

Attachment 1
Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report
SVP-06-028

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Effluent & Waste Disposable Summary

Gaseous Effluents – Summation Of All Releases

Period: January – December 2005

Unit: 1 & 2

A. Fission & Activation Gases	Unit	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Est. Total Error %
1. Total Release	Ci	9.55E+01	1.67E+01	2.99E+01	4.09E+01	12.5
2. Average release rate for the period	μCi/sec	1.23E+01	2.13E+00	3.76E+00	5.14E+00	
3. Percent of ODCM limit ⁽¹⁾	% γ	1.40E-02	1.78E-03	2.88E-03	3.78E-03	
	% β	4.12E-03	4.60E-04	6.93E-04	9.79E-04	

B. Iodine						
1. Total Iodine – 131.	Ci	3.71E-03	8.45E-04	4.02E-04	2.77E-04	41.6
2. Average release rate for the period	μCi/sec	4.77E-04	1.07E-04	5.06E-05	3.48E-05	
3. Percent of ODCM limit	%	NA	NA	NA	NA	

C. Particulates						
1. Particulates with half-lives > 8 days	Ci	1.25E-03	6.89E-03	2.60E-03	6.55E-04	32.1
2. Average release rate for the period	μCi/sec	1.61E-04	8.76E-04	3.27E-04	8.24E-05	
3. Percent of ODCM limit	%	NA	NA	NA	NA	
4. Gross alpha radioactivity	Ci	<LLD ⁽²⁾	<LLD ⁽²⁾	<LLD ⁽²⁾	<LLD ⁽²⁾	

D. Tritium						
1. Total Release	Ci	5.74E+01	3.54E+01	4.41E+01	4.88E+01	6.3
2. Average release rate for the period	μCi/sec	7.38E+00	4.50E+00	5.55E+00	6.15E+00	
3. Percent of ODCM limit	%	NA	NA	NA	NA	

E. Iodine 131 & 133, Tritium & Particulate						
1. Percent of ODCM limit	%	6.21E+00	1.65E+00	7.01E-01	4.89E-01	

⁽¹⁾ % Noble gas gamma/noble gas beta dose limits

⁽²⁾ Gross alpha LLD reported on page 6 of 70

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Effluent & Waste Disposable Summary

Gaseous Effluents Release Point Main Chimney

Period: January – December 2005

Unit: 1 & 2

Nuclides Released		Continuous Mode				Batch Mode			
1. Fission gases	Unit	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Kr-85	Ci	<LLD*	<LLD*	<LLD*	3.64E-01	NA	NA	NA	NA
Kr-85m	Ci	4.22E-01	7.90E-02	2.80E+00	2.39E+00	NA	NA	NA	NA
Kr-87	Ci	2.52E+00	5.23E-01	6.36E-01	1.63E+00	NA	NA	NA	NA
Kr-88	Ci	1.65E+00	3.12E-01	2.44E+00	2.67E+00	NA	NA	NA	NA
Xe-133	Ci	8.50E-01	9.23E-02	3.08E+00	3.88E+00	NA	NA	NA	NA
Xe-133m	Ci	<LLD*	<LLD*	2.32E-03	3.97E-02	NA	NA	NA	NA
Xe-135	Ci	4.32E+00	4.30E-01	5.13E-01	1.76E+00	NA	NA	NA	NA
Xe-135m	Ci	1.34E+01	2.98E+00	3.63E+00	6.30E+00	NA	NA	NA	NA
Xe-138	Ci	6.81E+01	1.23E+01	1.44E+01	2.06E+01	NA	NA	NA	NA
Ar-41	Ci	2.43E-02	2.29E-02	2.38E+00	1.26E+00	NA	NA	NA	NA
Total for Period	Ci	9.13E+01	1.67E+01	2.99E+01	4.09E+01	NA	NA	NA	NA
2. Iodines									
I-131	Ci	3.42E-03	7.42E-04	4.02E-04	2.64E-04	NA	NA	NA	NA
I-133	Ci	4.94E-03	9.25E-04	1.45E-03	1.40E-03	NA	NA	NA	NA
I-135	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Total for Period	Ci	8.36E-03	1.67E-03	1.85E-03	1.66E-03	NA	NA	NA	NA
3. Particulates									
Sr-89	Ci	3.32E-04	3.95E-05	4.64E-05	2.27E-05	NA	NA	NA	NA
Sr-90	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Cs-134	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Cs-137	Ci	4.67E-08	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Ba-140	Ci	1.66E-04	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
La-140	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Cr-51	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Mn-54	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Co-58	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Co-60	Ci	1.28E-04	1.34E-04	1.39E-04	2.43E-05	NA	NA	NA	NA
Mo-99	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Ag-110m	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Ce-141	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Ce-144	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Total for Period	Ci	6.26E-04	1.73E-04	1.85E-04	4.70E-05	NA	NA	NA	NA

* Gaseous LLD's reported on page 6 of 70.

