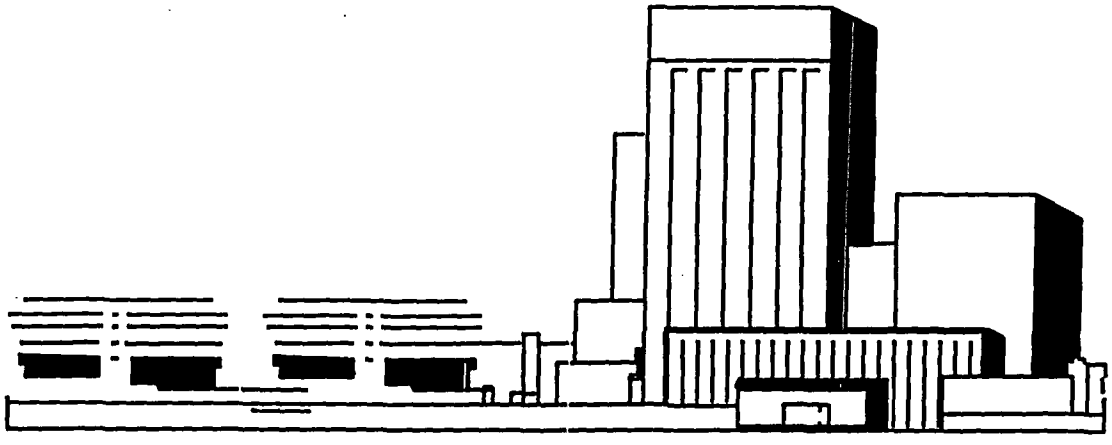
ENERGY NORTHWEST

Columbia Generating Station
Radioactive Effluent Release Report

January through December 2005



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 2005

Energy Northwest

Submitted
February 2006

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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 2005. Effluent data is summarized on a quarterly basis.

2.0 Liquid Effluents

No contaminated liquids from the liquid radwaste processing system were discharged to the Columbia River from Columbia Generating Station during calendar year 2005.

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 using particulate filters and charcoal cartridges. Both are analyzed using gamma spectroscopy. 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 2005.

It is estimated that approximately 2.965E-3 Curies of tritium were released through unmonitored vents associated with the heating steam system.

A total of fifteen loaded spent fuel storage containers (SFSC) were in place in the ISFSI facility at the end of 2004. No additional SFSCs were added during 2005. The SFSCs are performing as designed; consequently, there are no effluents from this facility.

There were no abnormal releases of gaseous effluent during this reporting period.

The following summarizes incidents of effluent monitor inoperability. In all cases, compensatory measures were taken as required by the Offsite Dose Calculation Manual.

- The Reactor Building gaseous effluent sample pump was declared inoperable on 12/06/04. The component could not be restored within 30 days due to problems identifying which component was causing the pump motor to trip the current overload device. The sample pump was returned to service on 1/14/05. (Condition Report 2-05-00076)

- The Turbine building low range gaseous effluent monitor was declared inoperable on 5/9/05 due to the failure of the sample pump. After troubleshooting on 5/18/05, a decision was made to replace the pump. It was returned to service on 6/13/05. The component could not be restored within 30 days due to higher priority work activities. (Condition Reports 2-05-03129 and 2-05-05052)

- The Reactor Building gaseous effluent sample pump was declared inoperable on 5/14/05. The component could not be restored within 30 days due to higher priority work activities. Work to replace the blower and fuses started on 6/23 and was finished on 7/13/05. (Condition Report 2-05-05154)

- The two condenser Offgas Post Treatment Radiation Monitors were declared inoperable on 3/28/05 for installation of new monitors The old monitors were difficult to maintain and spare parts were no longer available as the vendor is no longer in business. This work was planned to coincide with a refueling outage to avoid the risk of offgas train isolation and reactor scram during channel functional testing. This flow path is also monitored by the main steam line radiation monitors, the offgas pretreatment radiation monitor, the charcoal vault radiation monitor, and the three reactor building exhaust stack monitors. The new monitors became operable on 6/5/05. (Condition Report 2-05-02642)

- The Turbine Building gaseous exhaust sample flow rate control rack was taken out of service on 7/25/05 for routine flow rate monitor calibrations. The work was interrupted to correct some procedure deficiencies. It was subsequently placed on a higher priority task list on 8/16/05. A procedure revision was required and issued on 8/17/05 to continue work. Work was interrupted again on 8/19/05 to work on a non-ODCM-related radiation monitor. The sample rack was placed in service on 8/26/05. Corrective actions were initiated to correct repeat prioritization issues with effluent monitors. (Condition Report 2-05-06727 and Problem Evaluation Request 205-0544)

During 2003 and 2004, it was determined that the methodology used to derive Joint Frequency Distribution tables needed revision. An evaluation of the potential effect of the revision on effluent release reports since 1995 was made. The dose calculated from gaseous effluents was found to be either lower than or only slightly above the reported values and errors submitted for the year with the highest total release (2002). In all cases, the estimated doses were much lower than any Offsite Dose Calculation Manual limit. (Condition Reports 2-04-03157 and 2-04-05625)

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

Report Period: January -- December 2005

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year*
Noble Gas †					
Gamma Air Dose (mrad)	3.44E-04	0.00E+00	1.14E-03	3.14E-03	2.69E-03
ODCM Limit	5	5	5	5	10
% of Limit	6.88E-03	0.00E+00	2.28E-02	6.28E-02	2.69E-02
Beta Air Dose (mrad)	1.21E-04	0.00E+00	4.04E-04	1.11E-03	9.47E-04
ODCM Limit	10	10	10	10	20
% of Limit	1.21E-03	0.00E+00	4.04E-03	1.11E-02	4.74E-03
Iodine-131, Iodine-133, Tritium, and Particulates with half-lives greater than eight days.					
Organ Dose (mrem)	1.89E-02	2.70E-03	4.80E-03	9.24E-03	2.97E-02
ODCM Limit	7.5	7.5	7.5	7.5	15
% of Limit	2.51E-01	3.60E-02	6.40E-02	1.23E-01	1.98E-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.

† No noble gas activity was detected above the minimum detectable level during the second quarter.

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

Report Period: January -- December 2005

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	3.12E+00	<MDA	7.92E+00	9.68E+00	2.07E+01
Total for period *	3.12E+00	0.00E+00	7.92E+00	9.68E+00	2.07E+01
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

* Less than (<) values are not included in the totals. See Table 3-6 for LLD values.

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

Report Period: January -- December 2005

Nuclides Released	1st Quarter (Ci)	2nd Quarter (Ci)	3rd Quarter (Ci)	4th Quarter (Ci)	Year (Ci)
C. Particulates					
strontium-89	1.43E-06	<MDA	4.04E-06	1.24E-05	1.78E-05
strontium-90	<MDA	1.56E-07	<MDA	<MDA	1.56E-07
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	5.95E-06	5.95E-06
cerium-141	<MDA	<MDA	<MDA	<MDA	<MDA
cerium-144	<MDA	<MDA	<MDA	<MDA	<MDA
cobalt-58	<MDA	1.23E-05	1.05E-04	1.93E-04	3.10E-04
cobalt-60	<MDA	1.16E-04	1.48E-04	2.34E-03	2.60E-03
iron-59	<MDA	7.64E-06	<MDA	2.90E-05	3.67E-05
manganese-54	<MDA	1.60E-05	3.64E-05	6.74E-05	1.20E-04
zinc-65	1.85E-06	1.46E-05	2.17E-04	5.81E-04	8.15E-04
chrome-51	<MDA	1.01E-04	<MDA	2.62E-04	3.64E-04
antimony-125	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period*	3.28E-06	2.68E-04	5.11E-04	3.49E-03	4.27E-03
Others with T 1/2 < 8 days					
arsenic-76	<MDA	<MDA	2.27E-04	<MDA	2.27E-04
bromine-82	<MDA	<MDA	8.40E-05	3.82E-05	1.22E-04
copper-64	<MDA	<MDA	2.41E-02	<MDA	2.41E-02
molybdenum-99	<MDA	<MDA	5.87E-05	4.37E-05	1.02E-04
rhenium-188	<MDA	<MDA	<MDA	<MDA	<MDA
sodium-24	<MDA	<MDA	6.95E-04	5.48E-04	1.24E-03
technetium-99m	<MDA	<MDA	5.32E-03	4.67E-03	9.99E-03
zinc-69m	<MDA	<MDA	1.52E-04	6.18E-04	7.70E-04
Total with T 1/2 < 8 days*	0.00E+00	0.00E+00	3.06E-02	5.92E-03	3.65E-02
D. Tritium					
tritium	2.30E+00	2.98E+00	2.86E+00	2.36E+00	1.05E+01

* Less than (<) values are not included in the totals. See Table 3-6 for LLD values.

Table 3-2 Turbine Building Releases
Fission Gases and Iodines

Report Period: January -- December 2005

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	2.37E-04	<MDA	<MDA	2.37E-04
iodine-134	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-135	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period *	0.00E+00	2.37E-04	0.00E+00	0.00E+00	2.37E-04

* Less than (<) values are not included in the totals. See Table 3-6 for LLD values.

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

Report Period: January -- December 2005

Nuclides Released	1st Quarter (Ci)	2nd Quarter (Ci)	3rd Quarter (Ci)	4th Quarter (Ci)	Year (Ci)
C. Particulates					
strontium-89	5.42E-06	2.20E-06	4.52E-06	7.36E-06	1.95E-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	<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
chrome-51	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period*	5.42E-06	2.20E-06	4.52E-06	7.36E-06	1.95E-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	2.81E+01	1.09E+01	8.36E+00	8.72E+00	5.60E+01

* Less than (<) values are not included in the totals. See Table 3-6 for LLD values.

Table 3-3 Radwaste Building Releases
Fission Gases and Iodines

Report Period: January -- December 2005

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	6.77E-07	9.18E-07	<MDA	<MDA	1.59E-06
iodine-132	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-133	1.03E-05	5.31E-06	<MDA	<MDA	1.56E-05
iodine-134	<MDA	<MDA	<MDA	<MDA	<MDA
iodine-135	<MDA	<MDA	<MDA	<MDA	<MDA
Total for period *	1.09E-05	6.22E-06	0.00E+00	0.00E+00	1.72E-05

*Less than (<) values are not included in the totals. See Table 3-6 for LLD values.

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

Report Period: January -- December 2005

Nuclides Released	1st Quarter (Ci)	2nd Quarter (Ci)	3rd Quarter (Ci)	4th Quarter (Ci)	Year (Ci)
C. Particulates					
strontium-89	5.46E-07	2.44E-07	<MDA	9.55E-08	8.85E-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*	5.46E-07	2.44E-07	0.00E+00	9.55E-08	8.85E-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	7.31E-01	2.95E-01	5.47E-01	4.27E-01	2.00E+00

* Less than (<) values are not included in the totals. See Table 3-6 for LLD values.

Table 3-4 Summation of Releases
Gaseous Effluents

Report Period: January -- December 2005

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year	Est* Total %Error
A. Fission and activation gases						
Total release (Ci)	3.12E+00	<MDA	7.92E+00	9.68E+00	2.07E+01	3.80E+01
Average release rate (µCi/s)	4.02E-01	0.00E+00	9.96E-01	1.22E+00	6.57E-01	
Percent of ODCM limit (%)	1.83E-04	0.00E+00	2.85E-04	9.80E-04	4.08E-04	
B. Iodines						
Total I-131 (Ci)	6.77E-07	9.18E-07	<MDA	<MDA	1.59E-06	4.20E+01
Average release rate (µCi/s)	8.71E-08	1.17E-07	<MDA	<MDA	5.06E-08	
Percent of ODCM limit (%)	2.57E-06	8.09E-07	0.00E+00	0.00E+00	8.11E-07	
C. Particulates						
Particulates with half-lives greater than 8 days (Ci)	9.24E-06	2.70E-04	5.15E-04	3.49E-03	4.29E-03	4.10E+01
Average release rate (µCi/s)	1.19E-06	3.43E-05	6.48E-05	4.40E-04	1.36E-04	
Percent of ODCM limit (%)	3.13E-06	1.79E-06	3.13E-06	6.80E-05	1.60E-05	
Gross alpha radioactivity (Ci)	1.18E-06	1.98E-06	3.10E-06	1.39E-06	7.65E-06	7.00E+01
D. Tritium						
Total release (Ci)	3.11E+01	1.41E+01	1.18E+01	1.15E+01	6.85E+01	4.20E+01
Average release rate (µCi/s)	4.00E+00	1.80E+00	1.48E+00	1.45E+00	2.17E+00	
Percent of ODCM limit (%)	5.06E-03	4.01E-04	6.69E-04	6.41E-04	1.17E-03	

