	0	0	0	0	1	3	3	2	7	15	65	8	104
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0	8
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		97	124	86	93	52	58	107	192	286	271	101	41	72	129	284	171	2164

	A	B	C	D	E	F	G	TOTALS
CALM	0	0	3	12	1	3	7	26

Table 5-7 4th Quarter Average, 33 Ft AGL

Joint Frequency Distribution

(version 4.0)

Sensor Criteria		Time Frame		Data Recovery Rate	
Wind Speed:	33 Foot Sensors	Starting Date:	10/1/07	Maximum Hours In Period:	2208
Wind Direction:	33 Foot Sensors	Ending Date:	12/31/07	Hours Missing:	6
Delta T:	245 Foot - 33 Foot Sensors			Hours Used:	2202
Signal Path:	Mixed			Recovery Rate:	99.7%
Processing:	15 Minute Averaged				

STABILITY CLASS: A

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	1	0	0	1	0	0	1	2	0	0	0	0	0	0	0	5
2.2	4.5	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	4
4.5	6.7	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6.7	8.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.9	11.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.2	13.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.4	17.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.9	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		0	1	1	0	1	0	1	3	3	0	0	0	0	0	0	0	10

STABILITY CLASS: B

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2	4.5	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4.5	6.7	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7
6.7	8.9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
8.9	11.2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
11.2	13.4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
13.4	17.9	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
17.9	22.4	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
22.4	29.1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		7	6	2	0	0	0	0	0	0	2	3	0	0	0	0	5	25

STABILITY CLASS: C

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2	4.5	5	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2	10
4.5	6.7	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2	5
6.7	8.9	4	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	8
8.9	11.2	2	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	7
11.2	13.4	0	0	0	0	0	0	0	0	2	4	1	0	0	0	0	1	8
13.4	17.9	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	3
17.9	22.4	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
22.4	29.1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		11	4	4	0	0	0	0	0	4	10	5	0	0	0	2	6	46

STABILITY CLASS: D

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	7	6	7	4	1	2	3	3	3	5	2	4	1	6	4	2	60
2.2	4.5	9	9	13	2	1	1	6	9	9	4	2	5	2	3	22	15	112
4.5	6.7	6	5	5	1	0	0	2	6	9	4	3	4	2	5	13	20	85
6.7	8.9	4	4	0	0	0	0	1	7	17	8	1	1	2	5	15	10	75
8.9	11.2	3	0	0	0	0	0	0	3	11	11	6	4	2	6	12	9	67
11.2	13.4	0	0	0	0	0	1	1	1	5	6	5	2	4	0	5	1	31
13.4	17.9	0	0	0	0	0	0	0	1	4	15	12	2	0	3	6	1	44
17.9	22.4	0	0	0	0	0	0	0	0	0	10	4	4	0	1	1	0	20
22.4	29.1	0	0	0	0	0	0	0	0	0	2	5	0	0	0	0	0	7
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		29	24	25	7	2	4	13	30	58	65	40	26	13	29	78	58	501

Table 5-7 4th Quarter Average, 33 Ft AGL (Continued)

STABILITY CLASS: E

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	6	2	2	4	2	0	2	4	5	6	7	4	8	7	18	14	91
2.2	4.5	9	10	2	3	2	3	8	10	16	11	7	11	8	17	14	18	149
4.5	6.7	5	1	0	1	0	2	5	17	23	4	8	8	4	3	25	23	129
6.7	8.9	1	0	0	0	0	1	15	22	23	11	2	2	3	8	42	9	139
8.9	11.2	0	0	0	0	0	1	2	14	27	21	3	6	2	6	17	4	103
11.2	13.4	0	0	0	0	0	0	0	9	12	13	5	2	4	3	3	1	52
13.4	17.9	0	0	0	0	0	0	0	2	5	18	9	1	1	0	1	2	39
17.9	22.4	0	0	0	0	0	0	0	1	2	5	3	2	1	0	0	0	14
22.4	29.1	0	0	0	0	0	0	0	0	1	2	0	0	1	0	0	0	4
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		21	13	4	8	4	7	32	79	114	91	44	36	32	44	120	71	720

STABILITY CLASS: F

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	5	4	2	0	1	4	1	2	4	2	4	3	4	10	11	12	69
2.2	4.5	8	6	4	1	0	0	3	5	13	9	5	12	3	13	21	34	137
4.5	6.7	8	1	0	1	0	0	1	9	13	6	1	3	1	2	25	9	80
6.7	8.9	0	0	0	0	0	0	4	13	11	7	2	0	2	7	13	0	59
8.9	11.2	0	0	0	0	0	0	3	14	15	2	0	0	1	1	1	0	37
11.2	13.4	0	0	0	0	0	0	0	6	9	3	0	0	0	0	2	0	20
13.4	17.9	0	0	0	0	0	0	0	1	8	2	0	1	0	0	0	0	12
17.9	22.4	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	3
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		21	11	6	2	1	4	12	50	73	32	12	20	12	33	73	55	417

STABILITY CLASS: G

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	12	15	4	2	0	0	6	1	7	3	5	3	4	8	10	14	94
2.2	4.5	17	12	7	0	0	0	0	2	16	7	1	3	4	9	20	32	130
4.5	6.7	6	1	1	0	0	0	1	6	15	3	2	1	1	1	7	7	52
6.7	8.9	0	0	0	0	0	0	1	7	10	3	1	1	1	0	5	0	29
8.9	11.2	0	0	0	0	0	0	0	7	5	3	0	0	2	0	2	0	19
11.2	13.4	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	4
13.4	17.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.9	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		35	28	12	2	0	0	8	24	54	21	9	8	12	18	44	53	328