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Effluent & Waste Disposable Summary

Gaseous Effluents Release Point Reactor Vent (mixed mode)

Period: January – December 2005

Unit: 1 & 2

Nuclides Released		Continuous Mode				Batch Mode			
1. Fission gases	Unit	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Kr-85	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Kr-85m	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Kr-87	Ci	4.63E-01	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Kr-88	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Xe-133	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Xe-135	Ci	1.38E+00	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Xe-135m	Ci	2.37E+00	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Xe-138	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Ar-41	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Total for Period	Ci	4.21E+00	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
2. Iodines									
I-131	Ci	2.84E-04	1.03E-04	<LLD*	1.24E-05	NA	NA	NA	NA
I-133	Ci	4.50E-05	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
I-135	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Total for Period	Ci	3.29E-04	1.03E-04	<LLD*	1.24E-05	NA	NA	NA	NA
3. Particulates									
Sr-89	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Sr-90	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Cs-134	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Cs-137	Ci	<LLD*	<LLD*	1.10E-05	6.59E-06	NA	NA	NA	NA
Ba-140	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
La-140	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Cr-51	Ci	<LLD*	8.29E-05	<LLD*	<LLD*	NA	NA	NA	NA
Mn-54	Ci	<LLD*	1.77E-04	3.19E-05	<LLD*	NA	NA	NA	NA
Co-58	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Co-60	Ci	6.08E-04	4.42E-03	1.79E-03	6.01E-04	NA	NA	NA	NA
Zn-65	Ci	<LLD*	2.02E-03	5.82E-04	<LLD*	NA	NA	NA	NA
Mo-99	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Ru-103	Ci	1.35E-05	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Aq-110m	Ci	<LLD*	2.37E-05	<LLD*	<LLD*	NA	NA	NA	NA
Ce-141	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Ce-144	Ci	<LLD*	<LLD*	<LLD*	<LLD*	NA	NA	NA	NA
Total for Period	Ci	6.21E-04	6.72E-03	2.41E-03	6.08E-04	NA	NA	NA	NA

* Gaseous LLD's reported on page 6 of 70.

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Effluent & Waste Disposal Summary

Liquid Effluents – Summation Of All Releases

Period: January – December 2005

Unit: 1 & 2

A. Fission & Activation Products		Unit	Quarter 1	Quarter 2	Quarter 3	Quarter 4⁽³⁾	Est. Total Error %
1. Total Release (not including tritium, gases & alpha)	Ci		6.87E-03	7.73E-04	9.43E-04	8.51E-04	4.1
2. Average diluted concentration during period	μCi/mL		1.73E-09	1.14E-10	1.17E-10	2.45E-12	
3. Percent of applicable limit	%	WB	4.92E-02	3.72E-02	4.58E-03	5.77E-05	
		O	2.58E-02	1.75E-02	5.51E-03	2.82E-05	
4. Maximum diluted concentration during batch discharges	μCi/mL		2.99E-09	2.25E-10	1.23E-10	NA ⁽³⁾	

B. Tritium							
1. Total Release	Ci		1.71E+01	1.83E+01	8.58E+00	<LLD ⁽²⁾	4.1
2. Average diluted concentration during period	μCi/mL		4.31E-06	2.69E-06	1.06E-06	NA ⁽³⁾	
3. Percent of applicable limit	%		1.44E-01	9.00E-02	3.53E-02	NA ⁽³⁾	

C. Dissolved & Entrained Gases							
1. Total Release	Ci		1.82E-04	<LLD ⁽²⁾	<LLD ⁽²⁾	<LLD ⁽²⁾	4.1
2. Average diluted concentration during period	μCi/mL		4.60E-11	NA	NA	NA	
3. Percent of applicable limit	%		2.30E-05	NA	NA	NA	

D. Gross Alpha Activity							
1. Total Release	Ci		4.74E-05	<LLD ⁽²⁾	<LLD ⁽²⁾	<LLD ⁽²⁾	14.8

E. Volume Of Waste Released (prior to dilution)	Liters	1.23E+06	1.23E+06	1.03E+06	0.00E+00
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F. Volume Of Dilution Water Used During Period	Liters	2.53E+11	3.64E+11	4.93E+11	3.48E+11
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- (1) Whole Body/Organ (ODCM)
 (2) Liquid LLD's reported on page 7 of 70
 (3) No batch discharges

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Effluent & Waste Disposal Summary