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 2005

Type	Number	Total Time (hr.)	Maximum Time (hr.)	Minimum Time (hr.)	Mean Time (hr.)
Purge	1.00E+00	3.07E+01	3.07E+01	3.07E+01	3.07E+01
Vent	2.80E+01	3.29E+01	2.98E+00	2.17E-01	1.17E+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 2005

Nuclide	LLD (µCi/cc)
krypton-85	2.60E-07
krypton-85m	2.19E-09
krypton-87	5.83E-09
krypton-88	1.04E-08
xenon-133	8.54E-09
xenon-135	2.77E-09
xenon-135m	1.52E-08
xenon-138	3.57E-08
argon-41	3.68E-09
xenon-137	2.03E-06

Iodines

Nuclide	LLD (µCi/cc)
iodine-131	3.45E-14
iodine-132	3.90E-13
iodine-133	6.92E-13
iodine-134	5.60E-13
iodine-135	1.62E-12

Particulates

Nuclide	LLD (µCi/cc)
strontium-89	9.59E-15
strontium-90	4.22E-15
cesium-134	2.37E-14
cesium-137	2.31E-14
barium-lanthanum-140	1.32E-13
molybdenum-99	3.62E-13
cerium-141	2.62E-14
cerium-144	1.14E-13
cobalt-58	1.82E-14
cobalt-60	2.44E-14
iron-59	4.77E-14
manganese-54	2.47E-14
zinc-65	5.15E-14
Gross Alpha	7.56E-16

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 2005

Class A

1. Container Volumes

Steel Shielded Box	87 ft^3
B-25 Steel Box	96 ft^3
B-88 Steel Box	109 ft^3
ES-190 Steel Liner	170.2 ft^3
EL-190 Polyethylene HIC	174.3 ft^3
Drum 95 gallon	19 ft^3
Drum 55 gallon	7.5 ft^3
Drum 30 gallon	4.0 ft^3
Drum 10 gallon	2.0 ft^3
Drum 8 gallon	1.6 ft^3
Drum 5 gallon	1.0 ft^3

2. Total Curies

   8.57E+01 Ci

3. Principal Radionuclides

Nuclide	Curies	Percent
Co-60	3.51E+01	4.10E+01
Zn-65	2.60E+01	3.03E+01
Fe-55	6.08E+00	7.09E+00
Cr-51	5.84E+00	6.81E+00
Ni-63	5.04E+00	5.88E+00
Co-58	2.43E+00	2.84E+00
Mn-54	1.75E+00	2.04E+00
Cs-137	1.60E+00	1.87E+00
C-14	6.38E-01	7.44E-01

Ni-59	4.42E-01	5.15E-01
Ag-110m	1.88E-01	2.19E-01
Nb-95	1.83E-01	2.13E-01
Zr-95	1.39E-01	1.62E-01
Sb-125	9.77E-02	1.14E-01
Sr-89	7.91E-02	9.23E-02
H-3	3.62E-02	4.22E-02
Fe-59	1.78E-02	2.08E-02
La-140	1.10E-02	1.28E-02
Ba-140	9.77E-03	1.14E-02

4. Source

Resins	5.78E+01 Ci
DAW	1.87E+01 Ci
Irradiated Components	9.08E+00 Ci
Other (Sealed Source & Mixed Waste)	9.46E-02 Ci

5. Type of Container

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

6. Solidification Agent

   None

Class B

There were no Class B shipments made during calendar year 2005

Class C

1. Container Volumes

   EL-50 Polyethylene HIC 51.2 ft^3

2. Total Curies

   2.60E+01 Ci

3. Principal Radionuclides

Nuclide	Curies	Percent
Co-60	9.05E+00	3.47E+01
Zn-65	8.17E+00	3.14E+01

Cr-51	4.35E+00	1.67E+01
Fe-55	1.67E+00	6.41E+00
Mn-54	8.55E-01	3.28E+00
Co-58	8.02E-01	3.08E+00
Nb-95	3.65E-01	1.40E+00
Zr-95	3.41E-01	1.31E+00
Sb-125	1.84E-01	7.06E-01
Ag-110m	1.27E-01	4.88E-01
Cs-137	7.50E-02	2.88E-01
Ni-63	4.20E-02	1.61E-01
Sr-89	1.10E-02	4.22E-02
Cs-134	8.60E-04	3.30E-03

4. Source

Resins (Filters)	2.60E+01 Ci
DAW	None
Irradiated Components	None
Other (Sealed Source & Mixed Waste)	7.24E-02 Ci

5. Type of Container

Shipped as Radioactive material, Type B(U) package, fissile exempted.

6. Solidification Agent

None

Solid Radwaste Information required by NRC Regulatory Guide 1.21

January -- December 2005

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	1.13E+02	
	Ci	8.38E+01	2.5E+01%
b. Dry Active Waste	m^3	1.84E+02	
	Ci	1.87E+01	2.5E+01%
c. Irradiated Components	m^3	9.85E+00	
	Ci	9.08E+00	2.5E+01%
d. Other Waste (Sealed Source & mixed waste)	m^3	1.64E+01	
	Ci	1.67E-01	2.5E+01%

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

a. Dewatered Spent Resins -- All Classes

Nuclide	Curies	Percent
Co-60	3.35E+01	4.00E+01
Zn-65	3.01E+01	3.59E+01
Fe-55	5.92E+00	7.06E+00
Cr-51	4.43E+00	5.29E+00
Ni-63	3.14E+00	3.75E+00
Mn-54	2.18E+00	2.60E+00
Cs-137	1.57E+00	1.88E+00
Co-58	1.05E+00	1.25E+00
C-14	6.35E-01	7.57E-01
Nb-95	3.68E-01	4.39E-01
Zr-95	3.43E-01	4.10E-01
Ag-110m	2.51E-01	2.99E-01
Sb-125	1.84E-01	2.20E-01
H-3	3.01E-02	3.60E-02
Sr-89	2.68E-02	3.20E-02
Fe-59	1.78E-02	2.12E-02
La-140	1.10E-02	1.32E-02
Ba-140	9.77E-03	1.17E-02

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

Nuclide	Curies	Percent
Cr-51	5.74E+00	3.06E+01
Co-60	4.81E+00	2.57E+01
Zn-65	4.05E+00	2.16E+01
Co-58	2.18E+00	1.16E+01
Fe-55	4.34E-01	2.31E+00
Mn-54	4.31E-01	2.30E+00
Ni-59	4.24E-01	2.26E+00
Nb-95	1.79E-01	9.55E-01
Zr-95	1.36E-01	7.25E-01
Sb-125	9.71E-02	5.18E-01
Ni-63	9.04E-02	4.83E-01
Sr-89	6.30E-02	3.36E-01
Ag-110m	6.29E-02	3.36E-01
Cs-137	3.18E-02	1.70E-01
C-14	3.05E-03	1.63E-02
H-3	1.78E-03	9.52E-03
Sr-90	1.24E-03	6.60E-03
Pu-238	4.64E-05	2.48E-04

c. Irradiated Components

Nuclide	Curies	Percent
Co-60	5.81E+00	6.40E+01
Ni-63	1.85E+00	2.04E+01
Fe-55	1.40E+00	1.54E+01
Ni-59	1.35E-02	1.49E-01
H-3	4.05E-03	4.47E-02
C-14	1.07E-03	1.18E-02
Nb-94	4.34E-05	4.78E-04
Tc-99	6.29E-06	6.93E-05
Cs-137	6.16E-09	6.79E-08
Np-237	4.76E-11	5.24E-10

d. Other Waste (Sealed Source & Mixed Waste)

Nuclide	Curies	Percent
Cs-137	7.28E-02	4.36E+01
Co-60	2.67E-02	1.60E+01
Zn-65	2.26E-02	1.35E+01
Cr-51	2.18E-02	1.31E+01
Co-58	1.06E-02	6.35E+00
Fe-55	4.05E-03	2.42E+00
Mn-54	2.09E-03	1.25E+00
Ni-59	1.99E-03	1.19E+00
Nb-95	1.03E-03	6.14E-01
Zr-95	6.93E-04	4.15E-01
Ag-110m	6.63E-04	3.97E-01
Sb-125	6.45E-04	3.86E-01
H-3	5.25E-04	3.14E-01
Ni-63	5.06E-04	3.03E-01
Sr-89	3.15E-04	1.89E-01

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
19	Tractor - Trailer via Public Highway	US Ecology, Inc. P.O. Box 638 Hanford Reservation Richland, WA. 99352
3*	Tractor - Trailer via Public Highway	Pacific EcoSolutions 2025 Battelle Blvd. Richland, WA 99354

(* After processing by Pacific EcoSolutions, portions of these shipments were forwarded for disposal.)

1*	Tractor - Trailer via Public Highway	Perma-Fix of Fla, Inc. 1940 N.W. 67th Pl. Gainesville, FL 32653

(* After processing by Perma-Fix, Inc., portions of these shipments were 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 from the automated data recovery systems for the calendar year 2005. Data is archived on the Energy Northwest Local Area Network.

Joint data recovery for 2005 was 98.8% from both the 245-foot level and the 33-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'. The entire year's joint frequency distribution was calculated using the System 'A' data.

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 2005. 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 categories along with the 16 wind 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 2005.

Calibrations performed in 2005 required no corrections be applied to the raw data. 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 FOR THE TIME PERIOD FROM HOUR 00 ON 01/01/05 TO HOUR 23 ON 03/31/05

The total hours are 2160, 2158 hours read and 2 missing.

NRC CATEGORY A

	MPH										
Deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	1	0	0	0	0	0	0	2	1	0	0
11.25	0	0	0	0	0	0	0	1	0	0	0
33.75	0	0	0	0	0	0	0	0	0	0	0
56.25	0	0	0	1	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	1	0	0	0	0	0	0	0	0	0	0
123.75	0	0	1	0	0	0	0	0	0	0	0
146.25	0	0	1	0	0	0	0	0	0	0	0
168.75	0	1	3	0	0	0	0	0	0	0	0
191.25	0	1	0	0	0	0	0	0	0	0	0
213.75	0	0	0	0	0	1	2	0	2	0	0
236.25	0	0	0	1	0	1	1	5	2	0	0
258.75	0	0	0	0	0	0	0	1	1	0	0
281.25	0	0	0	0	0	0	2	0	0	0	0
303.75	0	1	0	0	0	0	0	1	1	0	0
326.25	0	0	0	0	0	0	0	1	0	0	0

NRC CATEGORY B

	MPH										
Deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	2	0	0	0	0	1	2	0	0	0
11.25	0	2	0	0	0	0	3	2	0	0	0
33.75	0	0	0	0	0	0	1	1	0	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	0	0	0	0	0	0
146.25	0	0	0	0	0	0	0	0	0	0	0
168.75	0	0	0	0	0	0	0	0	0	0	0
191.25	0	0	0	0	0	0	0	2	0	0	0
213.75	0	0	0	0	0	0	0	0	0	0	0
236.25	0	0	0	0	0	0	0	0	0	0	0
258.75	0	0	0	0	0	0	0	2	0	0	0
281.25	0	0	0	0	0	0	0	0	0	0	0
303.75	0	0	0	0	0	0	0	2	0	0	0
326.25	0	0	2	0	0	0	0	0	0	0	0

NRC CATEGORY C

	MPH										
Deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	3	7	8	4	0	1	1	0	0	0	0
11.25	3	2	3	1	0	3	1	0	0	0	0
33.75	1	0	4	1	1	0	1	0	0	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	0	0	0	0	0	0
146.25	0	0	0	0	0	0	0	0	0	0	0
168.75	0	0	1	3	4	2	0	0	0	0	0
191.25	0	1	0	0	2	1	1	1	0	0	0
213.75	0	0	0	2	0	1	1	0	0	0	0
236.25	0	0	1	0	1	1	2	1	1	0	0
258.75	1	0	0	1	0	0	0	0	0	0	0
281.25	0	0	0	0	0	1	0	0	0	0	0
303.75	2	1	1	0	0	0	0	1	0	0	0
326.25	1	4	3	4	0	0	0	0	0	0	0

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

NRC CATEGORY D

	MPH										
Deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	14	21	31	29	17	18	13	0	0	0	1
11.25	11	16	11	7	4	7	15	1	0	0	0
33.75	9	9	2	1	4	1	1	1	0	0	0
56.25	13	11	0	1	1	0	0	0	0	0	0
78.75	6	1	1	0	0	0	0	0	0	0	0
101.25	1	1	0	0	0	0	0	0	0	0	0
123.75	6	7	1	0	1	0	0	0	0	0	0
146.25	2	7	14	8	6	2	0	0	0	0	0
168.75	6	14	20	11	6	2	2	0	0	0	0
191.25	7	7	6	5	3	4	4	3	0	0	0
213.75	3	5	2	2	1	3	1	2	1	0	0
236.25	3	6	2	1	3	0	0	5	3	2	0
258.75	0	4	0	3	1	1	1	1	1	0	0
281.25	6	2	4	0	1	5	5	0	0	0	0
303.75	2	9	7	5	11	2	1	1	0	0	0
326.25	7	24	22	21	17	10	5	0	0	0	0