STABILITY CLASS: ALL

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	30	28	15	10	5	6	12	11	21	16	18	14	17	31	43	42	319
2.2	4.5	48	40	30	6	3	4	18	27	55	31	15	31	17	42	77	101	545
4.5	6.7	28	11	9	3	0	2	9	39	60	17	14	16	8	11	70	62	359
6.7	8.9	9	8	0	0	0	1	21	49	61	29	6	4	8	20	76	21	313
8.9	11.2	8	0	0	0	0	1	5	38	60	40	9	10	7	13	32	15	238
11.2	13.4	1	0	0	0	0	1	1	17	29	28	11	4	8	3	10	4	117
13.4	17.9	0	0	0	0	0	0	0	4	17	37	22	4	1	3	8	3	99
17.9	22.4	0	0	0	0	0	0	0	1	2	18	10	7	2	1	1	0	42
22.4	29.1	0	0	0	0	0	0	0	0	1	5	8	0	1	0	0	0	15
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		124	87	54	19	8	15	66	186	306	221	113	90	69	124	317	248	2047

	A	B	C	D	E	F	G	TOTALS
CALM	0	0	1	40	33	31	50	155

Table 5-8 4th Quarter Average, 245 Ft AGL

Joint Frequency Distribution

(version 4.0)

Sensor Criteria		Time Frame		Data Recovery Rate	
Wind Speed:	33 Foot Sensors	Starting Date:	10/1/07	Maximum Hours In Period:	2208
Wind Direction:	33 Foot Sensors	Ending Date:	12/31/07	Hours Missing:	7
Delta T:	245 Foot - 33 Foot Sensors			Hours Used:	2201
Signal Path:	Mixed			Recovery Rate:	99.7%
Processing:	15 Minute Averaged				

STABILITY CLASS: A

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
2.2	4.5	1	2	1	1	0	0	1	1	3	1	0	0	0	2	1	1	15
4.5	6.7	4	4	2	0	0	0	0	0	1	1	0	0	0	0	0	1	13
6.7	8.9	4	3	0	0	0	0	0	1	1	0	0	1	0	0	1	0	11
8.9	11.2	5	1	0	0	0	0	0	0	4	1	0	0	0	0	0	2	13
11.2	13.4	5	1	0	0	0	0	0	0	0	2	0	0	0	0	0	2	10
13.4	17.9	1	0	0	0	0	0	0	0	0	6	0	1	0	0	1	3	12
17.9	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.4	29.1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
29.1	40.3	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	5
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		21	12	3	1	0	1	1	2	9	11	4	6	0	2	3	9	85

STABILITY CLASS: B

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	4
2.2	4.5	1	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	5
4.5	6.7	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	2	6
6.7	8.9	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2
8.9	11.2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
11.2	13.4	2	0	0	0	0	0	0	0	1	2	2	0	0	0	1	0	8
13.4	17.9	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
17.9	22.4	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
29.1	40.3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		4	1	5	1	2	1	0	1	4	3	4	3	0	1	1	2	33

STABILITY CLASS: C

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	0	1	1	0	2	1	0	0	0	2	0	0	0	0	0	8
2.2	4.5	0	1	0	1	0	0	0	3	0	0	0	0	1	0	0	0	6
4.5	6.7	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	3
6.7	8.9	3	3	0	0	0	0	0	0	1	0	0	0	0	0	0	2	9
8.9	11.2	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	3
11.2	13.4	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	3
13.4	17.9	0	0	0	0	0	0	0	0	1	3	2	0	0	0	2	0	8
17.9	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
22.4	29.1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
29.1	40.3	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		5	4	1	2	0	3	1	4	3	5	8	1	1	0	4	4	46

STABILITY CLASS: D

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	4	3	3	1	0	3	1	2	2	4	2	1	0	2	4	1	33
2.2	4.5	8	5	10	7	2	2	0	11	8	3	5	5	2	4	9	4	85
4.5	6.7	17	6	7	6	1	1	1	7	4	3	1	1	1	2	4	17	79
6.7	8.9	6	2	1	3	0	0	0	3	7	7	2	3	3	3	2	15	57
8.9	11.2	7	2	0	0	0	0	0	2	5	13	3	3	1	2	6	10	54
11.2	13.4	4	2	0	0	0	0	1	4	6	3	0	0	3	3	4	8	38
13.4	17.9	3	0	0	0	0	0	1	3	5	15	14	4	1	5	9	6	66
17.9	22.4	0	0	0	0	0	0	0	0	3	10	15	5	1	1	6	0	41
22.4	29.1	0	0	0	0	0	0	0	0	0	7	9	2	0	1	2	0	21
29.1	40.3	0	0	0	0	0	0	0	0	0	4	5	1	0	0	1	0	11
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		49	20	21	17	3	6	4	32	40	69	56	25	12	23	47	61	485

Table 5-8 4th Quarter Average, 245 Ft AGL (Continued)