Liquid Effluents Release Point Mississippi River

Period: January – December 2005

Unit: 1 & 2

Nuclides Released	Unit	Continuous Mode				Batch Mode			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4 ⁽¹⁾
Sr-89	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
Sr-90	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
Cs-134	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
Cs-137	Ci	6.36E-06	2.31E-06	1.72E-06	6.07E-06	1.00E-04	2.30E-04	8.45E-05	NA
I-131	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
Co-58	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
Co-60	Ci	4.38E-05	2.15E-05	5.24E-04	8.45E-04	8.79E-04	4.56E-04	3.18E-04	NA
Fe-59	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
Zn-65	Ci	<LLD*	<LLD*	<LLD*	<LLD*	5.13E-04	<LLD*	<LLD*	NA
Mn-54	Ci	<LLD*	<LLD*	<LLD*	<LLD*	2.31E-05	2.03E-05	<LLD*	NA
Cr-51	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
Zr-95	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
Nb-95	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
Mo-99	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
Tc-99m	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
Ba-140	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA
La-140	Ci	<LLD*	<LLD*	<LLD*	<LLD*	2.94E-05	<LLD*	<LLD*	NA
Ce-141	Ci	<LLD*	<LLD*	<LLD*	<LLD*	2.08E-05	<LLD*	<LLD*	NA
Ag-110m	Ci	<LLD*	<LLD*	<LLD*	<LLD*	5.38E-05	4.28E-05	1.47E-05	NA
Fe-55	Ci	<LLD*	<LLD*	<LLD*	<LLD*	5.21E-03	<LLD*	<LLD*	NA
Total for Period	Ci	5.02E-05	2.38E-05	5.26E-04	1.45E-03	6.83E-03	7.49E-04	4.17E-04	NA
	Ci								NA
	Ci								NA
G Alpha	Ci	<LLD*	<LLD*	<LLD*	<LLD*	4.74E-05	<LLD*	<LLD*	NA
H-3	Ci	<LLD*	<LLD*	<LLD*	<LLD*	1.71E+01	1.83E+01	8.58E+00	NA
Xe-133	Ci	<LLD*	<LLD*	<LLD*	<LLD*	1.82E-04	<LLD*	<LLD*	NA
Xe-135	Ci	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	<LLD*	NA

⁽¹⁾ No batch discharges

Quad Cities Nuclear Power Station 2005 Annual Radioactive Effluent Release Report

Effluent & Waste Disposable Summary

GASEOUS EFFLUENT LLD's (Most Restrictive) CONTINUOUS MODE

NUCLIDE LOWER LIMITS OF DETECTION (LLD's) 1. Fission gases	UNIT	LLD Value	ODCM Required LLD
Kr-85	uCi/cc	3.71E-06	None
Kr-85m	uCi/cc	1.25E-08	None
Kr-87	uCi/cc	2.99E-08	1E-04
Kr-88	uCi/cc	4.11E-08	1E-04
Xe-133	uCi/cc	3.34E-08	1E-04
Xe-133m	uCi/cc	9.21E-08	1E-04
Xe-135	uCi/cc	1.02E-08	1E-04
Xe-135m	uCi/cc	5.33E-08	None
Xe-131m	uCi/cc	4.35E-07	None
Xe-138	uCi/cc	1.66E-07	1E-04
Ar-41	uCi/cc	2.31E-08	None
NUCLIDE LOWER LIMITS OF DETECTION (LLD's) 2. Iodines	UNIT	LLD Value	ODCM Required LLD*
I-131	uCi/cc	6.94E-13	1E-12
I-133	uCi/cc	7.56E-12	1E-10
I-135	uCi/cc	3.98E-09	None
NUCLIDE LOWER LIMITS OF DETECTION (LLD's) 3. Particulates and Tritium	UNIT	LLD Value	ODCM Required LLD*
H-3	uCi/cc	3.21E-11	1E-06
Sr-89	uCi/cc	2.96E-14	1E-11
Sr-90	uCi/cc	4.46E-14	1E-11
Cs-134	uCi/cc	4.85E-13	1E-11
Cs-137	uCi/cc	7.76E-13	1E-11
Ba-140	uCi/cc	1.77E-12	None
La-140	uCi/cc	2.29E-12	None
Mn-54	uCi/cc	5.84E-13	1E-11
Co-58	uCi/cc	5.02E-13	1E-11
Fe-59	uCi/cc	1.17E-12	1E-11
Co-60	uCi/cc	1.09E-12	1E-11
Zn-65	uCi/cc	1.27E-12	1E-11
Mo-99	uCi/cc	1.00E-11	1E-11
Ce-141	uCi/cc	6.89E-13	1E-11
Ce-144	uCi/cc	2.65E-12	1E-11
Aq-110m	uCi/cc	3.47E-13	None
Ba-133	uCi/cc	6.29E-13	None
Cr-51	uCi/cc	3.61E-12	None
Gross Alpha	uCi/cc	1.48E-14	1E-11