NRC CATEGORY E

	MPH										
Deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	10	26	14	8	7	1	1	0	0	0	0
11.25	11	9	6	7	2	1	0	0	0	0	0
33.75	9	7	5	3	1	0	0	0	0	0	0
56.25	5	6	2	0	1	0	0	0	0	0	0
78.75	1	0	1	0	0	0	0	0	0	0	0
101.25	4	2	1	0	0	0	0	0	0	0	0
123.75	4	4	0	1	0	0	0	0	0	0	0
146.25	1	7	5	10	3	2	0	0	0	0	0
168.75	4	11	10	13	5	7	4	0	0	0	0
191.25	3	5	4	5	6	5	4	4	0	0	0
213.75	1	6	1	2	1	2	10	8	1	0	0
236.25	1	1	4	5	3	2	0	1	1	0	0
258.75	0	4	3	1	2	1	1	0	0	0	0
281.25	6	9	2	8	0	0	1	0	0	0	0
303.75	3	7	5	7	9	4	2	0	0	0	0
326.25	5	36	23	39	14	5	2	0	0	0	0

NRC CATEGORY F

	MPH										
Deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	9	16	12	1	3	0	0	0	0	0	0
11.25	3	8	0	0	1	0	0	0	0	0	0
33.75	6	3	3	0	0	0	0	0	0	0	0
56.25	1	4	2	1	1	0	0	0	0	0	0
78.75	3	2	0	0	0	0	0	0	0	0	0
101.25	2	1	0	0	0	0	0	0	0	0	0
123.75	4	1	0	1	0	0	0	0	0	0	0
146.25	2	8	7	5	6	0	1	0	0	0	0
168.75	6	7	8	8	8	0	4	0	0	0	0
191.25	4	1	7	5	3	2	5	0	0	0	0
213.75	5	5	6	6	2	5	1	0	0	0	0
236.25	1	5	2	0	0	1	0	0	0	0	0
258.75	3	3	3	2	0	0	0	0	0	0	0
281.25	3	5	1	0	0	0	0	0	0	0	0
303.75	6	13	11	6	1	1	0	0	0	0	0
326.25	5	12	11	11	3	0	0	0	0	0	0

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

NRC CATEGORY G

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	13	38	22	2	0	0	0	0	0	0	0
11.25	26	18	4	0	0	0	0	0	0	0	0
33.75	3	17	6	0	0	0	0	0	0	0	0
56.25	5	1	1	0	0	0	0	0	0	0	0
78.75	4	0	0	0	0	0	0	0	0	0	0
101.25	1	0	0	0	0	0	0	0	0	0	0
123.75	1	1	0	0	0	0	0	0	0	0	0
146.25	4	7	3	3	3	0	0	0	0	0	0
168.75	4	10	7	6	8	0	2	0	0	0	0
191.25	6	4	4	3	1	1	0	0	0	0	0
213.75	3	5	3	0	0	0	0	0	0	0	0
236.25	1	3	0	0	0	0	0	0	0	0	0
258.75	1	6	2	0	0	0	0	0	0	0	0
281.25	6	2	2	2	1	0	0	0	0	0	0
303.75	7	10	3	2	0	0	0	0	0	0	0
326.25	14	30	21	4	1	0	0	0	0	0	0

NRC CATEGORY	A	B	C	D	E	F	G
CALMS	3	1	5	79	62	50	57

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

JOINT FREQUENCY DISTRIBUTION FOR THE TIME PERIOD FROM HOUR 00 ON 01/01/05 TO HOUR 23 ON 03/31/05

The total hours are 2160, 2158 hours read and 2 missing.

NRC CATEGORY A

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	0	0	0	0	0	0	0	3	0	0
11.25	0	1	0	0	0	0	0	0	0	0	0
33.75	0	0	0	0	0	0	0	1	0	0	0
56.25	0	0	0	1	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	1	0	0	0	0	0	0	0	0
123.75	1	0	0	0	0	0	0	0	0	0	0
146.25	1	0	2	1	0	0	0	0	0	0	0
168.75	0	0	1	0	0	0	0	0	0	0	0
191.25	0	1	0	0	0	0	0	0	0	0	0
213.75	0	0	0	0	0	0	2	1	0	2	0
236.25	0	0	0	1	0	0	1	2	4	3	0
258.75	0	0	0	0	0	0	0	0	1	0	0
281.25	0	1	0	0	0	0	1	1	1	0	0
303.75	0	0	0	0	0	0	0	0	2	0	0
326.25	0	0	0	0	0	0	0	0	0	0	0

NRC CATEGORY B

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	0	3	0	0	0	1	2	0	0	0
11.25	1	0	0	0	0	0	2	3	0	0	0
33.75	0	0	0	0	0	0	1	0	1	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	0	0	0	0	0	0
146.25	1	0	0	0	0	0	0	0	0	0	0
168.75	0	0	0	0	0	0	0	0	0	0	0
191.25	0	0	0	0	0	0	0	1	1	0	0
213.75	0	0	0	0	0	0	0	0	0	0	0
236.25	0	0	0	0	0	0	0	0	2	0	0
258.75	0	0	0	0	0	0	0	0	0	0	0
281.25	0	0	0	0	0	0	0	0	0	0	0
303.75	0	0	0	0	0	0	0	0	2	0	0
326.25	0	0	0	2	0	0	0	0	0	0	0

NRC CATEGORY C

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	2	4	10	6	0	0	1	0	1	0	1
11.25	1	3	4	2	0	2	1	3	0	0	0
33.75	0	0	4	1	1	1	1	0	0	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	1	0	0	0	0	0	0	0	0	0
123.75	0	0	1	0	0	0	0	0	0	0	0
146.25	0	0	0	0	0	0	0	0	0	0	0
168.75	0	0	0	1	4	0	1	0	0	0	0
91.25	0	1	1	1	0	3	1	1	1	0	0
213.75	0	0	0	1	1	1	3	1	0	0	0
236.25	0	0	0	1	1	1	0	0	2	1	0
258.75	0	0	0	0	0	0	0	0	0	0	0
281.25	0	0	1	0	0	0	1	0	0	0	0
303.75	0	0	2	0	0	0	0	1	0	0	0
326.25	1	1	3	1	0	0	0	0	0	0	0

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

NRC CATEGORY D

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	3	10	18	19	13	9	22	6	0	0	0
11.25	7	10	14	3	5	7	12	12	0	0	0
33.75	4	8	8	2	4	0	3	4	2	0	0
56.25	7	6	0	0	3	1	0	0	0	0	0
78.75	2	3	1	0	0	0	2	0	0	0	0
101.25	2	3	0	0	0	0	0	0	0	0	0
123.75	7	3	0	0	0	1	0	0	0	0	0
146.25	1	5	12	7	6	2	1	0	0	0	0
168.75	6	12	24	6	8	5	0	1	0	0	0
191.25	7	9	3	6	3	3	3	5	2	1	0
213.75	1	6	3	1	1	3	3	0	4	1	0
236.25	4	6	1	3	1	3	1	0	5	5	2
258.75	4	0	0	1	2	1	2	0	1	0	0
281.25	1	4	4	1	0	1	7	5	0	0	0
303.75	5	9	9	3	6	6	19	4	1	0	0
326.25	9	6	24	11	13	7	18	3	0	0	1

NRC CATEGORY E

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	3	7	9	12	4	9	11	5	0	0	0
11.25	5	10	4	5	4	4	4	0	0	0	0
33.75	5	5	4	3	1	3	0	0	0	0	0
56.25	2	6	1	2	1	0	0	0	0	0	0
78.75	3	2	2	1	0	0	0	0	0	0	0
101.25	3	3	0	0	0	0	1	0	0	0	0
123.75	4	2	6	1	1	0	0	0	0	0	0
146.25	4	10	4	6	9	11	3	0	0	0	0
168.75	2	1	7	5	6	4	6	2	0	0	0
191.25	2	6	0	2	3	3	10	8	4	1	0
213.75	1	2	2	1	3	0	4	4	9	9	0
236.25	1	1	0	3	0	2	4	2	1	1	0
258.75	0	1	3	0	2	1	4	2	1	0	0
281.25	3	3	3	2	5	4	5	2	1	0	0
303.75	3	3	3	4	4	8	18	10	3	0	0
326.25	2	12	12	12	6	19	23	5	0	0	0

NRC CATEGORY F

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	2	3	8	7	6	0	3	0	0	0	0
11.25	3	5	6	0	2	1	1	0	0	0	0
33.75	0	2	8	2	1	1	0	0	0	0	0
56.25	1	4	9	2	1	0	0	0	0	0	0
78.75	1	5	3	0	0	0	0	0	0	0	0
101.25	2	3	2	0	0	0	0	0	0	0	0
123.75	4	3	1	0	2	0	0	0	0	0	0
146.25	4	4	4	2	2	5	8	1	0	0	0
168.75	1	9	10	8	6	5	3	1	0	0	0
191.25	2	8	1	6	0	6	6	1	4	0	0
213.75	0	2	1	0	3	2	7	3	3	0	0
236.25	0	0	6	1	1	1	3	2	0	0	0
258.75	1	3	2	1	1	1	0	0	0	0	0
281.25	1	4	3	3	1	2	3	3	0	0	0
303.75	0	4	4	0	6	3	6	1	0	0	0
326.25	2	6	2	4	3	6	9	3	0	0	0

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

NRC CATEGORY G

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	2	12	12	8	8	4	0	0	0	0	0
11.25	1	12	6	2	0	1	1	0	0	0	0
33.75	5	10	10	3	0	0	0	0	0	0	0
56.25	4	9	9	4	2	0	0	0	0	0	0
78.75	3	4	0	0	0	0	0	0	0	0	0
101.25	4	2	1	0	0	0	0	0	0	0	0
123.75	3	6	2	1	0	0	0	0	0	0	0
146.25	2	8	7	8	4	1	4	0	0	0	0
168.75	2	12	8	11	6	7	10	2	0	0	0
191.25	1	6	9	4	6	4	2	2	0	0	0
213.75	6	4	5	1	2	1	2	1	0	0	0
236.25	0	3	2	0	1	0	0	0	0	0	0
258.75	2	2	1	2	0	0	0	0	0	0	0
281.25	1	3	2	1	0	0	1	0	1	0	0
303.75	1	1	2	5	6	2	11	1	0	0	0
326.25	4	3	9	7	11	9	5	0	0	0	0

NRC CATEGORY	A	B	C	D	E	F	G
CALMS	0	0	3	64	32	20	15

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

JOINT FREQUENCY DISTRIBUTION FOR THE TIME PERIOD FROM HOUR 00 ON 04/01/05 TO HOUR 23 ON 06/30/05

The total hours are 2184, 2083 hours read and 101 missing.

NRC CATEGORY A

					MPH						
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	6	16	14	10	15	5	0	0	0	0	0
11.25	2	13	22	20	17	8	6	0	0	0	0
33.75	6	12	14	13	7	6	5	5	5	0	0
56.25	9	8	7	7	7	1	2	0	0	0	0
78.75	8	11	6	6	1	0	0	0	0	0	0
101.25	4	11	9	2	1	1	2	0	0	0	0
123.75	0	6	11	12	8	0	0	0	0	0	0
146.25	2	11	20	21	22	4	2	1	0	0	0
168.75	1	11	20	41	27	23	16	2	0	0	0
191.25	2	10	14	12	15	22	40	2	0	0	0
213.75	0	1	5	9	11	8	11	6	0	0	0
236.25	3	2	3	5	9	4	4	3	2	0	0
258.75	1	3	4	2	11	4	11	1	1	0	0
281.25	1	1	1	3	6	2	3	2	0	0	0
303.75	3	2	2	3	5	3	5	5	1	0	0
326.25	1	4	7	3	2	1	2	0	0	0	0

NRC CATEGORY B

					MPH						
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	0	0	0	3	1	0	0	0	0	0
11.25	0	0	1	0	1	0	0	0	0	0	0
33.75	0	2	0	0	0	0	0	0	0	0	0
56.25	1	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	1	1	0	0	0	0	0	0	0	0
123.75	0	0	1	2	1	0	0	0	0	0	0
146.25	0	0	0	1	0	0	0	0	0	0	0
168.75	0	0	0	1	1	0	0	0	0	0	0
191.25	0	0	0	0	0	1	3	1	0	0	0
213.75	0	0	0	0	0	0	1	0	0	0	0
236.25	0	0	0	0	0	1	1	1	0	0	0
258.75	0	0	0	0	0	0	1	2	1	0	0
281.25	0	1	0	0	0	1	1	0	0	0	0
303.75	1	0	0	1	0	0	1	0	0	0	0
326.25	1	0	0	0	4	1	0	1	0	0	0