STABILITY CLASS: E

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	4	2	2	0	0	1	1	2	2	2	2	1	3	1	2	26
2.2	4.5	11	7	1	5	1	1	7	4	5	6	4	6	4	5	8	8	83
4.5	6.7	10	9	8	4	3	0	2	11	9	7	2	1	3	9	9	14	101
6.7	8.9	14	4	1	2	0	1	4	6	11	9	2	0	5	6	12	12	89
8.9	11.2	14	0	0	0	0	0	4	3	11	8	4	1	7	9	7	14	82
11.2	13.4	5	0	0	0	0	1	3	9	12	17	7	0	0	1	10	17	82
13.4	17.9	1	0	0	0	0	0	2	10	18	26	17	8	5	5	28	15	135
17.9	22.4	0	0	0	0	0	0	0	1	10	27	18	11	3	3	11	4	88
22.4	29.1	0	0	0	0	0	0	0	0	3	7	13	2	2	0	4	0	31
29.1	40.3	0	0	0	0	0	0	0	0	2	0	1	1	1	0	1	0	6
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		56	24	12	13	4	3	23	45	83	109	70	32	31	41	91	86	723

STABILITY CLASS: F

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	2	4	5	2	2	1	2	4	3	0	1	1	1	1	3	1	33
2.2	4.5	4	5	11	4	1	2	4	7	6	5	5	7	3	4	9	4	81
4.5	6.7	10	3	6	6	0	2	2	1	3	7	3	3	5	2	9	9	71
6.7	8.9	15	8	4	3	0	0	1	2	5	2	2	1	1	2	6	3	55
8.9	11.2	4	1	1	1	0	0	1	3	10	5	2	4	4	0	9	9	54
11.2	13.4	6	0	0	1	0	0	1	2	4	11	2	0	1	1	4	13	46
13.4	17.9	2	0	0	0	0	0	0	8	16	14	3	0	2	3	10	6	64
17.9	22.4	0	0	0	0	0	0	0	0	9	9	3	0	0	7	4	3	35
22.4	29.1	0	0	0	0	0	0	0	0	1	4	2	1	0	0	1	0	9
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		43	21	27	17	3	5	11	27	57	57	23	18	18	20	55	48	450

STABILITY CLASS: G

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	3	1	1	2	3	0	3	1	1	0	1	2	1	1	0	2	22
2.2	4.5	7	9	4	2	0	1	4	1	11	3	5	8	5	3	2	5	70
4.5	6.7	5	10	14	4	2	2	0	5	9	5	7	4	0	5	1	4	77
6.7	8.9	6	2	3	3	0	0	0	6	6	7	6	3	1	1	0	4	48
8.9	11.2	1	2	2	0	0	0	1	8	5	4	5	4	0	0	2	5	39
11.2	13.4	1	0	2	0	0	0	0	4	9	3	5	1	0	1	5	0	31
13.4	17.9	3	0	0	0	0	0	0	1	6	3	4	1	1	2	6	10	37
17.9	22.4	0	0	0	0	0	0	0	1	3	0	0	0	0	2	4	1	11
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		26	24	26	11	5	3	8	27	50	25	33	23	8	15	20	31	335

STABILITY CLASS: ALL

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	13	13	12	8	7	8	8	8	8	6	8	6	3	7	8	6	129
2.2	4.5	32	29	29	20	4	6	16	27	35	18	19	26	15	18	29	22	345
4.5	6.7	46	32	40	21	6	6	5	25	26	23	13	9	9	18	23	48	350
6.7	8.9	48	22	9	11	0	1	5	18	32	25	12	8	10	13	21	36	271
8.9	11.2	32	7	3	1	0	0	6	17	36	31	14	12	12	11	25	40	247
11.2	13.4	23	3	2	1	0	1	5	19	32	40	16	1	4	6	25	40	218
13.4	17.9	10	0	0	0	0	0	3	22	46	68	40	15	9	15	56	40	324
17.9	22.4	0	0	0	0	0	0	0	2	25	46	37	17	4	13	25	9	178
22.4	29.1	0	0	0	0	0	0	0	0	4	18	30	6	2	1	7	0	68
29.1	40.3	0	0	0	0	0	0	0	0	2	4	9	8	2	0	2	0	27
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		204	106	95	62	17	22	48	138	246	279	198	108	70	102	221	241	2157

	A	B	C	D	E	F	G	TOTALS
CALM	2	0	0	11	9	9	13	44

Table 5-9 Year 2007, 33 Ft AGL

Joint Frequency Distribution

(version 4.0)

Sensor Criteria		Time Frame		Data Recovery Rate	
Wind Speed:	33 Foot Sensors	Starting Date:	1/1/07	Maximum Hours In Period:	8760
Wind Direction:	33 Foot Sensors	Ending Date:	12/31/07	Hours Missing:	346
Delta T:	245 Foot - 33 Foot Sensors			Hours Used:	8414
Signal Path:	MET B			Recovery Rate:	96.1%
Processing:	15 Minute Averaged				

STABILITY CLASS: A

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	0	1	0	1	1	0	1	1	2	0	0	0	0	0	0	0	7
2.2	4.5	3	2	5	1	1	0	1	1	2	1	0	0	0	0	0	1	18
4.5	6.7	5	7	9	4	0	0	0	1	1	0	0	1	2	1	0	0	31
6.7	8.9	4	14	2	0	0	0	1	1	2	0	0	0	1	1	0	1	27
8.9	11.2	5	4	1	0	0	0	0	0	5	1	0	0	0	0	0	0	16
11.2	13.4	0	6	0	0	0	0	0	0	6	8	2	0	0	1	0	0	23
13.4	17.9	1	1	0	0	0	0	0	1	9	11	0	0	0	2	0	0	25
17.9	22.4	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	4
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		18	35	17	6	2	0	3	5	28	22	3	3	3	5	3	2	155