* ODCM RIETS LLD's for weekly samples. These may be increased by a factor of 10 for daily samples

Quad Cities Nuclear Power Station 2005 Annual Radioactive Effluent Release Report

Effluent & Waste Disposable Summary

LIQUID EFFLUENT LLD's (Most Restrictive) BATCH MODE

NUCLIDE LOWER LIMITS OF DETECTION (LLD's)	UNIT	LLD Value	ODCM Required LLD
3. Liquids			
H-3	uCi/cc	3.46E-06	1E-05
Sr-89	uCi/cc	4.00E-08	5E-08
Sr-90	uCi/cc	1.00E-08	5E-08
Fe-55	uCi/cc	1.00E-06	1E-06
Kr-85	uCi/cc	1.73E-05	None*
Kr-87	uCi/cc	1.55E-07	1E-05
Kr-88	uCi/cc	2.12E-07	1E-05
Xe-133	uCi/cc	1.40E-07	1E-05
Xe-133m	uCi/cc	4.16E-07	1E-05
Xe-135	uCi/cc	5.22E-08	1E-05
Xe-138	uCi/cc	7.43E-07	1E-05
Mn-54	uCi/cc	6.61E-08	5E-07
Co-58	uCi/cc	6.67E-08	5E-07
Co-60	uCi/cc	1.23E-07	5E-07
Zn-65	uCi/cc	1.77E-07	5E-07
Mo-99	uCi/cc	4.69E-07	5E-07
I-131	uCi/cc	5.38E-08	1E-06
Cs-134	uCi/cc	5.80E-08	5E-07
Cs-137	uCi/cc	7.31E-08	5E-07
Ce-141	uCi/cc	8.89E-08	5E-07
Ce-144	uCi/cc	4.14E-07	5E-06
Gross Alpha	uCi/cc	8.88E-08	1E-07
Fe-59	uCi/cc	1.41E-07	5E-07
Cr-51	uCi/cc	3.75E-07	None
Ag-110m	uCi/cc	4.56E-08	None

* Kr-85 required by UFSAR section 9.1.3.3.

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Supplemental Information

Facility: Quad Cities Nuclear Power Station January – December 2005

Licensee: Exelon Generation Company

1. Regulatory Limits

a. For Noble Gases: (per unit)

Dose rate

1. Less than 500 mrem/year to the whole body
2. Less than 3000 mrem/year to the skin.

Dose Gamma Radiation

1. Less than or equal to 5 mrad/quarter.
2. Less than or equal to 10 mrad/year.

Beta Radiation

1. Less than or equal to 10 mrad/quarter.
2. Less than or equal to 20 mrad/year.

b,c. For Iodine-131, for Iodine-133, and for all radionuclides in particulate form with half-lives greater than 8 days.

Dose Rate

1. Less than 1500 mrem/year.

Dose

1. Less than or equal to 7.5 mrem/quarter.
2. Less than or equal to 15 mrem/year.

d. For Liquid: (per site)

Less than or equal to 3 mrem to the whole body during any calendar quarter.
Less than or equal to 10 mrem to any organ during any calendar quarter.
Less than or equal to 6 mrem to the whole body during any calendar year.
Less than or equal to 20 mrem to any organ during any calendar year.

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Supplemental Information

2. Maximum Permissible Concentration

- a,b,c. For fission and activation gases, iodines, and particulates with half-lives greater than 8 days, allowable release limits are calculated by solving equations 10.1 and 10.2 from the Offsite Dose Calculation Manual. The alarm setpoint is conservatively set at approximately 10% of the 10CFR20 limit.
- d. For liquid effluents allowable release limits are calculated by solving equations 10.3 and 10.4 from the Offsite Dose Calculation Manual. The MPC values used for the monitors were as follows:

Radwaste discharge	1.32E-05 $\mu\text{Ci/ml}$
Service water	1.00E-05 $\mu\text{Ci/ml}$

3. Average Energy

The average gamma energy used to calculate the alarm setpoints for the noble gas monitors was:

1.00E+00 MeV for Quarter 1
9.72E-01 MeV for Quarter 2
9.35E-01 MeV for Quarter 3
8.97E-01 MeV for Quarter 4

4. Measurements and Approximations of Total Radioactivity

- a. Fission and Activation Gases:
b. Iodines:
c. Particulates:

The main chimney and reactor building ventilation exhaust systems are continually monitored for iodines and particulates. These samples are pulled every 7 days and analyzed by gamma isotopic. The particulate papers are composited every 31 days and sent to a vendor for Sr-89/90 and gross alpha analysis. Noble gas grab samples are pulled and analyzed by gamma isotopic weekly. Tritium samples are pulled and analyzed every month.