NRC CATEGORY C

					MPH						
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	0	0	0	0	1	2	0	0	0	0
11.25	0	1	0	0	0	1	0	0	0	0	0
33.75	0	0	1	1	0	0	0	0	0	0	0
56.25	0	0	1	0	0	0	0	0	0	0	0
78.75	0	1	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	1	0	0	0	0	0
146.25	0	0	1	2	0	1	1	0	0	0	0
168.75	0	0	1	1	2	1	1	0	0	0	0
191.25	0	0	0	0	1	0	1	0	0	0	0
213.75	0	0	0	1	0	0	0	0	0	0	0
236.25	0	0	0	0	0	0	2	0	0	0	0
258.75	0	0	0	0	1	0	1	0	1	0	0
281.25	0	0	0	0	0	0	0	0	0	0	0
303.75	0	0	0	0	0	0	3	2	0	0	0
326.25	1	0	0	1	1	0	1	0	0	0	0

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

NRC CATEGORY D

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	2	1	4	1	1	1	0	0	0	0	0
11.25	0	1	1	3	0	1	1	0	0	0	0
33.75	1	2	1	1	1	0	1	0	0	0	0
56.25	1	1	1	2	0	0	0	0	0	0	0
78.75	0	2	1	0	0	0	0	0	0	0	0
101.25	1	2	0	0	0	0	0	0	0	0	0
123.75	0	1	3	1	1	0	0	0	0	0	0
146.25	0	1	1	1	7	3	1	0	0	0	0
168.75	0	1	5	5	4	3	3	0	0	0	0
191.25	1	1	1	1	3	2	2	1	0	0	0
213.75	2	2	1	1	1	1	1	0	0	0	0
236.25	0	2	0	0	0	1	0	2	1	0	0
258.75	1	0	0	2	3	1	3	0	0	0	0
281.25	0	2	0	2	3	7	4	1	0	0	0
303.75	0	2	1	2	3	1	22	15	1	0	0
326.25	0	2	3	3	4	0	5	2	1	0	0

NRC CATEGORY E

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	5	15	8	4	1	1	0	0	0	0	0
11.25	2	8	7	3	1	0	0	0	0	0	0
33.75	2	6	5	2	2	0	0	0	0	0	0
56.25	1	4	5	2	1	1	0	0	0	0	0
78.75	0	1	1	0	0	0	0	0	0	0	0
101.25	2	6	2	0	0	0	0	0	0	0	0
123.75	3	6	6	2	1	0	0	0	0	0	0
146.25	3	4	5	18	3	4	0	0	0	0	0
168.75	3	9	14	11	11	6	5	0	0	0	0
191.25	3	8	4	6	3	5	5	1	0	0	0
213.75	1	5	4	2	0	2	2	0	0	0	0
236.25	2	3	3	3	1	1	2	0	0	0	0
258.75	2	5	7	5	6	1	1	1	0	0	0
281.25	3	6	7	6	6	4	5	1	0	0	0
303.75	3	6	5	8	9	7	14	3	0	0	0
326.25	4	15	9	3	6	2	0	1	0	0	0

NRC CATEGORY F

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	3	10	12	3	0	0	0	0	0	0	0
11.25	2	11	3	1	1	0	0	0	0	0	0
33.75	4	4	7	2	0	0	0	0	0	0	0
56.25	2	2	2	1	0	0	0	0	0	0	0
78.75	1	4	0	0	0	0	0	0	0	0	0
101.25	1	1	0	0	0	0	0	0	0	0	0
123.75	4	1	0	1	2	0	0	0	0	0	0
146.25	5	11	20	12	4	0	1	0	0	0	0
168.75	4	3	19	23	6	1	0	0	0	0	0
191.25	2	4	5	4	2	0	0	0	0	0	0
213.75	1	4	2	1	0	0	0	0	0	0	0
236.25	0	5	2	2	0	0	0	0	0	0	0
258.75	0	3	3	2	0	1	0	0	0	0	0
281.25	0	1	0	2	2	0	0	0	0	0	0
303.75	3	0	6	4	3	2	1	0	0	0	0
326.25	1	7	15	11	4	0	0	0	0	0	0

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

NRC CATEGORY G

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	1	6	8	0	1	0	0	0	0	0	0
11.25	2	8	5	0	0	0	0	0	0	0	0
33.75	2	10	6	1	0	0	0	0	0	0	0
56.25	1	5	5	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	1	1	0	0	0	0	0	0	0	0	0
123.75	0	1	0	0	0	0	0	0	0	0	0
146.25	0	0	2	1	1	0	0	0	0	0	0
168.75	0	4	6	5	3	0	0	0	0	0	0
191.25	0	3	5	7	1	0	0	0	0	0	0
213.75	1	1	2	0	0	0	0	0	0	0	0
236.25	0	0	0	0	0	0	0	0	0	0	0
258.75	0	2	0	0	0	0	0	0	0	0	0
281.25	0	0	0	0	1	0	0	0	0	0	0
303.75	0	1	3	0	0	0	0	0	0	0	0
326.25	3	3	5	0	0	0	0	0	0	0	0

NRC CATEGORY	A	B	C	D	E	F	G
CALMS	15	1	0	1	12	6	5

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

JOINT FREQUENCY DISTRIBUTION FOR THE TIME PERIOD FROM HOUR 00 ON 04/01/05 TO HOUR 23 ON 06/30/05

The total hours are 2184, 2083 hours read and 101 missing.

NRC CATEGORY A

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	6	8	11	8	5	9	3	0	0	0	0
11.25	4	10	16	17	12	11	10	0	0	0	0
33.75	2	13	11	16	13	2	6	5	5	0	0
56.25	1	10	8	11	6	5	6	0	2	2	0
78.75	8	5	6	3	6	0	1	0	0	0	0
101.25	9	5	3	4	2	1	0	2	0	0	0
123.75	3	2	9	8	7	4	0	0	0	0	0
146.25	1	12	15	9	21	7	3	0	0	0	0
168.75	0	10	13	36	20	17	6	1	1	0	0
191.25	3	6	18	13	16	17	33	23	2	0	0
213.75	3	2	3	7	9	8	19	15	7	0	0
236.25	1	5	4	5	3	9	9	4	5	1	0
258.75	0	2	1	1	7	9	7	3	2	0	0
281.25	1	1	1	3	1	3	4	0	0	0	0
303.75	2	3	1	1	0	3	1	0	0	0	0
326.25	1	7	7	3	3	2	0	1	0	0	0

NRC CATEGORY B

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	0	0	0	1	1	1	0	0	0	0
11.25	0	0	0	1	1	0	0	0	0	0	0
33.75	0	2	0	0	0	0	0	0	0	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	1	0	0	0	0	0	0	0	0
101.25	0	0	0	1	0	0	0	0	0	0	0
123.75	0	0	0	1	1	0	0	0	0	0	0
146.25	0	0	0	0	0	0	0	0	0	0	0
168.75	0	0	0	0	1	1	0	0	0	0	0
191.25	0	0	0	0	0	2	3	2	0	0	0
213.75	0	0	0	0	0	0	1	0	1	0	0
236.25	0	0	0	0	0	0	1	1	0	1	0
258.75	0	0	0	0	1	0	2	0	2	0	0
281.25	0	0	0	0	1	0	1	1	0	0	0
303.75	0	0	0	0	0	0	4	1	1	0	0
326.25	0	1	1	0	2	3	0	0	0	0	0

NRC CATEGORY C

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	0	0	0	0	1	0	0	0	0	0
11.25	0	0	0	0	0	0	1	0	0	0	0
33.75	0	0	0	0	0	0	0	0	0	0	0
56.25	0	0	3	0	0	0	0	0	0	0	0
78.75	0	1	1	1	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	0	0	1	0	0	0
146.25	0	0	0	1	0	0	0	0	0	0	0
168.75	0	0	0	1	0	1	3	2	0	0	0
191.25	0	0	0	0	1	0	1	0	0	0	0
213.75	0	1	0	0	1	0	0	1	0	0	0
236.25	0	0	0	0	0	0	2	1	1	0	0
258.75	0	0	0	0	0	0	0	1	0	0	0
281.25	0	0	0	1	1	0	0	1	0	0	0
303.75	0	1	0	0	1	1	0	3	0	0	0
326.25	0	0	0	0	0	0	1	0	0	0	0

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

NRC CATEGORY D

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	1	2	1	1	1	1	1	0	0	0	0
11.25	0	0	1	2	1	0	1	0	0	0	0
33.75	1	0	1	0	1	0	3	0	0	0	0
56.25	1	1	1	2	2	0	0	1	0	0	0
78.75	0	1	1	1	0	0	0	0	0	0	0
101.25	0	0	1	1	1	0	0	0	0	0	0
123.75	0	1	0	1	4	3	0	0	0	0	0
146.25	0	1	1	1	3	1	2	0	0	0	0
168.75	0	0	1	4	3	6	3	1	0	0	0
191.25	0	0	2	0	3	2	10	4	0	0	0
213.75	0	1	1	1	2	2	4	3	1	0	0
236.25	0	0	2	2	1	0	0	2	2	1	0
258.75	0	0	1	1	2	0	2	4	1	0	0
281.25	0	0	0	1	1	4	6	3	4	0	0
303.75	0	2	1	2	2	0	6	13	23	7	0
326.25	0	1	1	0	7	3	2	0	1	0	0

NRC CATEGORY E

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	2	1	2	2	2	3	2	0	0	0	0
11.25	0	1	5	2	1	2	1	0	0	0	0
33.75	1	4	4	1	3	1	3	0	0	0	0
56.25	3	4	2	4	1	4	2	1	0	0	0
78.75	0	0	2	0	1	0	2	0	0	0	0
101.25	0	2	1	1	1	0	0	0	0	0	0
123.75	0	2	3	4	2	3	1	1	0	0	0
146.25	0	2	3	6	4	2	3	3	1	0	0
168.75	1	3	1	5	4	5	5	4	0	0	0
191.25	0	5	2	5	5	8	17	10	3	0	0
213.75	0	1	2	3	3	2	6	5	2	0	0
236.25	2	3	2	3	1	0	1	4	3	0	0
258.75	0	1	4	3	4	4	12	3	2	1	0
281.25	2	5	8	9	6	4	13	9	9	0	0
303.75	1	1	7	9	6	4	9	16	16	5	0
326.25	2	4	7	5	6	4	3	0	0	0	0

NRC CATEGORY F

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	1	0	7	3	4	1	2	0	0	0	0
11.25	0	0	5	9	1	1	0	0	0	0	0
33.75	0	0	1	8	2	1	3	0	0	0	0
56.25	0	1	1	1	0	2	1	0	0	0	0
78.75	0	2	2	1	0	1	0	0	0	0	0
101.25	1	1	1	1	0	0	1	0	0	0	0
123.75	0	2	1	0	1	0	0	0	0	0	0
146.25	1	5	3	5	4	4	1	1	0	0	0
168.75	1	4	6	10	5	9	11	2	0	0	0
191.25	4	4	10	5	8	7	5	2	0	0	0
213.75	1	3	6	2	4	2	3	1	0	0	0
236.25	1	1	5	1	0	0	1	0	0	0	0
258.75	1	5	3	4	4	1	1	0	0	0	0
281.25	0	1	2	3	0	2	7	5	0	0	0
303.75	3	1	1	2	4	1	8	3	1	0	0
326.25	2	1	5	2	9	5	11	0	0	0	0

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

NRC CATEGORY G

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	0	4	9	6	0	0	0	0	0	0
11.25	2	0	8	2	2	0	0	0	0	0	0
33.75	1	2	0	5	1	2	1	1	0	0	0
56.25	0	2	0	0	1	0	3	1	0	0	0
78.75	0	1	0	0	1	0	0	0	0	0	0
101.25	0	1	0	0	0	0	0	0	0	0	0
123.75	0	0	1	1	0	0	0	0	0	0	0
146.25	3	1	1	0	0	0	0	0	0	0	0
168.75	0	1	3	1	1	0	2	0	0	0	0
191.25	1	3	2	3	2	0	1	0	0	0	0
213.75	0	2	11	3	3	1	3	0	0	0	0
236.25	2	4	4	2	1	0	0	0	0	0	0
258.75	0	1	0	0	0	0	0	0	0	0	0
281.25	1	1	1	0	0	0	1	1	0	0	0
303.75	0	2	1	1	0	0	0	0	0	0	0
326.25	1	0	1	3	3	2	4	0	0	0	0

NRC CATEGORY	A	B	C	D	E	F	G
CALMS	16	2	0	0	8	6	4

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

JOINT FREQUENCY DISTRIBUTION FOR THE TIME PERIOD FROM HOUR 00 ON 07/01/05 TO HOUR 23 ON 09/30/05

The total hours are 2208, 2205 hours read and 3 missing.