STABILITY CLASS: B

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	1	9
2.2	4.5	8	10	18	0	3	1	0	2	0	0	1	0	0	0	1	4	48
4.5	6.7	6	12	7	8	1	1	3	1	1	3	0	0	0	0	1	3	47
6.7	8.9	0	10	4	3	1	5	1	6	9	2	1	0	0	0	0	4	46
8.9	11.2	7	7	2	2	1	0	0	4	19	11	4	2	0	0	1	2	62
11.2	13.4	2	0	0	0	0	0	0	0	13	13	3	3	2	0	2	1	39
13.4	17.9	1	2	0	0	0	0	1	0	5	17	4	3	5	2	1	1	42
17.9	22.4	0	0	0	0	0	0	0	1	0	1	4	8	2	0	1	4	21
22.4	29.1	0	0	0	0	0	0	0	0	0	0	3	3	0	0	1	0	7
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		26	43	33	15	6	7	5	14	47	47	20	19	9	2	8	20	321

STABILITY CLASS: C

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	6	5	3	4	3	1	1	0	0	0	0	0	0	0	4	3	30
2.2	4.5	15	17	19	8	8	11	5	10	3	4	4	3	4	1	5	7	124
4.5	6.7	7	12	8	6	3	3	14	9	25	8	5	3	1	1	4	19	128
6.7	8.9	10	10	9	3	2	6	5	21	24	11	4	3	1	5	7	10	131
8.9	11.2	8	3	3	1	0	1	1	11	24	20	5	1	0	2	11	3	94
11.2	13.4	2	4	0	0	0	0	0	1	9	18	7	3	1	1	4	3	53
13.4	17.9	0	2	0	0	0	0	2	0	5	10	6	1	5	3	5	3	42
17.9	22.4	0	1	1	0	0	0	0	0	0	1	3	5	3	1	5	0	20
22.4	29.1	0	0	0	0	0	0	0	0	0	1	2	2	1	0	1	0	7
29.1	40.3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		48	54	43	22	16	22	28	52	90	73	37	21	16	14	46	48	630

STABILITY CLASS: D

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	24	24	17	14	12	8	18	11	17	11	8	9	6	15	14	17	225
2.2	4.5	52	27	31	18	12	21	30	61	58	35	12	25	17	25	49	56	529
4.5	6.7	28	31	15	20	7	4	19	66	76	49	20	13	13	16	69	63	509
6.7	8.9	16	10	12	3	5	9	14	51	86	50	10	4	15	21	35	42	383
8.9	11.2	11	4	5	1	0	6	8	17	53	43	21	14	18	23	30	17	271
11.2	13.4	1	4	0	0	0	1	5	6	19	24	13	8	12	10	22	9	134
13.4	17.9	4	3	1	0	0	0	0	1	17	41	27	16	9	13	50	7	189
17.9	22.4	0	3	0	0	0	0	0	0	0	17	15	14	3	9	30	3	94
22.4	29.1	0	0	0	0	0	0	0	0	0	9	24	0	0	1	1	0	35
29.1	40.3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		136	106	81	56	36	49	94	213	326	279	153	103	93	133	300	214	2372

Table 5-9 Year 2007, 33 Ft AGL (Continued)

Wind Speed		STABILITY CLASS: E																
Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	19	14	7	12	8	3	13	7	15	21	22	14	20	25	38	27	265
2.2	4.5	37	27	14	7	6	10	17	47	48	35	24	28	27	37	43	60	467
4.5	6.7	21	4	9	3	0	6	19	49	51	22	17	23	20	23	57	68	392
6.7	8.9	8	0	6	0	0	2	30	44	67	30	14	13	17	33	71	34	369
8.9	11.2	3	2	0	0	0	2	10	36	65	32	5	10	12	32	59	15	283
11.2	13.4	0	2	0	0	0	0	1	15	23	21	8	6	12	26	35	3	152
13.4	17.9	0	0	0	0	0	0	2	2	15	37	23	4	7	23	41	5	159
17.9	22.4	0	0	0	0	0	0	0	1	3	14	11	2	1	5	4	0	41
22.4	29.1	0	0	0	0	0	0	0	0	1	9	8	1	2	0	0	0	21
29.1	40.3	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		88	49	36	22	14	23	92	201	288	222	132	102	118	204	348	212	2151

Wind Speed		STABILITY CLASS: F																
Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	16	13	15	3	5	12	7	15	20	11	14	18	13	21	27	33	243
2.2	4.5	43	20	21	7	1	5	13	31	58	36	24	22	9	33	52	82	457
4.5	6.7	20	9	8	8	0	0	10	48	41	26	13	6	7	17	47	26	286
6.7	8.9	4	1	3	1	0	0	6	35	62	25	11	8	12	20	32	13	233
8.9	11.2	0	0	1	0	0	0	5	22	38	7	2	1	4	7	4	1	92
11.2	13.4	0	0	0	0	0	0	0	8	15	5	1	0	0	4	6	0	39
13.4	17.9	0	0	0	0	0	0	0	1	9	5	4	1	0	0	1	0	21
17.9	22.4	0	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	4
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		83	43	48	19	6	17	41	160	243	117	69	57	46	102	169	155	1375