The Sr-89/90 and gross alpha curies released values reported are actual. On a real time basis, the portion of the "percent of applicable limit" for these contributors is reported based on projections using the previous six (6) months available data. The actual results are obtained by editing the ODCM software inputs when the vendor results become available. Therefore, the "percent of applicable limits" in this report are actual.

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Supplemental Information

The continuous strip chart recorders for the monitors on the release points are reviewed monthly for spikes and the activity released is calculated. An additional calculated activity for noble gases is added to the main chimney release each month. This calculation is done because most of the grab samples show less than the lower limit of detection due to the low amount of activity and the large dilution flow at the sample point. The calculation takes into account the normal offgas train and the gland steam contribution to the release.

The average flow at the release points is used to calculate the curies released.

d. Liquid Effluents

The River Discharge Tanks are analyzed before discharge by gamma isotopic. A composite representative portion of this sample is saved. This is composited with other discharges that occurred every 31 days and is analyzed for tritium and gross alpha. The monthly composites are composited quarterly and sent to a vendor for Sr-89/90 and Fe-55 analyses. The discharge bay is sampled every 31 days and analyzed by gamma isotopic, for tritium and gross alpha. It is sampled quarterly and sent to a vendor for Sr-89/90 and Fe-55 analysis. On a real time basis, the portion of the "percent of applicable limit" for these contributors is based on projections using scaling factors. The actual results are obtained by editing the ODCM software inputs when the vendor results become available. Therefore, the "percent of applicable limits" in this report are actual.

The tank volumes and activities are used to calculate the curies released for the River Discharge Tank. The total water released during the quarter and the activity is used to calculate the diluted activity released at the discharge bay, from batch discharges.

e. Estimated Total Error Percent

The estimated total error percents were calculated by taking the square root of the sum of the squares of errors for sampling and measurement parameters.

f. Less than the lower limit of detection (<LLD)

Samples are analyzed such that the Technical Specification LLD requirements are met. When a nuclide is not detected during the quarter, then <LLD is reported. The most conservative LLD's used for counting effluent samples are included in this report.

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Supplemental Information

5. Batch Releases

a. Liquid

1. Number of releases: 17
2. Total time: 1.47E+04 minutes
3. Maximum time: 9.22E+02 minutes
4. Average time: 8.65E+02 minutes
5. Minimum time: 7.95E+02 minutes
6. Average stream flow: 62.6 gpm (discharge)
3.39E+05 gpm (dilution)

b. Gaseous

NONE.

6. Abnormal Releases

a. Liquid

1. A leak into the 2A RHR heat exchanger service water side developed in October 2002. The heat exchanger was repaired in March 2004 during refuel outage Q2R17. The relatively small amount of residual radioactivity identified from the leak continues to be included in the normal monthly effluents and is also included in the "continuous" liquid section of this report.
2. A leak into the 1B RHR heat exchanger service water side developed in September 2004. The heat exchanger was repaired in March 2005 during refuel outage Q1R18. The relatively small amount of residual radioactivity identified from the leak continues to be included in the normal monthly effluents and is also included in the "continuous" liquid section of this report.

b. Gaseous

1. A small nuclear fuel leak developed in November 2005 on U-2. The leaking fuel was identified and suppressed for the remainder of the cycle. The leaking fuel was replaced during Q2R18 in April 2006.

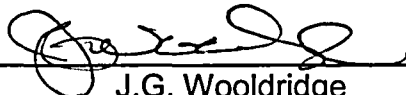
**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Supplemental Information

7. Radiological Impact on Man
- a. Liquid Dose to a member of the public for 2005:
Total Body: 1.54E-03 mrem
Organ: 2.49E-03 mrem
 - b. Gaseous Dose to a member of the public for 2005:
Total Body: 2.91E-02 mrem
Skin: 6.25E-04 mrem
Organ (Particulate/Iodine): 6.78E-01 mrem
 - c. Direct Radiation Dose to a member of the public for 2005:
Total Body: 6.64 mrem
 - d. Total Body Doses to the Population and Average Doses to Individuals in the Population from All Receiving-Water-Related-Pathways:
Not Applicable for QCNPS
 - e. Total Body Doses to the Population and Average Doses to Individuals in the Population from Gaseous Effluents to a Distance of 50 Miles:
Not Applicable for QCNPS
 - f. Doses From Liquid and Gaseous Effluent to Members of the Public Due to Their Activities Inside the Site Boundary for the Report Period:
Not Applicable for QCNPS. Any member of the public that is onsite for a significant period will be issued a Thermo Luminescent Dosimeter (TLD).
 - g. Liquid and Gaseous Effluent Radiation Monitors and Instrumentation Unavailability for the Period Beyond the Requirements of the ODCM, Including Sampling Deviation:
No ODCM monitors were unavailable for greater than 30 days in 2005.