NRC CATEGORY A

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	8	9	6	5	6	8	0	0	0	0	0
11.25	5	12	20	17	6	4	2	0	0	0	0
33.75	4	18	17	7	2	0	0	0	0	0	0
56.25	4	19	18	10	3	0	0	0	0	0	0
78.75	6	5	4	7	5	0	0	0	0	0	0
101.25	9	8	9	7	7	2	1	0	0	0	0
123.75	3	14	15	12	16	9	1	0	0	0	0
146.25	7	24	42	23	6	1	0	0	0	0	0
168.75	6	16	37	31	13	5	5	1	0	0	0
191.25	2	6	14	8	9	5	10	0	0	0	0
213.75	3	2	3	4	1	1	3	0	0	0	0
236.25	2	5	3	0	4	2	1	3	1	0	0
258.75	1	1	4	1	2	2	1	3	2	0	0
281.25	2	6	4	9	2	3	1	1	1	0	0
303.75	1	7	5	8	2	7	8	10	0	0	0
326.25	3	7	8	7	3	0	2	5	3	0	0

NRC CATEGORY B

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	1	1	1	1	2	0	0	0	0	0
11.25	0	0	4	2	2	0	0	0	0	0	0
33.75	0	0	0	0	0	1	0	0	0	0	0
56.25	0	0	0	0	1	1	0	0	0	0	0
78.75	0	1	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	1	1	0	0	0	0
146.25	0	0	0	1	0	0	0	0	0	0	0
168.75	0	0	0	1	0	0	0	0	0	0	0
191.25	0	0	0	0	0	0	0	0	0	0	0
213.75	0	0	0	0	0	0	0	0	0	0	0
236.25	0	0	0	0	0	0	0	0	0	0	0
258.75	0	0	0	0	0	0	0	0	0	0	0
281.25	0	0	0	0	1	0	0	0	0	0	0
303.75	0	0	0	0	0	0	1	1	0	0	0
326.25	0	0	1	0	0	0	0	1	0	0	0

NRC CATEGORY C

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	1	1	1	0	2	1	0	0	0	0
11.25	0	1	2	2	2	0	0	0	0	0	0
33.75	0	1	2	1	1	0	0	0	0	0	0
56.25	1	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	0	1	0	0	0	0	0	0	0
123.75	0	0	0	0	0	2	0	0	0	0	0
146.25	0	0	0	1	0	0	0	0	0	0	0
168.75	0	0	1	2	0	5	0	0	0	0	0
191.25	0	0	0	1	3	4	0	0	0	0	0
213.75	0	0	1	0	0	0	0	0	0	0	0
236.25	0	0	0	0	0	0	0	1	0	0	0
258.75	0	0	0	0	0	0	0	0	0	0	0
281.25	0	1	0	1	1	1	0	2	1	0	0
303.75	0	0	0	0	0	0	0	0	0	0	0
326.25	0	0	2	1	0	0	2	0	0	0	0

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

NRC CATEGORY D

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	1	1	4	0	0	2	4	0	0	0	0
11.25	1	4	1	0	1	0	0	0	0	0	0
33.75	1	1	1	4	0	0	0	0	0	0	0
56.25	1	1	2	1	1	0	0	0	0	0	0
78.75	1	0	2	1	0	0	0	0	0	0	0
101.25	1	6	1	2	0	0	0	0	0	0	0
123.75	2	4	1	3	5	1	0	0	0	0	0
146.25	3	7	6	8	4	1	0	0	0	0	0
168.75	2	2	10	22	19	5	0	2	0	0	0
191.25	1	3	2	8	7	2	3	0	0	0	0
213.75	1	3	0	3	1	1	0	1	4	0	0
236.25	0	1	3	0	3	0	0	0	1	0	0
258.75	0	3	1	0	0	1	1	2	0	0	0
281.25	2	4	0	0	1	0	2	1	0	0	0
303.75	2	4	1	2	3	2	7	8	1	0	0
326.25	0	5	5	0	5	6	7	4	1	0	0

NRC CATEGORY E

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	1	2	8	5	1	1	2	0	0	0	0
11.25	1	1	2	0	0	0	0	0	0	0	0
33.75	0	5	3	0	0	0	0	0	0	0	0
56.25	1	3	4	0	1	0	0	0	0	0	0
78.75	2	0	1	0	0	0	0	0	0	0	0
101.25	3	4	0	0	0	0	0	0	0	0	0
123.75	3	3	1	4	3	0	0	0	0	0	0
146.25	0	6	5	9	9	2	1	0	0	0	0
168.75	1	10	6	8	6	2	0	0	0	0	0
191.25	3	8	2	2	2	4	1	3	0	0	0
213.75	0	7	2	2	0	3	4	4	0	0	0
236.25	1	3	3	0	0	0	0	0	0	0	0
258.75	0	3	6	4	1	1	1	0	0	0	0
281.25	0	5	3	7	9	4	8	0	0	0	0
303.75	4	5	7	17	20	23	29	7	0	0	0
326.25	1	5	15	10	14	8	9	1	0	0	0

NRC CATEGORY F

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	1	8	6	2	0	0	0	0	0	0	0
11.25	4	8	4	2	0	0	0	0	0	0	0
33.75	3	12	3	2	0	0	0	0	0	0	0
56.25	3	7	3	1	0	0	0	0	0	0	0
78.75	0	1	0	0	0	0	0	0	0	0	0
101.25	2	2	0	0	0	0	0	0	0	0	0
123.75	3	4	3	0	0	0	0	0	0	0	0
146.25	2	11	4	13	1	0	0	0	0	0	0
168.75	2	14	23	27	13	0	0	0	0	0	0
191.25	3	10	15	6	1	1	1	0	0	0	0
213.75	2	6	8	2	0	0	1	0	0	0	0
236.25	3	3	3	2	1	1	0	0	0	0	0
258.75	0	5	0	2	0	1	0	0	0	0	0
281.25	3	2	2	2	1	0	0	0	0	0	0
303.75	2	9	3	8	3	4	0	0	0	0	0
326.25	4	4	7	4	1	0	0	0	0	0	0

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

NRC CATEGORY G

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	14	16	4	2	0	0	0	0	0	0	0
11.25	7	25	3	0	0	0	0	0	0	0	0
33.75	13	16	7	1	0	0	0	0	0	0	0
56.25	15	9	0	1	0	0	0	0	0	0	0
78.75	4	2	0	0	0	0	0	0	0	0	0
101.25	1	0	0	0	0	0	0	0	0	0	0
123.75	5	3	1	0	0	0	0	0	0	0	0
146.25	7	8	4	1	0	0	0	0	0	0	0
168.75	9	12	5	4	2	0	0	0	0	0	0
191.25	5	2	2	2	0	0	0	1	0	0	0
213.75	1	2	0	0	0	0	0	0	0	0	0
236.25	3	0	1	0	0	0	0	0	0	0	0
258.75	0	0	1	0	0	0	0	0	0	0	0
281.25	0	0	0	0	0	0	0	0	0	0	0
303.75	0	2	2	0	0	0	0	0	0	0	0
326.25	2	2	3	3	1	0	0	0	0	0	0

NRC CATEGORY	A	B	C	D	E	F	G
CALMS	14	0	2	6	9	11	29

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

JOINT FREQUENCY DISTRIBUTION FOR THE TIME PERIOD FROM HOUR 00 ON 07/01/05 TO HOUR 23 ON 09/30/05

The total hours are 2208, 2205 hours read and 3 missing.

NRC CATEGORY A

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	9	7	5	4	5	5	2	0	0	0	0
11.25	5	13	15	10	6	5	5	1	0	0	0
33.75	2	13	11	9	7	1	3	0	0	0	0
56.25	1	16	18	18	8	4	0	0	1	0	0
78.75	7	5	1	5	2	4	2	0	0	0	0
101.25	2	10	4	5	7	3	3	0	0	0	0
123.75	4	9	19	10	14	8	3	1	0	0	0
146.25	5	19	28	19	10	2	0	0	0	0	0
168.75	6	19	36	28	21	5	3	2	0	0	0
191.25	1	7	20	10	9	11	13	1	0	0	0
213.75	3	4	4	2	3	2	4	0	0	0	0
236.25	2	3	4	1	1	3	5	1	3	1	0
258.75	2	2	2	5	1	1	3	0	1	2	0
281.25	2	5	4	4	2	1	1	0	0	0	0
303.75	1	7	4	7	4	3	6	1	3	0	0
326.25	1	5	5	7	3	0	3	2	0	0	0

NRC CATEGORY B

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	0	2	1	2	1	2	0	0	0	0
11.25	0	0	0	0	3	1	1	0	0	0	0
33.75	0	0	1	0	1	0	0	0	0	0	0
56.25	0	1	0	0	0	0	0	0	0	1	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	1	0	0	0	0	0	0	0	0	0
123.75	0	0	0	1	0	0	0	0	0	0	0
146.25	0	0	1	0	0	0	0	0	0	0	0
168.75	0	0	1	1	0	1	1	0	0	0	0
191.25	0	0	0	0	1	2	1	0	0	0	0
213.75	0	0	0	0	0	0	0	0	0	0	0
236.25	0	0	0	0	0	0	0	0	0	0	0
258.75	0	0	0	0	0	0	0	0	1	0	0
281.25	0	0	0	1	0	0	0	0	0	0	0
303.75	0	0	0	0	0	0	2	2	1	0	0
326.25	0	0	2	0	0	0	0	1	0	0	0

NRC CATEGORY C

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	1	1	1	0	0	0	0	0	0	0
11.25	0	1	3	1	1	1	0	0	0	0	0
33.75	0	0	1	1	1	0	0	0	0	0	0
56.25	0	0	0	1	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	1	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	0	0	0	0	0	0
146.25	1	0	0	1	1	0	0	0	0	0	0
168.75	0	0	0	0	3	1	3	0	0	0	0
191.25	0	0	0	1	4	3	4	0	0	0	0
213.75	0	0	0	0	0	0	0	0	0	0	0
236.25	0	0	0	0	0	1	0	0	1	0	0
258.75	0	1	0	0	0	0	1	0	2	0	0
281.25	0	0	1	0	1	0	0	0	0	0	0
303.75	0	0	1	0	1	0	1	1	0	1	0
326.25	0	2	2	0	0	0	0	0	1	0	0

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

NRC CATEGORY D

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	2	2	2	0	0	0	1	0	0	0	0
11.25	1	3	0	0	3	0	1	1	1	0	0
33.75	0	3	3	0	0	0	0	0	0	0	0
56.25	0	0	2	1	1	0	0	1	0	0	0
78.75	1	3	0	3	0	1	0	0	0	0	0
101.25	0	2	1	2	4	1	0	0	0	0	0
123.75	1	3	1	0	0	2	3	0	0	0	0
146.25	1	2	5	7	3	4	1	0	0	0	0
168.75	0	2	9	9	15	5	3	0	0	0	0
191.25	1	4	4	3	11	9	1	3	2	0	0
213.75	1	1	2	0	1	0	3	3	2	7	0
236.25	0	0	3	1	0	0	0	0	0	0	0
258.75	0	0	2	1	0	1	1	1	5	1	0
281.25	1	2	1	0	1	2	3	2	0	1	0
303.75	1	2	3	1	1	0	6	7	13	5	0
326.25	2	1	4	2	0	3	6	3	4	0	0

NRC CATEGORY E

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	0	1	2	2	2	1	1	4	0	0	0
11.25	0	0	1	0	0	0	0	0	1	0	0
33.75	1	2	1	0	2	0	0	0	0	0	0
56.25	0	1	0	1	1	1	0	0	0	0	0
78.75	1	3	0	1	0	1	0	0	0	0	0
101.25	2	3	0	1	0	0	0	0	0	0	0
123.75	1	1	0	0	2	4	0	0	0	0	0
146.25	1	3	2	4	1	3	2	1	0	0	0
168.75	0	1	5	2	3	5	4	0	2	0	0
191.25	2	4	6	1	3	6	6	2	3	0	0
213.75	0	6	0	3	1	0	5	2	3	0	0
236.25	0	0	0	0	0	0	2	0	0	0	0
258.75	0	4	3	3	2	2	3	1	1	0	0
281.25	1	1	5	2	6	7	9	10	9	0	0
303.75	1	1	3	7	12	18	36	52	44	1	0
326.25	1	2	5	5	4	3	13	5	1	0	0

NRC CATEGORY F

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	1	1	4	2	2	0	0	0	0	0	0
11.25	0	3	1	0	1	0	0	0	0	0	0
33.75	0	2	3	3	0	0	0	0	0	0	0
56.25	0	0	2	2	1	0	0	0	0	0	0
78.75	0	1	2	0	0	0	0	0	0	0	0
101.25	0	2	0	1	2	0	0	0	0	0	0
123.75	1	3	4	2	0	1	2	0	0	0	0
146.25	1	4	2	5	4	5	4	1	0	0	0
168.75	0	6	6	9	10	11	10	0	0	0	0
191.25	4	6	11	6	7	4	10	1	1	0	0
213.75	3	5	4	4	2	1	0	0	1	0	0
236.25	1	7	4	2	0	0	0	1	0	0	0
258.75	0	5	3	5	0	2	1	0	0	0	0
281.25	0	4	3	4	5	1	1	1	1	0	0
303.75	2	0	8	12	4	9	14	7	1	0	0
326.25	1	3	3	9	4	6	1	0	0	0	0

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

NRC CATEGORY G

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	2	3	8	6	0	0	0	0	0	0	0
11.25	2	9	4	1	2	0	0	0	0	0	0
33.75	4	7	1	1	3	0	0	0	0	0	0
56.25	2	7	6	5	2	0	0	0	0	0	0
78.75	2	4	1	3	1	0	0	0	0	0	0
101.25	1	3	0	0	0	0	0	0	0	0	0
123.75	5	5	0	0	1	0	0	0	0	0	0
146.25	2	4	4	4	7	2	0	0	0	0	0
168.75	6	9	13	13	7	4	1	0	0	0	0
191.25	0	6	5	7	1	1	2	0	0	0	0
213.75	2	7	3	2	2	0	1	0	1	0	0
236.25	3	2	0	1	0	0	0	0	0	0	0
258.75	1	1	0	1	1	1	0	0	0	0	0
281.25	0	1	2	0	0	0	0	0	0	0	0
303.75	3	3	2	4	1	4	4	1	1	0	0
326.25	2	5	10	6	5	4	0	0	0	0	0

NRC CATEGORY	A	B	C	D	E	F	G
CALMS	7	0	1	7	1	4	21

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

JOINT FREQUENCY DISTRIBUTION FOR THE TIME PERIOD FROM HOUR 00 ON 10/01/05 TO HOUR 23 ON 12/31/05

The total hours are 2208, 2206 hours read and 2 missing.