Wind Speed		STABILITY CLASS: G																
Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	25	35	18	7	3	2	8	8	13	10	13	8	7	10	17	33	217
2.2	4.5	52	44	40	4	0	0	3	19	41	24	7	6	6	14	33	58	351
4.5	6.7	23	6	18	1	0	0	2	16	51	17	7	2	2	3	15	28	191
6.7	8.9	2	0	4	1	0	0	1	17	41	7	2	1	1	0	12	10	99
8.9	11.2	0	1	0	3	0	0	0	11	16	7	2	0	2	1	3	2	48
11.2	13.4	0	0	0	0	0	0	0	3	2	2	0	0	0	0	0	0	7
13.4	17.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.9	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		102	86	80	16	3	2	14	74	164	67	31	17	18	28	80	131	913

Wind Speed		STABILITY CLASS: ALL																
Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	92	94	62	43	32	26	48	42	67	53	57	49	46	71	100	114	996
2.2	4.5	210	147	148	45	31	48	69	171	210	135	72	84	63	110	183	268	1994
4.5	6.7	110	81	74	50	11	14	67	190	246	125	62	48	45	61	193	207	1584
6.7	8.9	44	45	40	11	8	22	58	175	291	125	42	29	47	80	157	114	1288
8.9	11.2	34	21	12	7	1	9	24	101	220	121	39	28	36	65	108	40	866
11.2	13.4	5	16	0	0	0	1	6	33	87	91	34	20	27	42	69	16	447
13.4	17.9	6	8	1	0	0	0	5	5	60	121	64	25	26	43	98	16	478
17.9	22.4	0	4	1	0	0	0	0	2	4	36	34	30	10	15	41	7	184
22.4	29.1	0	0	0	0	0	0	0	0	1	19	37	8	3	1	5	0	74
29.1	40.3	0	0	0	0	0	0	0	0	0	1	4	1	0	0	0	0	6
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		501	416	338	156	83	120	277	719	1186	827	445	322	303	488	954	782	7917

	A	B	C	D	E	F	G	TOTALS
CALM	0	1	10	113	104	119	150	497

Table 5-10 Year 2007, 245 Ft AGL

Joint Frequency Distribution

(version 4.0)

Sensor Criteria		Time Frame		Data Recovery Rate	
Wind Speed:	33 Foot Sensors	Starting Date:	1/1/07	Maximum Hours In Period:	8760
Wind Direction:	33 Foot Sensors	Ending Date:	12/31/07	Hours Missing:	300
Delta T:	245 Foot - 33 Foot Sensors			Hours Used:	8460
Signal Path:	MET B			Recovery Rate:	96.6%
Processing:	15 Minute Averaged				

STABILITY CLASS: A

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
2.2	4.5	4	3	2	3	0	0	1	1	3	1	0	0	0	2	1	1	22
4.5	6.7	4	7	5	8	0	1	0	0	1	2	1	0	1	0	0	1	31
6.7	8.9	4	11	6	5	0	0	0	1	1	0	0	1	2	0	1	0	32
8.9	11.2	8	13	2	1	0	0	1	0	6	2	0	0	0	1	0	2	36
11.2	13.4	7	5	1	0	0	0	0	1	4	4	0	0	0	0	0	2	24
13.4	17.9	1	6	0	0	0	0	0	0	2	27	4	1	1	0	1	3	46
17.9	22.4	1	0	0	0	0	0	0	1	1	9	2	0	0	1	0	0	15
22.4	29.1	0	0	0	0	0	0	0	0	0	1	5	0	0	0	1	0	7
29.1	40.3	0	0	0	0	0	0	0	0	0	0	1	6	0	0	2	0	9
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		30	46	16	17	0	2	2	4	18	46	13	8	4	4	6	9	225

STABILITY CLASS: B

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	2	0	0	1	4	1	0	0	0	0	0	0	0	0	1	1	10
2.2	4.5	6	5	6	6	2	3	1	0	2	1	0	0	0	0	1	3	36
4.5	6.7	6	8	10	7	1	1	1	0	0	2	1	0	0	0	0	4	41
6.7	8.9	2	7	7	5	2	1	3	4	5	0	1	0	0	2	1	2	42
8.9	11.2	2	10	4	3	5	3	2	5	14	7	0	1	0	0	0	2	58
11.2	13.4	4	2	0	0	0	0	0	0	5	18	5	2	0	0	2	1	39
13.4	17.9	2	1	0	0	0	0	0	0	9	27	8	4	4	2	2	1	60
17.9	22.4	0	1	0	0	0	0	1	1	0	6	6	3	3	1	1	0	23
22.4	29.1	0	0	0	0	0	0	0	0	0	0	1	9	1	0	3	2	16
29.1	40.3	0	0	0	0	0	0	0	0	0	0	1	3	1	0	1	0	6
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		24	34	27	22	14	9	8	10	35	61	23	22	9	5	12	16	331

STABILITY CLASS: C

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	4	2	1	2	3	3	1	2	0	0	2	0	1	1	1	2	25
2.2	4.5	10	5	9	7	2	5	4	5	4	2	0	7	1	1	4	5	71
4.5	6.7	6	7	9	8	7	7	7	12	7	10	3	3	2	2	2	9	101
6.7	8.9	11	5	7	6	1	6	11	11	27	14	4	4	1	1	6	17	132
8.9	11.2	7	5	8	3	3	1	4	10	32	12	4	4	3	4	8	6	114
11.2	13.4	1	2	2	1	1	0	1	3	10	21	4	3	0	2	6	3	60
13.4	17.9	2	6	0	0	0	0	1	2	8	25	11	4	2	3	5	4	73
17.9	22.4	1	0	0	0	0	0	0	0	2	3	2	0	1	3	7	1	20
22.4	29.1	0	0	1	0	0	0	0	0	0	0	4	5	2	1	3	2	18
29.1	40.3	0	0	0	0	0	0	0	0	0	0	2	5	2	0	1	0	10
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		42	32	37	27	17	22	29	45	90	87	36	35	15	18	43	49	624