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Supplemental Information

Submitted by: 
J.G. Wooldridge

Date: 04/13/06

Reviewed by: 
Scott K. Kirkland

Date: 4/13/06

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Extremely Unstable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	6	0	0	0	0	6
NNE	0	0	0	0	0	0	0
NE	0	0	5	0	0	0	5
ENE	0	0	8	2	0	0	10
E	0	2	5	0	0	0	7
ESE	0	0	8	0	0	0	8
SE	0	1	1	0	0	0	2
SSE	0	5	6	0	0	0	11
S	0	0	5	0	0	0	5
SSW	0	8	0	0	0	0	8
SW	0	3	1	0	0	0	4
WSW	0	1	3	0	0	0	4
W	0	14	15	2	0	0	31
WNW	0	7	14	3	0	0	24
NW	0	10	13	0	0	0	23
NNW	0	9	8	0	0	0	17
Variable	0	0	0	0	0	0	0
Total	0	66	92	7	0	0	165

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Quad Cities Nuclear Power Station 2005 Annual Radioactive Effluent Release Report

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Moderately Unstable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	1	0	0	0	5
NNE	0	1	0	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	0	0	1	0	0	1
E	0	0	3	0	0	0	3
ESE	0	1	3	0	0	0	4
SE	0	2	0	0	0	0	2
SSE	0	2	1	0	0	0	3
S	0	1	1	0	0	0	2
SSW	0	0	0	0	0	0	0
SW	0	3	0	0	0	0	3
WSW	0	3	4	0	0	0	7
W	0	3	5	0	0	0	8
WNW	0	4	4	0	0	0	8
NW	0	4	1	0	0	0	5
NNW	0	2	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	30	23	1	0	0	54

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Slightly Unstable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	4	1	0	0	0	6
NNE	0	1	0	0	0	0	1
NE	0	3	1	0	0	0	4
ENE	1	1	1	2	0	0	5
E	2	3	0	0	0	0	5
ESE	0	4	5	1	0	0	10
SE	0	1	1	0	0	0	2
SSE	0	5	2	0	0	0	7
S	0	2	0	0	0	0	2
SSW	0	2	0	0	0	0	2
SW	0	5	0	0	0	0	5
WSW	0	6	1	1	0	0	8
W	0	4	3	0	0	0	7
WNW	0	7	11	1	0	0	19
NW	0	14	7	1	0	0	22
NNW	1	12	1	0	0	0	14
Variable	0	0	0	0	0	0	0
Total	5	74	34	6	0	0	119

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Neutral - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	12	22	9	3	0	0	46
NNE	5	13	8	0	0	0	26
NE	7	50	31	2	0	0	90
ENE	9	42	18	2	0	0	71
E	7	21	18	1	0	0	47
ESE	7	41	20	5	0	0	73
SE	7	19	11	0	0	0	37
SSE	7	10	4	0	0	0	21
S	10	9	1	0	0	0	20
SSW	4	10	6	0	0	0	20
SW	2	25	8	1	0	0	36
WSW	3	28	10	4	0	0	45
W	11	34	23	8	0	0	76
WNW	6	87	63	13	0	0	169
NW	6	83	47	1	0	0	137
NNW	7	45	15	0	0	0	67
Variable	0	0	0	0	0	0	0
Total	110	539	292	40	0	0	981

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Slightly Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	7	19	3	0	0	0	29
NNE	8	29	13	1	0	0	51
NE	13	28	13	2	0	0	56
ENE	7	28	4	0	0	0	39
E	15	20	10	0	0	0	45
ESE	14	29	2	0	0	0	45
SE	8	6	5	0	0	0	19
SSE	3	7	1	0	0	0	11
S	6	8	0	0	0	0	14
SSW	4	4	7	0	0	0	15
SW	6	17	5	3	0	0	31
WSW	10	27	6	0	0	0	43
W	10	10	1	0	0	0	21
WNW	9	27	2	0	0	0	38
NW	6	23	0	0	0	0	29
NNW	14	18	0	0	0	0	32
Variable	0	0	0	0	0	0	0
Total	140	300	72	6	0	0	518

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Moderately Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	0	0	0	0	2
NNE	2	0	0	0	0	0	2
NE	2	2	0	0	0	0	4
ENE	7	0	0	0	0	0	7
E	7	2	0	0	0	0	9
ESE	16	1	0	0	0	0	17
SE	6	3	0	0	0	0	9
SSE	7	8	0	0	0	0	15
S	5	0	0	0	0	0	5
SSW	4	0	0	0	0	0	4
SW	4	1	0	0	0	0	5
WSW	3	0	0	0	0	0	3
W	7	0	0	0	0	0	7
WNW	5	1	0	0	0	0	6
NW	3	2	0	0	0	0	5
NNW	1	0	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	79	22	0	0	0	0	101