NRC CATEGORY A

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	1	0	0	0	0	0	0	0	0	0	0
11.25	0	0	0	0	0	0	0	0	0	0	0
33.75	0	1	0	0	0	0	0	0	0	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	0	0	0	0	0	0
146.25	0	0	0	0	0	0	0	0	0	0	0
168.75	0	0	0	0	0	0	0	0	0	0	0
191.25	0	0	0	0	0	0	0	0	0	0	0
213.75	0	0	0	0	0	0	0	0	0	0	0
236.25	0	0	0	0	0	0	0	0	0	0	0
258.75	1	0	0	0	0	0	0	0	0	0	0
281.25	0	0	0	0	0	0	0	0	0	0	0
303.75	0	0	0	0	0	0	0	0	0	0	0
326.25	0	0	0	0	0	0	0	0	0	0	0

NRC CATEGORY B

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	1	0	1	2	3	0	0	0	0	0	0
11.25	0	1	1	0	1	0	0	0	0	0	0
33.75	0	0	0	0	0	0	0	0	0	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	0	0	0	0	0	0
146.25	0	0	0	0	0	0	0	0	0	0	0
168.75	0	0	0	0	0	0	0	0	0	0	0
191.25	0	0	0	0	0	0	0	0	0	0	0
213.75	0	0	0	0	0	1	0	3	0	0	0
236.25	0	0	0	0	0	0	0	0	0	0	0
258.75	0	0	0	0	0	0	0	0	0	0	0
281.25	0	0	0	0	0	0	0	0	0	0	0
303.75	0	0	0	0	0	0	0	0	0	0	0
326.25	0	0	0	0	0	0	0	0	0	0	0

NRC CATEGORY C

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	1	2	6	3	1	0	0	0	0	0	0
11.25	0	3	4	2	2	0	0	0	0	0	0
33.75	1	0	1	0	0	0	0	0	0	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	0	0	0	0	0	0
146.25	0	0	0	0	0	0	0	0	0	0	0
168.75	0	0	0	0	0	1	0	0	0	0	0
191.25	0	0	0	0	0	2	0	0	0	0	0
213.75	0	0	0	0	0	0	0	0	0	0	0
236.25	0	0	0	0	0	0	2	0	0	0	0
258.75	0	0	0	0	0	0	1	0	0	0	0
281.25	0	0	0	0	0	0	0	0	0	0	0
303.75	0	1	0	0	0	0	0	0	0	0	0
326.25	0	1	1	1	0	0	1	0	0	0	0

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

NRC CATEGORY D

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	6	30	31	10	7	2	0	0	0	0	0
11.25	7	18	19	15	3	3	0	0	0	0	0
33.75	4	11	15	8	2	0	0	0	0	0	0
56.25	3	3	5	1	0	0	0	0	0	0	0
78.75	3	1	0	0	1	0	0	0	0	0	0
101.25	1	3	0	0	0	0	0	0	0	0	0
123.75	5	9	4	1	0	0	1	0	0	0	0
146.25	7	6	17	15	4	1	4	0	0	0	0
168.75	5	14	18	7	9	16	5	1	0	0	0
191.25	4	21	8	6	10	20	20	6	0	0	0
213.75	3	30	10	1	3	4	11	3	0	0	0
236.25	5	13	2	3	2	4	2	0	0	0	0
258.75	5	11	5	1	0	0	1	0	0	0	0
281.25	11	10	2	2	4	1	5	1	0	0	0
303.75	9	16	12	6	7	4	6	2	0	0	0
326.25	9	19	16	14	22	3	3	0	0	0	0

NRC CATEGORY E

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	4	26	21	16	5	1	0	0	0	0	0
11.25	10	17	6	4	1	0	0	0	0	0	0
33.75	1	7	7	4	0	0	0	0	0	0	0
56.25	2	8	9	2	0	0	0	0	0	0	0
78.75	6	5	1	0	0	0	0	0	0	0	0
101.25	0	3	0	0	0	0	0	0	0	0	0
123.75	2	2	1	4	4	0	0	0	0	0	0
146.25	2	5	4	13	14	4	3	1	0	0	0
168.75	6	10	15	20	21	6	10	0	0	0	0
191.25	6	12	27	15	16	8	12	4	0	0	0
213.75	3	18	11	7	4	8	16	4	0	0	0
236.25	12	7	6	2	0	0	8	0	0	0	0
258.75	7	6	2	1	2	2	0	1	0	0	0
281.25	4	14	2	4	0	3	0	0	0	0	0
303.75	4	15	13	11	6	2	2	0	0	0	0
326.25	6	18	11	23	16	4	3	0	0	0	0

NRC CATEGORY F

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	12	27	25	3	0	0	0	0	0	0	0
11.25	8	21	4	1	0	0	0	0	0	0	0
33.75	7	13	7	1	1	0	0	0	0	0	0
56.25	3	3	3	2	3	0	0	0	0	0	0
78.75	2	0	0	0	0	0	0	0	0	0	0
101.25	2	1	0	0	0	0	0	0	0	0	0
123.75	1	1	0	0	0	0	0	0	0	0	0
146.25	2	5	4	5	6	1	1	0	0	0	0
168.75	4	6	13	16	10	2	1	1	0	0	0
191.25	5	19	18	3	8	2	2	1	0	0	0
213.75	4	6	5	2	4	0	2	0	0	0	0
236.25	4	7	5	2	1	1	0	0	0	0	0
258.75	8	8	2	1	1	0	0	0	0	0	0
281.25	5	4	4	4	0	0	0	0	0	0	0
303.75	5	10	3	3	1	0	0	0	0	0	0
326.25	9	26	30	9	0	0	0	0	0	0	0

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

NRC CATEGORY G

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	3	15	9	5	0	0	0	0	0	0	0
11.25	2	2	2	0	0	0	0	0	0	0	0
33.75	1	6	3	0	0	0	0	0	0	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	1	0	0	0	0	0	0	0	0	0
146.25	1	4	0	2	0	0	0	0	0	0	0
168.75	3	1	6	4	0	1	1	0	0	0	0
191.25	1	5	6	2	0	1	2	0	0	0	0
213.75	0	3	0	2	1	0	1	0	0	0	0
236.25	4	3	2	0	0	0	0	0	0	0	0
258.75	0	2	0	0	0	0	0	0	0	0	0
281.25	4	2	0	0	0	0	0	0	0	0	0
303.75	2	4	3	0	0	0	0	0	0	0	0
326.25	2	16	10	1	0	0	0	0	0	0	0

NRC CATEGORY	A	B	C	D	E	F	G
CALMS	0	0	0	26	27	19	7

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

JOINT FREQUENCY DISTRIBUTION FOR THE TIME PERIOD FROM HOUR 00 ON 10/01/05 TO HOUR 23 ON 12/31/05

The total hours are 2208, 2206 hours read and 2 missing.

NRC CATEGORY A

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	0	0	0	0	0	0	0	0	0	0
11.25	0	0	0	0	0	0	0	0	0	0	0
33.75	0	0	0	0	0	0	0	0	0	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	0	0	0	0	0	0
146.25	0	0	0	0	0	0	0	0	0	0	0
168.75	0	0	0	0	0	0	0	0	0	0	0
191.25	0	0	0	0	0	0	0	0	0	0	0
213.75	0	0	0	0	0	0	0	0	0	0	0
236.25	0	0	0	0	0	0	0	0	0	0	0
258.75	1	0	0	0	0	0	0	0	0	0	0
281.25	0	1	0	0	0	0	0	0	0	0	0
303.75	1	0	0	0	0	0	0	0	0	0	0
326.25	0	0	0	0	0	0	0	0	0	0	0

NRC CATEGORY B

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	0	0	1	1	0	5	0	0	0	0
11.25	0	0	1	0	0	2	0	0	0	0	0
33.75	0	0	0	0	0	0	0	0	0	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	0	0	0	0	0	0
146.25	0	0	0	0	0	0	0	0	0	0	0
168.75	0	0	0	0	0	0	0	0	0	0	0
191.25	0	0	0	0	0	0	0	0	0	0	0
213.75	0	0	0	0	0	0	1	0	3	0	0
236.25	0	0	0	0	0	0	0	0	0	0	0
258.75	0	0	0	0	0	0	0	0	0	0	0
281.25	0	0	0	0	0	0	0	0	0	0	0
303.75	0	0	0	0	0	0	0	0	0	0	0
326.25	0	0	0	0	0	0	0	0	0	0	0

NRC CATEGORY C

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	1	1	4	2	1	2	1	0	0	0	0
11.25	0	0	3	1	4	2	0	0	0	0	0
33.75	0	0	1	0	0	0	1	0	0	0	0
56.25	0	0	0	0	0	0	0	0	0	0	0
78.75	0	0	0	0	0	0	0	0	0	0	0
101.25	0	0	0	0	0	0	0	0	0	0	0
123.75	0	0	0	0	0	0	0	0	0	0	0
146.25	0	0	0	0	0	0	0	0	0	0	0
168.75	0	0	0	0	0	0	1	0	0	0	0
191.25	0	0	0	0	0	0	2	0	0	0	0
213.75	0	0	0	0	0	0	0	0	0	0	0
236.25	0	0	0	0	0	0	2	1	0	0	0
258.75	0	0	0	0	0	0	0	0	0	0	0
281.25	0	0	0	0	0	0	0	0	0	0	0
303.75	0	1	0	0	0	0	0	0	0	0	0
326.25	0	0	0	3	1	0	1	1	0	0	0

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

NRC CATEGORY D

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	8	20	23	6	7	4	1	0	0	0	0
11.25	3	13	17	7	7	7	2	1	0	0	0
33.75	4	11	10	6	5	1	4	0	0	0	0
56.25	0	4	4	4	2	1	0	0	0	0	0
78.75	2	2	1	0	0	0	1	0	0	0	0
101.25	1	1	1	1	0	0	0	0	0	0	0
123.75	1	2	4	5	2	4	0	0	1	0	0
146.25	4	6	9	5	9	7	13	3	0	0	0
168.75	6	12	7	5	10	9	10	4	1	0	0
191.25	12	25	12	3	9	7	22	18	11	0	0
213.75	12	11	2	3	4	3	6	12	2	1	0
236.25	7	8	5	2	0	0	8	1	0	0	0
258.75	8	5	6	1	3	0	1	0	0	0	0
281.25	2	8	7	3	4	3	3	4	2	0	0
303.75	6	9	9	5	13	12	9	8	3	0	0
326.25	5	10	9	7	11	2	5	2	0	0	0

NRC CATEGORY E

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	2	8	9	3	8	6	1	0	0	0	0
11.25	2	7	5	5	9	4	3	0	0	0	0
33.75	1	8	8	8	4	1	5	0	0	0	0
56.25	4	6	11	1	1	2	1	0	0	0	0
78.75	2	2	4	1	0	0	1	0	0	0	0
101.25	1	2	0	0	1	0	0	0	0	0	0
123.75	2	5	1	3	1	2	4	5	0	0	0
146.25	7	8	5	4	5	9	6	6	2	0	0
168.75	1	6	14	9	7	10	8	3	1	0	0
191.25	3	26	8	5	14	6	32	8	17	1	0
213.75	7	7	7	3	9	6	9	14	12	9	0
236.25	2	10	2	3	1	4	2	3	5	1	0
258.75	5	6	5	4	2	0	2	2	0	1	0
281.25	1	7	3	3	4	2	3	2	0	0	0
303.75	1	8	9	8	8	8	21	12	3	0	0
326.25	3	7	8	13	6	7	14	5	0	0	0