STABILITY CLASS: D

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	13	8	10	3	7	13	5	11	12	9	8	1	0	6	9	4	119
2.2	4.5	36	22	22	26	12	21	13	39	40	28	20	17	15	19	20	27	377
4.5	6.7	43	26	23	17	7	11	17	44	51	52	19	12	13	7	29	42	413
6.7	8.9	23	17	12	17	8	8	8	37	61	43	17	8	13	9	20	37	338
8.9	11.2	24	4	3	4	3	5	16	22	58	70	13	6	18	17	28	32	323
11.2	13.4	17	5	2	7	0	4	7	12	30	40	13	7	11	17	17	26	215
13.4	17.9	13	8	2	0	0	3	5	8	26	46	26	15	13	24	47	16	252
17.9	22.4	2	0	2	0	0	0	1	1	5	30	27	16	9	19	41	6	159
22.4	29.1	0	5	2	0	0	0	0	0	1	17	26	13	7	12	48	3	134
29.1	40.3	0	0	0	0	0	0	0	0	0	8	25	6	3	2	10	0	54
40.3	90	1	0	0	0	0	0	0	0	0	0	10	1	0	0	0	0	12
TOTALS		172	95	78	74	37	65	72	174	284	343	204	102	102	132	269	193	2396

Table 5-10 Year 2007, 245 Ft AGL (Continued)

STABILITY CLASS: E

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	4	8	8	7	4	4	6	4	8	7	6	3	3	4	1	4	81
2.2	4.5	21	18	12	11	3	10	15	15	21	15	15	17	13	13	16	20	235
4.5	6.7	23	14	20	6	7	1	8	26	29	17	12	9	19	28	23	34	276
6.7	8.9	29	13	9	7	1	1	15	25	33	20	6	5	19	26	32	36	277
8.9	11.2	20	5	3	2	0	1	9	17	28	21	17	8	15	22	39	44	251
11.2	13.4	10	1	2	3	0	2	6	17	33	41	14	6	8	17	47	42	249
13.4	17.9	4	2	1	4	0	0	7	23	58	61	28	13	16	32	85	36	370
17.9	22.4	1	3	2	1	0	0	1	4	17	55	27	15	13	39	77	13	268
22.4	29.1	0	0	1	0	0	0	0	0	5	25	36	7	11	33	56	3	177
29.1	40.3	0	0	0	0	0	0	0	0	2	6	16	4	2	5	4	0	39
40.3	90	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	4
TOTALS		112	64	58	41	15	19	67	131	234	268	180	88	119	219	380	232	2227

STABILITY CLASS: F

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	5	6	9	6	4	9	6	6	10	5	5	3	3	4	7	3	91
2.2	4.5	17	18	24	10	8	9	14	20	12	20	11	17	8	10	19	10	227
4.5	6.7	23	19	14	15	8	6	7	20	21	22	17	13	18	5	21	27	256
6.7	8.9	27	15	18	9	0	0	4	19	27	25	8	8	4	13	18	23	218
8.9	11.2	13	5	8	5	0	0	6	12	34	20	12	8	7	10	27	24	191
11.2	13.4	12	1	2	3	0	0	2	12	22	24	11	4	3	13	23	30	162
13.4	17.9	7	1	0	1	0	0	1	14	41	46	13	0	6	24	38	19	211
17.9	22.4	0	1	0	0	0	0	1	3	12	19	10	1	2	25	22	8	104
22.4	29.1	0	0	0	0	0	0	0	0	2	4	5	1	0	9	4	1	26
29.1	40.3	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	3
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		104	66	75	49	20	24	41	106	181	186	92	56	52	113	179	145	1489

STABILITY CLASS: G

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	5	5	3	6	6	5	6	3	2	1	3	6	5	6	1	2	65
2.2	4.5	20	23	13	17	9	9	19	9	30	15	27	18	13	8	6	16	252
4.5	6.7	18	21	23	13	3	4	8	18	18	19	17	14	6	8	6	16	212
6.7	8.9	18	9	8	8	4	0	0	21	28	22	15	7	7	3	3	13	166
8.9	11.2	6	3	6	3	0	0	1	14	15	7	12	7	0	1	10	22	107
11.2	13.4	5	0	2	2	0	0	1	8	14	8	6	1	0	2	13	12	74
13.4	17.9	10	0	0	1	0	0	0	8	16	8	9	1	1	2	25	27	108
17.9	22.4	1	1	0	0	0	0	0	2	4	2	1	0	0	3	9	7	30
22.4	29.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.1	40.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.3	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		83	62	55	50	22	18	35	83	127	82	90	54	32	33	73	115	1014