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Extremely Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	1	0	0	0	0	0	1
NE	2	0	0	0	0	0	2
ENE	3	0	0	0	0	0	3
E	4	3	0	0	0	0	7
ESE	8	7	0	0	0	0	15
SE	3	2	0	0	0	0	5
SSE	4	0	0	0	0	0	4
S	6	0	0	0	0	0	6
SSW	6	0	0	0	0	0	6
SW	6	0	0	0	0	0	6
WSW	2	0	0	0	0	0	2
W	1	0	0	0	0	0	1
WNW	2	1	0	0	0	0	3
NW	1	0	0	0	0	0	1
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	49	13	0	0	0	0	62

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Extremely Unstable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	2	0	0	2
E	0	0	1	0	0	0	1
ESE	0	0	1	1	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	2	1	3
SSW	0	1	3	1	0	0	5
SW	0	0	1	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	4	3	0	0	7
WNW	0	0	1	0	0	0	1
NW	0	0	1	5	0	0	6
NNW	0	0	3	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	1	15	12	2	1	31

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 77

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Moderately Unstable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	0	0	2	1	0	0	3
ENE	0	0	0	0	0	1	1
E	0	0	3	1	0	0	4
ESE	0	0	0	1	0	0	1
SE	0	0	1	1	0	0	2
SSE	0	3	0	0	1	0	4
S	0	0	0	0	0	2	2
SSW	0	1	1	0	0	0	2
SW	0	0	2	0	0	0	2
WSW	0	2	1	1	1	0	5
W	0	1	11	4	0	0	16
WNW	0	0	3	2	8	1	14
NW	0	1	4	2	2	0	9
NNW	0	1	4	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	0	10	32	13	12	4	71

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 3
Hours of missing stability measurements in all stability classes: 77

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Slightly Unstable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	2	0	0	0	4
NNE	0	1	0	0	0	0	1
NE	0	0	1	0	0	0	1
ENE	0	0	1	0	1	1	3
E	0	0	5	0	0	0	5
ESE	0	0	4	0	0	0	4
SE	0	0	2	1	0	0	3
SSE	0	1	0	2	3	0	6
S	0	2	1	0	0	1	4
SSW	0	0	2	0	0	0	2
SW	0	2	2	0	0	0	4
WSW	0	4	1	5	1	0	11
W	0	4	4	5	0	1	14
WNW	0	1	6	2	6	1	16
NW	0	1	7	3	2	0	13
NNW	0	5	2	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	0	23	40	18	13	4	98

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 77

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Neutral - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	19	22	5	2	2	53
NNE	2	21	16	4	0	0	43
NE	4	17	33	41	13	0	108
ENE	2	8	22	23	6	5	66
E	5	13	11	19	4	0	52
ESE	9	11	17	22	10	5	74
SE	5	9	10	25	3	0	52
SSE	3	7	10	5	5	7	37
S	1	5	4	6	2	3	21
SSW	3	5	6	6	8	2	30
SW	0	4	10	8	3	3	28
WSW	0	6	11	13	7	3	40
W	0	2	23	15	12	9	61
WNW	0	19	33	33	22	20	127
NW	1	20	61	64	37	3	186
NNW	3	17	39	29	7	0	95
Variable	0	0	0	0	0	0	0
Total	41	183	328	318	141	62	1073

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 35
Hours of missing stability measurements in all stability classes: 77

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Slightly Stable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	5	12	4	0	0	23
NNE	0	13	21	5	0	0	39
NE	0	7	19	10	0	0	36
ENE	1	6	19	15	2	0	43
E	4	14	15	12	3	0	48
ESE	2	7	11	33	2	0	55
SE	0	4	18	10	0	1	33
SSE	0	6	6	7	6	5	30
S	1	3	9	5	2	0	20
SSW	0	1	2	5	2	8	18
SW	0	1	6	16	3	4	30
WSW	0	3	4	14	5	0	26
W	0	2	14	6	3	1	26
WNW	0	3	14	7	2	0	26
NW	1	3	17	25	3	0	49
NNW	0	5	11	15	1	0	32
Variable	0	0	0	0	0	0	0
Total	11	83	198	189	34	19	534

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 34
Hours of missing stability measurements in all stability classes: 77