NRC CATEGORY F

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	1	10	16	5	3	3	1	0	0	0	0
11.25	2	8	5	6	4	0	0	0	0	0	0
33.75	1	5	6	10	6	1	0	0	0	0	0
56.25	4	5	3	3	4	3	0	1	1	0	0
78.75	3	6	4	1	1	0	0	0	0	0	0
101.25	1	1	1	0	0	0	0	0	0	0	0
123.75	2	3	1	0	1	0	1	3	0	0	0
146.25	5	14	6	5	7	2	6	1	3	0	0
168.75	2	11	12	8	5	5	4	3	0	0	0
191.25	1	11	4	13	1	6	5	3	2	0	0
213.75	5	7	8	4	5	6	6	2	1	0	0
236.25	1	6	7	2	0	3	1	1	0	2	0
258.75	4	3	3	3	2	2	1	0	0	0	0
281.25	2	1	1	2	4	1	5	3	0	0	0
303.75	1	4	1	1	5	7	9	2	0	0	0
326.25	2	2	5	8	10	5	2	0	0	0	0

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

NRC CATEGORY G

	MPH										
deg	0	6	2	6	3	2	1	0	0	0	0
0.00	2	2	5	0	1	0	0	0	0	0	0
11.25	0	1	1	1	1	0	0	0	0	0	0
33.75	0	3	2	1	0	0	0	0	1	0	0
56.25	0	0	1	0	0	0	0	0	0	0	0
78.75	1	1	0	0	0	0	0	0	0	0	0
101.25	0	3	0	0	0	0	0	1	0	0	0
123.75	3	1	2	2	2	0	1	0	0	0	0
146.25	2	5	2	4	1	1	3	2	0	0	0
168.75	1	1	3	4	1	1	2	1	0	0	0
191.25	2	3	4	5	3	0	0	1	1	0	0
213.75	0	0	0	2	1	0	0	0	0	0	0
236.25	0	3	1	0	0	0	0	0	0	0	0
258.75	0	4	0	0	0	3	1	0	0	0	0
281.25	0	0	3	2	1	0	3	0	0	0	0
303.75	0	2	2	6	3	2	2	0	0	0	0
326.25	0	6	2	6	3	2	1	0	0	0	0

NRC CATEGORY	A	B	C	D	E	F	G
CALMS	0	0	0	63	18	22	5

Table 5-9 Year 2005, 33 Ft AGL

JOINT FREQUENCY DISTRIBUTION FOR THE TIME PERIOD FROM HOUR 00 ON 01/01/05 TO HOUR 23 ON 12/31/05

The total hours are 8808, 8590 hours read and 218 missing.

NRC CATEGORY A

					MPH						
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	16	25	20	15	21	13	0	2	1	0	0
11.25	7	25	42	37	23	12	8	1	0	0	0
33.75	10	31	31	20	9	6	5	5	5	0	0
56.25	13	27	25	18	10	1	2	0	0	0	0
78.75	14	16	10	13	6	0	0	0	0	0	0
101.25	14	19	18	9	8	3	3	0	0	0	0
123.75	3	20	27	24	24	9	1	0	0	0	0
146.25	9	35	63	44	28	5	2	1	0	0	0
168.75	7	28	60	72	40	28	21	3	0	0	0
191.25	4	17	28	20	24	27	50	2	0	0	0
213.75	3	3	8	13	12	10	16	6	2	0	0
236.25	5	7	6	6	13	7	6	11	5	0	0
258.75	3	4	8	3	13	6	12	5	4	0	0
281.25	3	7	5	12	8	5	6	3	1	0	0
303.75	4	10	7	11	7	10	13	16	2	0	0
326.25	4	11	15	10	5	1	4	6	3	0	0

NRC CATEGORY B

					MPH						
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	1	3	2	3	7	3	1	2	0	0	0
11.25	0	3	6	2	4	0	3	2	0	0	0
33.75	0	2	0	0	0	1	1	1	0	0	0
56.25	1	0	0	0	1	1	0	0	0	0	0
78.75	0	1	0	0	0	0	0	0	0	0	0
101.25	0	1	1	0	0	0	0	0	0	0	0
123.75	0	0	1	2	1	1	1	0	0	0	0
146.25	0	0	0	2	0	0	0	0	0	0	0
168.75	0	0	0	2	1	0	0	0	0	0	0
191.25	0	0	0	0	0	1	3	3	0	0	0
213.75	0	0	0	0	0	1	1	3	0	0	0
236.25	0	0	0	0	0	1	1	1	0	0	0
258.75	0	0	0	0	0	0	1	4	1	0	0
281.25	0	1	0	0	1	1	1	0	0	0	0
303.75	1	0	0	1	0	0	2	3	0	0	0
326.25	1	0	3	0	4	1	0	2	0	0	0

NRC CATEGORY C

					MPH						
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	4	10	15	8	1	4	4	0	0	0	0
11.25	3	7	9	5	4	4	1	0	0	0	0
33.75	2	1	8	3	2	0	1	0	0	0	0
56.25	1	0	1	0	0	0	0	0	0	0	0
78.75	0	1	0	0	0	0	0	0	0	0	0
101.25	0	0	0	1	0	0	0	0	0	0	0
123.75	0	0	0	0	0	3	0	0	0	0	0
146.25	0	0	1	3	0	1	1	0	0	0	0
168.75	0	0	3	6	6	9	1	0	0	0	0
191.25	0	1	0	1	6	7	2	1	0	0	0
213.75	0	0	1	3	0	1	1	0	0	0	0
236.25	0	0	1	0	1	1	6	2	1	0	0
258.75	1	0	0	1	1	0	2	0	1	0	0
281.25	0	1	0	1	1	2	0	2	1	0	0
303.75	2	2	1	0	0	0	3	3	0	0	0
326.25	2	5	6	7	1	0	4	0	0	0	0

Table 5-9 Year 2005, 33 Ft AGL (Continued)

NRC CATEGORY D

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	23	53	70	40	25	23	17	0	0	0	1
11.25	19	39	32	25	8	11	16	1	0	0	0
33.75	15	23	19	14	7	1	2	1	0	0	0
56.25	18	16	8	5	2	0	0	0	0	0	0
78.75	10	4	4	1	1	0	0	0	0	0	0
101.25	4	12	1	2	0	0	0	0	0	0	0
123.75	13	21	9	5	7	1	1	0	0	0	0
146.25	12	21	38	32	21	7	5	0	0	0	0
168.75	13	31	53	45	38	26	10	3	0	0	0
191.25	13	32	17	20	23	28	29	10	0	0	0
213.75	9	40	13	7	6	9	13	6	5	0	0
236.25	8	22	7	4	8	5	2	7	5	2	0
258.75	6	18	6	6	4	3	6	3	1	0	0
281.25	19	18	6	4	9	13	16	3	0	0	0
303.75	13	31	21	15	24	9	36	26	2	0	0
326.25	16	50	46	38	48	19	20	6	2	0	0

NRC CATEGORY E

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	20	69	51	33	14	4	3	0	0	0	0
11.25	24	35	21	14	4	1	0	0	0	0	0
33.75	12	25	20	9	3	0	0	0	0	0	0
56.25	9	21	20	4	3	1	0	0	0	0	0
78.75	9	6	4	0	0	0	0	0	0	0	0
101.25	9	15	3	0	0	0	0	0	0	0	0
123.75	12	15	8	11	8	0	0	0	0	0	0
146.25	6	22	19	50	29	12	4	1	0	0	0
168.75	14	40	45	52	43	21	19	0	0	0	0
191.25	15	33	37	28	27	22	22	12	0	0	0
213.75	5	36	18	13	5	15	32	16	1	0	0
236.25	16	14	16	10	4	3	10	1	1	0	0
258.75	9	18	18	11	11	5	3	2	0	0	0
281.25	13	34	14	25	15	11	14	1	0	0	0
303.75	14	33	30	43	44	36	47	10	0	0	0
326.25	16	74	58	75	50	19	14	2	0	0	0

NRC CATEGORY F

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	25	61	55	9	3	0	0	0	0	0	0
11.25	17	48	11	4	2	0	0	0	0	0	0
33.75	20	32	20	5	1	0	0	0	0	0	0
56.25	9	16	10	5	4	0	0	0	0	0	0
78.75	6	7	0	0	0	0	0	0	0	0	0
101.25	7	5	0	0	0	0	0	0	0	0	0
123.75	12	7	3	2	2	0	0	0	0	0	0
146.25	11	35	35	35	17	1	3	0	0	0	0
168.75	16	30	63	74	37	3	5	1	0	0	0
191.25	14	34	45	18	14	5	8	1	0	0	0
213.75	12	21	21	11	6	5	4	0	0	0	0
236.25	8	20	12	6	2	3	0	0	0	0	0
258.75	11	19	8	7	1	2	0	0	0	0	0
281.25	11	12	7	8	3	0	0	0	0	0	0
303.75	16	32	23	21	8	7	1	0	0	0	0
326.25	19	49	63	35	8	0	0	0	0	0	0

Table 5-9 Year 2005, 33 Ft AGL (Continued)

NRC CATEGORY G

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	31	75	43	9	1	0	0	0	0	0	0
11.25	37	53	14	0	0	0	0	0	0	0	0
33.75	19	49	22	2	0	0	0	0	0	0	0
56.25	21	15	6	1	0	0	0	0	0	0	0
78.75	8	2	0	0	0	0	0	0	0	0	0
101.25	3	1	0	0	0	0	0	0	0	0	0
123.75	6	6	1	0	0	0	0	0	0	0	0
146.25	12	19	9	7	4	0	0	0	0	0	0
168.75	16	27	24	19	13	1	3	0	0	0	0
191.25	12	14	17	14	2	2	2	1	0	0	0
213.75	5	11	5	2	1	0	1	0	0	0	0
236.25	8	6	3	0	0	0	0	0	0	0	0
258.75	1	10	3	0	0	0	0	0	0	0	0
281.25	10	4	2	2	2	0	0	0	0	0	0
303.75	9	17	11	2	0	0	0	0	0	0	0
326.25	21	51	39	8	2	0	0	0	0	0	0

NRC CATEGORY	A	B	C	D	E	F	G
CALMS	29	2	3	65	69	66	90

Table 5-10 Year 2005, 245 Ft AGL

JOINT FREQUENCY DISTRIBUTION FOR THE TIME PERIOD FROM HOUR 00 ON 01/01/05 TO HOUR 23 ON 12/31/05

The total hours are 8760, 8652 hours read and 108 missing.

NRC CATEGORY A

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	15	15	16	12	10	14	5	0	3	0	0
11.25	9	24	31	27	18	16	15	1	0	0	0
33.75	4	26	22	25	20	3	9	6	5	0	0
56.25	2	26	26	30	14	9	6	0	3	2	0
78.75	15	10	7	8	8	4	3	0	0	0	0
101.25	11	15	8	9	9	4	3	2	0	0	0
123.75	8	11	28	18	21	12	3	1	0	0	0
146.25	7	31	45	29	31	9	3	0	0	0	0
168.75	6	29	50	64	41	22	9	3	1	0	0
191.25	4	14	38	23	25	28	46	24	2	0	0
213.75	6	6	7	9	12	10	25	16	7	2	0
236.25	3	8	8	7	4	12	15	7	12	5	0
258.75	3	4	3	6	8	10	10	3	4	2	0
281.25	3	8	5	7	3	4	6	1	1	0	0
303.75	4	10	5	8	4	6	7	1	5	0	0
326.25	2	12	12	10	6	2	3	3	0	0	0

NRC CATEGORY B

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	0	0	5	2	4	2	9	2	0	0	0
11.25	1	0	1	1	4	3	3	3	0	0	0
33.75	0	2	1	0	1	0	1	0	1	0	0
56.25	0	1	0	0	0	0	0	0	0	1	0
78.75	0	0	1	0	0	0	0	0	0	0	0
101.25	0	1	0	1	0	0	0	0	0	0	0
123.75	0	0	0	2	1	0	0	0	0	0	0
146.25	1	0	1	0	0	0	0	0	0	0	0
168.75	0	0	1	1	1	2	1	0	0	0	0
191.25	0	0	0	0	1	4	4	3	1	0	0
213.75	0	0	0	0	0	0	2	0	4	0	0
236.25	0	0	0	0	0	0	1	1	2	1	0
258.75	0	0	0	0	1	0	2	0	3	0	0
281.25	0	0	0	1	1	0	1	1	0	0	0
303.75	0	0	0	0	0	0	6	3	4	0	0
326.25	0	1	3	2	2	3	0	1	0	0	0