STABILITY CLASS: ALL

Wind Speed Min	Max	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	2.2	34	30	31	25	28	36	24	26	32	22	24	13	12	21	20	16	394
2.2	4.5	114	94	88	80	36	57	67	89	112	82	73	76	50	53	67	82	1220
4.5	6.7	123	102	104	74	33	31	48	120	127	124	70	51	59	50	81	133	1330
6.7	8.9	114	77	67	57	16	16	41	118	182	124	51	33	46	54	81	128	1205
8.9	11.2	80	45	34	21	11	10	39	80	187	139	58	34	43	55	112	132	1080
11.2	13.4	56	16	11	16	1	6	17	53	118	156	53	23	22	51	108	116	823
13.4	17.9	39	24	3	6	0	3	14	55	160	240	99	38	43	87	203	106	1120
17.9	22.4	6	6	4	1	0	0	4	12	41	124	75	35	28	91	157	35	619
22.4	29.1	0	5	4	0	0	0	0	0	8	47	77	35	21	55	115	11	378
29.1	40.3	0	0	0	0	0	0	0	0	2	15	45	25	9	7	18	0	121
40.3	90	1	0	0	0	0	0	0	0	0	0	13	2	0	0	0	0	16
TOTALS		567	399	346	280	125	159	254	553	969	1073	638	365	333	524	962	759	8306

	A	B	C	D	E	F	G	TOTALS
CALM	2	1	4	51	30	34	32	154

6.0 DOSE ASSESSMENT -- IMPACT ON MAN

Liquid Effluents - There were no liquid discharges from the radwaste processing system to the Columbia River during calendar year 2007.

Gaseous Effluents - The NRC GASPAR II computer code was used to calculate doses at and beyond the site boundary using quarterly and annual meteorological data and site-specific variables as required and defined in the ODCM. Table 6-1 shows the highest calculated doses at the site boundary and beyond the site boundary. Table 6-1 also shows the quarterly and annual dose for the nearest and highest exposed resident identified in the land use census. Table 6-2 lists the annual 50-mile dose using values obtained from the ALARA annual integrated population dose summary (person-rem). Table 6-2 also provides the annual individual doses associated with each pathway. These values were obtained by dividing the ALARA integrated dose (person-rem) by the estimated year 2000 50-mile population (356,993) and converting to mrem.

The highest calculated dose to a child living at locations identified in the most recent land use census was 2.48E-03 mrem to the total body, 2.49E-03 mrem to the thyroid, and 3.58E-03 mrem to the skin. This location was at 4.01 miles in the ENE sector.

Periodically, Columbia Generating Station offers public tours of selected locations within the site boundary. Calculations assumed an eight (8) hour per year exposure to the plume, ground shine, and inhalation pathways. The organ with the highest dose was the skin. The dose assessment results for this group are tabulated below.

During 2007, members of the public worked at the WNP-1 and WNP-4 industrial areas. The maximum dose to these individuals was also calculated assuming 2000 hours per year exposure to the plume, inhalation, and ground deposition pathways at WNP-1 and at WNP-4. The maximum doses received by the adult age group (full-time employees) are shown below.

The following table shows dose to members of the public from gaseous effluents within the site boundary of Columbia Generating Station for the total indicated hours spent at each location.

Location	Hours Spent	Total Body Dose (mrem)	Thyroid Dose (mrem)	Highest Other Organ Dose (mrem)	Beta Air Dose (mrad)	Gamma Air Dose (mrad)
Tour Visitors	8.00E+00	5.44E-04	5.46E-04	5.88E-04	5.54E-06	1.51E-05
WNP-4 Whse.2-4	2.00E+03	3.12E-05	3.13E-05	3.47E-05	4.79E-04	1.32E-03
WNP-1 Bldg 121	2.00E+03	5.10E-03	5.10E-03	5.71E-03	7.05E-04	1.94E-03

There was no measurable direct radiation contribution from Columbia Generating Station to the tour visitors or to the workers at the WNP-1 or WNP-4 industrial areas.

During the growing season, Columbia Generating Station conducts a five-mile land use census to determine the locations of nearest residents, gardens, and farm animals out to five miles in each sector. No change to land usage was found.

The following table provides the results of annual dose calculations for the highest dose age group for each identified land use census location from gaseous effluents.

Location	Total Body Dose (mrem)	Thyroid Dose (mrem)	Highest Other Organ Dose (mrem)	Beta Air Dose (mrad)	Gamma Air Dose (mrad)	Age Group
Resident (4.47 miles NE)	9.28E-04	9.30E-04	1.08E-03	1.25E-04	3.30E-04	Teen
Resident (4.01 miles ENE)	2.61E-03	2.62E-03	3.71E-03	9.92E-04	2.45E-03	Adult
Resident (4.59 miles E)	1.77E-03	1.78E-03	2.59E-03	7.38E-04	1.84E-03	Teen
Resident (4.24 miles ESE)	2.12E-03	2.13E-03	2.93E-03	7.36E-04	1.69E-03	Teen

The highest 'Other Organ' in all cases was the skin.

For environmental TLD stations at or beyond the site boundary where preoperational (background) data was acquired, no increase in ambient exposure was observed in 2007 from the preoperational values.

Dose Tables

Table 6-1 Summary of Doses from Gaseous Effluents

1. Maximum Air Dose at the Site Boundary (1.2 miles)

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Cumulative*
Beta air dose (mrad)	5.03E-04	5.27E-04	1.15E-03	5.27E-04	2.42E-03
Gamma air dose (mrad)	1.43E-03	1.49E-03	2.92E-03	1.49E-03	6.55E-03

2. Maximum Air Dose Beyond the Site Boundary

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Cumulative*
Beta air dose (mrad)	2.45E-04	1.10E-04	4.53E-04	1.06E-03	9.92E-04
Gamma air dose (mrad)	6.96E-04	3.12E-04	1.03E-03	3.01E-03	2.45E-03

3. Maximum Annual Dose at the Site Boundary

	Annual Dose
Annual total body dose (mrem)	2.19E-02
Annual skin dose (mrem)	2.40E-02

4. Maximum Annual Dose Beyond the Site Boundary

	Annual Dose
Annual total body dose (mrem)	8.64E-03
Annual skin dose (mrem)	9.60E-03

* Rather than the sum of the quarters, these values are based on annual meteorological data and total annual effluents.

Table 6-1 Summary of Doses from Gaseous Effluents (Continued)

5. Maximum Organ Dose at the Site Boundary (1.2 miles)

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Cumulative*
Maximum Organ dose (mrem)	8.21E-03	5.73E-03	6.32E-03	6.80E-03	2.40E-02

6. Maximum Organ Dose Beyond the Site Boundary

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Cumulative*
Maximum Organ dose (mrem)	3.36E-03	1.16E-03	2.24E-03	3.57E-03	9.60E-03

7. Dose to Nearest Residents within 5-Miles in each Sector with Residents

4.47 Miles NE

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Cumulative*
Beta Air Dose (mrad)	2.02E-05	1.19E-05	3.79E-05	2.41E-05	1.25E-04
Gamma Air Dose (mrad)	5.72E-05	3.39E-05	9.20E-05	6.84E-05	3.30E-04
Maximum Organ dose (mrem)	3.24E-04	1.67E-04	2.78E-04	2.34E-04	1.08E-03

4.01 Miles ENE††

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Cumulative*
Beta Air Dose (mrad)	1.92E-04	8.15E-05	4.06E-04	1.02E-04	9.92E-04
Gamma Air Dose (mrad)	5.44E-04	2.31E-04	9.09E-04	2.90E-04	2.45E-03
Maximum Organ dose (mrem)	1.07E-03	5.18E-04	1.17E-03	5.38E-04	3.71E-03

4.59 Miles E

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Cumulative*
Beta Air Dose (mrad)	8.20E-05	3.06E-05	3.33E-04	7.60E-05	7.38E-04
Gamma Air Dose (mrad)	2.32E-04	8.68E-05	7.28E-04	2.16E-04	1.84E-03
Maximum Organ dose (mrem)	3.78E-04	2.63E-04	9.39E-04	3.92E-04	2.59E-03

Table 6-1 Summary of Doses from Gaseous Effluents (Continued)

7. Dose to Nearest Residents within 5-Miles in each Sector with Residents (Continued)

4.24 Miles ESE

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Cumulative*
Beta Air Dose (mrad)	2.36E-04	1.10E-04	4.53E-04	1.06E-03	7.36E-04
Gamma Air Dose (mrad)	6.70E-04	3.12E-04	1.03E-03	3.01E-03	1.69E-03
Maximum Organ dose (mrem)	9.45E-04	6.01E-04	1.29E-03	3.57E-03	2.93E-03

* Rather than the sum of the quarters, these values are based on annual meteorological data and total annual effluents.

†† This was the sector with the highest dispersion and deposition values for the nearest resident identified in the land use census conducted in 2007.

Table 6-2 50-Mile Population Dose from Gaseous Effluents

A. 50-mile population collective dose

Exposure Pathway	Total Body (person-rem)	Max. Organ (person-rem)
Plume	2.12E-03	2.16E-03
Ground	2.85E-03	2.85E-03
Inhalation	6.19E-02	6.93E-02
Vegetables	4.44E-02	4.43E-02
Milk	1.56E-02	1.55E-02
Meat	7.95E-03	7.93E-03
Total	1.35E-01	1.42E-01

B. Average Individual*

Exposure Pathway	Total Body (mrem)	Max. Organ (mrem)
Plume	5.94E-06	6.05E-06
Ground	7.98E-06	7.98E-06
Inhalation	1.73E-04	1.94E-04
Vegetables	1.24E-04	1.24E-04
Milk	4.37E-05	4.34E-05
Meat	2.23E-05	2.22E-05
Total	3.78E-04	3.98E-04

* These values are derived by dividing the 50-mile population collective doses by the population within 50 miles of Columbia Generating Station (356,993). The population estimate is based on the 2000 census conducted by the United States Census Bureau and documented in the Columbia Generating Station Final Safety Analysis Report.

7.0 REVISIONS TO THE ODCM

There were no changes to the ODCM in 2007.

8.0 REVISIONS TO THE PROCESS CONTROL PROGRAM (PCP)

There were no revisions to the Process Control Program in 2007.

9.0 NEW OR DELETED LOCATIONS FOR DOSE ASSESSMENTS AND/OR ENVIRONMENTAL MONITORING LOCATIONS

9.1 No new locations were identified for dose assessments as the 2007 Five-Mile Land Use Census showed no changes.

9.2 There were no new locations for environmental monitoring formally adopted into the program based on the 2007 Land Use Census.

9.3 No dose assessment or environmental monitoring locations were deleted.

10.0 MAJOR CHANGES TO RADIOACTIVE LIQUID, GASEOUS, AND SOLID WASTE TREATMENT SYSTEMS

No major changes (as defined by ODCM Section 6.4.3) were made to the radioactive waste systems (liquid, gaseous, or solid) during this reporting period.