NRC CATEGORY C

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	3	6	15	9	1	3	2	0	1	0	1
11.25	1	4	10	4	5	5	2	3	0	0	0
33.75	0	0	6	2	2	1	2	0	0	0	0
56.25	0	0	3	1	0	0	0	0	0	0	0
78.75	0	1	1	1	0	0	0	0	0	0	0
101.25	0	1	1	0	0	0	0	0	0	0	0
123.75	0	0	1	0	0	0	0	1	0	0	0
146.25	1	0	0	2	1	0	0	0	0	0	0
168.75	0	0	0	2	7	2	8	2	0	0	0
191.25	0	1	1	2	5	6	8	1	1	0	0
213.75	0	1	0	1	2	1	3	2	0	0	0
236.25	0	0	0	1	1	2	4	2	4	1	0
258.75	0	1	0	0	0	0	1	1	2	0	0
281.25	0	0	2	1	2	0	1	1	0	0	0
303.75	0	2	3	0	2	1	1	5	0	1	0
326.25	1	3	5	4	1	0	2	1	1	0	0

Table 5-10 Year 2005, 245 Ft AGL (Continued)

NRC CATEGORY D

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	14	34	44	26	21	14	25	6	0	0	0
11.25	11	26	32	12	16	14	16	14	1	0	0
33.75	9	22	22	8	10	1	10	4	2	0	0
56.25	8	11	7	7	8	2	0	2	0	0	0
78.75	5	9	3	4	0	1	3	0	0	0	0
101.25	3	6	3	4	5	1	0	0	0	0	0
123.75	9	9	5	6	6	10	3	0	1	0	0
146.25	6	14	27	20	21	14	17	3	0	0	0
168.75	12	26	41	24	36	25	16	6	1	0	0
191.25	20	38	21	12	26	21	36	30	15	1	0
213.75	14	19	8	5	8	8	16	18	9	9	0
236.25	11	14	11	8	2	3	9	3	7	6	2
258.75	12	5	9	4	7	2	6	5	7	1	0
281.25	4	14	12	5	6	10	19	14	6	1	0
303.75	12	22	22	11	22	18	40	32	40	12	0
326.25	16	18	38	20	31	15	31	8	5	0	1

NRC CATEGORY E

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	7	17	22	19	16	19	15	9	0	0	0
11.25	7	18	15	12	14	10	8	0	1	0	0
33.75	8	19	17	12	10	5	8	0	0	0	0
56.25	9	17	14	8	4	7	3	1	0	0	0
78.75	6	7	8	3	1	1	3	0	0	0	0
101.25	6	10	1	2	2	0	1	0	0	0	0
123.75	7	10	10	8	6	9	5	6	0	0	0
146.25	12	23	14	20	19	25	14	10	3	0	0
168.75	4	11	27	21	20	24	23	9	3	0	0
191.25	7	41	16	13	25	23	65	28	27	2	0
213.75	8	16	11	10	16	8	24	25	26	18	0
236.25	5	14	4	9	2	6	9	9	9	2	0
258.75	5	12	15	10	10	7	21	8	4	2	0
281.25	7	16	19	16	21	17	30	23	19	0	0
303.75	6	13	22	28	30	38	84	90	66	6	0
326.25	8	25	32	35	22	33	53	15	1	0	0

NRC CATEGORY F

deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
					MPH						
0.00	5	14	35	17	15	4	6	0	0	0	0
11.25	5	16	17	15	8	2	1	0	0	0	0
33.75	1	9	18	23	9	3	3	0	0	0	0
56.25	5	10	15	8	6	5	1	1	1	0	0
78.75	4	14	11	2	1	1	0	0	0	0	0
101.25	4	7	4	2	2	0	1	0	0	0	0
123.75	7	11	7	2	4	1	3	3	0	0	0
146.25	11	27	15	17	17	16	19	4	3	0	0
168.75	4	30	34	35	26	30	28	6	0	0	0
191.25	11	29	26	30	16	23	26	7	7	0	0
213.75	9	17	19	10	14	11	16	6	5	0	0
236.25	3	14	22	6	1	4	5	4	0	2	0
258.75	6	16	11	13	7	6	3	0	0	0	0
281.25	3	10	9	12	10	6	16	12	1	0	0
303.75	6	9	14	15	19	20	37	13	2	0	0
326.25	7	12	15	23	26	22	23	3	0	0	0

Table 5-10 Year 2005, 245 Ft AGL (Continued)

NRC CATEGORY G

	MPH										
deg	>1.0	>2.2	>4.5	>6.7	>8.9	>11.2	>13.4	>17.9	>22.4	>29.1	>40.3
0.00	4	21	26	29	17	6	1	0	0	0	0
11.25	7	23	23	5	5	1	1	0	0	0	0
33.75	10	20	12	10	5	2	1	1	0	0	0
56.25	6	21	17	10	5	0	3	1	1	0	0
78.75	5	9	2	3	2	0	0	0	0	0	0
101.25	6	7	1	0	0	0	0	0	0	0	0
123.75	8	14	3	2	1	0	0	1	0	0	0
146.25	10	14	14	14	13	3	5	0	0	0	0
168.75	10	27	26	29	15	12	16	4	0	0	0
191.25	3	16	19	18	10	6	7	3	0	0	0
213.75	10	16	23	11	10	2	6	2	2	0	0
236.25	5	9	6	5	3	0	0	0	0	0	0
258.75	3	7	2	3	1	1	0	0	0	0	0
281.25	2	9	5	1	0	3	3	1	1	0	0
303.75	4	6	8	12	8	6	18	2	1	0	0
326.25	7	10	22	22	22	17	11	0	0	0	0

NRC CATEGORY	A	B	C	D	E	F	G
CALMS	23	2	4	134	59	52	45

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 2005.

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 1.88E-03 mrem to the total body, 1.88E-03 mrem to the thyroid, and 2.33E-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 2005, members of the public worked at the WNP-1 and WNP-4 industrial areas. The maximum dose to these individuals was also calculated assuming 2040 hours per year exposure to the plume, inhalation, and ground deposition pathways at WNP-1 and 960 hours per year 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	5.85E-04	5.92E-04	5.92E-04	1.91E-06	5.40E-06
WNP-4 GSB	9.60E+02	5.90E-04	6.00E-04	5.96E-04	5.89E-05	1.68E-04
WNP-1 Office	2.04E+03	4.97E-03	4.99E-03	5.40E-03	1.30E-04	3.70E-04

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 changes 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)	8.55E-04	8.61E-04	9.58E-04	4.61E-05	1.31E-04	Teen
Resident (4.01 miles ENE)	2.01E-03	2.01E-03	2.46E-03	3.20E-04	9.08E-04	Adult
Resident (4.59 miles E)	8.60E-04	8.63E-04	1.06E-03	9.28E-05	2.63E-04	Teen
Resident (4.24 miles ESE)	1.92E-03	1.92E-03	2.41E-03	3.59E-04	1.02E-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 2005 from the preoperational values. Within the site boundary, the environmental TLD station with the highest direct radiation reading was located 0.1 mi from Columbia Generating Station in the NNW sector between the ISFSI facility and the Turbine Generator building. The annual dose at this location from only direct radiation was 2.42E+02 mrem after subtracting background (Station 9A at 30 miles WSW). Contributions to this direct radiation dose are from the Turbine building and spent fuel storage containers at the ISFSI facility.

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)	1.21E-04	0.00E-00	4.04E-04	4.53E-04	9.47E-04
Gamma air dose (mrad	3.44E-04	0.00E-00	1.14E-03	1.28E-03	2.69E-03

2. Maximum Air Dose Beyond the Site Boundary

	1st Quarter	2nd Quarter†	3rd Quarter	4th Quarter	Annual Cumulative*
Beta air dose (mrad)	6.95E-05	0.00E-00	1.56E-04	1.11E-03	3.59E-04
Gamma air dose (mrad	1.97E-04	0.00E-00	4.44E-04	3.14E-03	1.02E-03

3. Maximum Annual Dose at the Site Boundary

	Annual Dose
Annual total body dose (mrem)	2.77E-02
Annual skin dose (mrem)	2.97E-02

4. Maximum Annual Dose Beyond the Site Boundary

	Annual Dose
Annual total body dose (mrem)	8.81E-03
Annual skin dose (mrem)	9.51E-03

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

† No noble gas activity was detected above the minimum detectable level during the second quarter.

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)	1.89E-02	2.70E-03	4.80E-03	9.24E-03	2.97E-02

6. Maximum Organ Dose Beyond the Site Boundary

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Cumulative*
Maximum Organ dose (mrem)	6.59E-03	9.61E-04	1.82E-03	4.36E-03	9.51E-03

7. Maximum Dose at Land Use Census location with the highest annual cumulative organ dose (4.01 Miles ENE[††])

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Cumulative*
Beta Air Dose (mrad)	6.95E-05	0.00E+00	9.71E-05	1.11E-03	3.20E-04
Gamma Air Dose (mrad	1.97E-04	0.00E+00	2.75E-04	3.14E-03	9.08E-04
Maximum Organ dose (mrem)	5.09E-04	7.43E-05	4.87E-04	4.36E-03	2.46E-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 2005.

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	7.22E-04	7.22E-04
Ground	1.52E-02	1.52E-02
Inhalation	7.06E-02	9.70E-02
Vegetables	5.02E-02	5.00E-02
Milk	1.77E-02	1.75E-02
Meat	9.04E-03	8.95E-03
Total	1.64E-01	1.89E-01

B. Average Individual*

Exposure Pathway	Total Body (mrem)	Max. Organ (mrem)
Plume	2.02E-06	2.02E-06
Ground	4.26E-05	4.26E-05
Inhalation	1.98E-04	2.72E-04
Vegetables	1.41E-04	1.40E-04
Milk	4.96E-05	4.90E-05
Meat	2.53E-05	2.51E-05
Total	4.58E-04	5.30E-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

In 2005, the ODCM was revised as follows:

- ODCM Section 3.1 describes potential tritium releases from the auxiliary boiler and heating steam system. It was revised to also discuss potential tritium releases from Seal Steam Evaporator B. A commitment was made to estimate the annual tritium releases from these sources in the annual effluent report.

- Tables 3-2, contains a list of controlling locations for measuring offsite dose. These are based on the annual Land Use Census and reviews of meteorological data. Distances were revised with data obtained from a GPS unit. The site boundary sectors with the highest mixed mode and ground mode dispersion and deposition values were revised as a result of the changes to Tables 3-10 and 3-11.

- Table 3-3 contains the dispersion and deposition values for the locations in Table 3-2. Revisions to the radial distance from CGS and changes to the Joint Frequency Distribution program resulted in revision to the values presented.

- Table 3-9 of the ODCM contains input values to annual offsite dose calculations. Following the US Bureau of Census census of 2000, FSAR Table 2.1-2 was revised with the most accurate 50-mile population estimate. ODCM Table 3-9 was revised to utilize the FSAR population estimate. In addition, quarterly input variables for offsite dose analysis were added to this ODCM table. Circular references were also resolved.

- Tables 3-10 and 3-11 contain historic dispersion and deposition values which were revised following changes to the Joint Frequency Distribution program. Values from this table are used when the the meteorological tower is out of service, for miscellaneous offsite dose calculations, and can be used for instrument setpoint calculations.

- Table 3-14 contains a list of references. Reference 6 (population data) was changed to FSAR Table 2.1-2. Reference 9 was the same as Reference 2 so they were combined by revision of reference notes in Table 3-9.

- Table 5-1 contains the locations of REMP sampling stations. Distances to the various stations were revised to improve accuracy. In addition, Station 64 was deleted as the owners will no longer permit milk samples to be taken. A new station for obtaining garden vegetation samples was added. These sample location changes were noted in the 2004 effluent report.

- RFO 6.1.3 - The completion time for returning an INOPERABLE Offgas Pretreatment Radiation Monitor to OPERABLE status was increased from 72 hours to 30 days. While INOPERABLE, a Required Compensatory Action was added to sample and analyze the Offgas Noble Gas 30-minute decay gross gamma activity

rate. The Completion Time for this new Compensatory Action is within 8 hours and every 24 hours thereafter. When Required Compensatory Measure G (monitoring requirements when INOPERABLE) is or cannot be met, the subsequent Required Compensatory Action was changed from "Be in Mode 2" to "Be in Mode 3" to be consistent with plant procedures for shutting down the reactor. The ODCM Bases section (B 6.1.2) was revised to reflect the preceding changes.

8.0 REVISIONS TO THE PROCESS CONTROL PROGRAM (PCP)

There were no revisions to the Process Control Program in 2005.

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

9.1 No new locations were identified from the 2005 Five-Mile Land Use Census. Dose assessments were initiated for resource recovery efforts in progress at an abandoned reactor site (WNP-4) which lies within the site boundary of the Columbia Generating Station (0.71 mi ENE).

9.2 There were no new locations for environmental monitoring formally adopted into the program.

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.