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Moderately Stable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	2	2	1	0	0	6
NNE	0	0	3	1	0	0	4
NE	1	2	3	0	0	0	6
ENE	0	3	0	1	0	0	4
E	0	1	1	1	0	0	3
ESE	0	4	9	3	0	0	16
SE	0	3	14	2	0	0	19
SSE	0	0	4	4	3	0	11
S	0	0	15	14	2	0	31
SSW	0	1	1	8	2	0	12
SW	0	3	4	2	0	0	9
WSW	0	3	1	3	0	0	7
W	0	1	2	0	0	0	3
WNW	0	0	2	0	0	0	2
NW	0	4	3	1	0	0	8
NNW	0	1	1	1	0	0	3
Variable	0	0	0	0	0	0	0
Total	2	28	65	42	7	0	144

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 2
Hours of missing stability measurements in all stability classes: 77

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2005
Stability Class - Extremely Stable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	0	0	1	0	0	0	1
ENE	1	1	1	0	0	0	3
E	0	0	0	0	0	0	0
ESE	0	1	2	1	0	0	4
SE	0	0	3	2	0	0	5
SSE	0	1	2	0	0	0	3
S	0	0	4	8	1	0	13
SSW	2	3	5	8	1	0	19
SW	0	1	0	0	0	0	1
WSW	2	0	1	0	0	0	3
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	2	0	2	0	0	4
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	5	10	19	21	2	0	57

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 77

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005

Stability Class - Extremely Unstable - 196Ft-33Ft Delta-T (F)

Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	4	1	0	0	5
NNE	0	11	4	1	0	0	16
NE	0	2	6	6	0	0	14
ENE	0	3	4	0	0	0	7
E	0	5	8	0	0	0	13
ESE	0	2	14	0	0	0	16
SE	0	8	11	0	0	0	19
SSE	0	29	9	0	0	0	38
S	0	13	9	0	0	0	22
SSW	0	26	17	0	0	0	43
SW	0	28	14	0	0	0	42
WSW	0	4	17	0	0	0	21
W	0	9	17	3	0	0	29
WNW	0	11	31	0	0	0	42
NW	0	5	4	3	0	0	12
NNW	0	7	5	8	0	0	20
Variable	0	0	0	0	0	0	0
Total	0	163	174	22	0	0	359

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005

Stability Class - Moderately Unstable - 196Ft-33Ft Delta-T (F)

Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	0	0	0	0	2
NNE	0	4	1	0	0	0	5
NE	0	1	1	0	0	0	2
ENE	0	1	0	0	0	0	1
E	0	0	4	0	0	0	4
ESE	0	2	1	0	0	0	3
SE	0	6	1	0	0	0	7
SSE	0	2	0	0	0	0	2
S	0	6	1	0	0	0	7
SSW	0	5	1	0	0	0	6
SW	0	4	2	0	0	0	6
WSW	0	0	1	0	0	0	1
W	0	3	3	3	0	0	9
WNW	0	2	5	0	0	0	7
NW	0	3	3	0	0	0	6
NNW	0	1	2	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	42	26	3	0	0	71

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005
Stability Class - Slightly Unstable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	3	0	0	0	0	3
NNE	0	3	3	0	0	0	6
NE	0	2	7	0	0	0	9
ENE	0	1	1	0	0	0	2
E	0	5	4	0	0	0	9
ESE	0	6	4	0	0	0	10
SE	0	6	2	0	0	0	8
SSE	1	6	0	0	0	0	7
S	0	8	0	0	0	0	8
SSW	1	13	0	0	0	0	14
SW	0	10	2	0	0	0	12
WSW	0	5	5	0	0	0	10
W	0	10	4	0	0	0	14
WNW	0	7	4	4	0	0	15
NW	1	2	3	0	0	0	6
NNW	0	5	2	1	0	0	8
Variable	0	0	0	0	0	0	0
Total	3	92	41	5	0	0	141

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005
Stability Class - Neutral - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	10	5	5	0	0	21
NNE	2	7	11	0	0	0	20
NE	3	10	25	0	0	0	38
ENE	6	19	31	0	0	0	56
E	4	10	10	2	0	0	26
ESE	1	21	6	5	0	0	33
SE	5	21	5	0	0	0	31
SSE	3	18	2	0	0	0	23
S	5	13	0	0	0	0	18
SSW	5	26	2	0	0	0	33
SW	10	34	7	1	0	0	52
WSW	7	26	16	1	0	0	50
W	4	36	23	1	0	0	64
WNW	2	22	30	1	0	0	55
NW	4	12	10	0	0	0	26
NNW	0	7	9	1	0	0	17
Variable	0	0	0	0	0	0	0
Total	62	292	192	17	0	0	563

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005
Stability Class - Slightly Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	4	5	0	0	0	0	9
NNE	1	4	3	0	0	0	8
NE	2	8	5	0	0	0	15
ENE	20	8	0	0	0	0	28
E	12	20	5	3	0	0	40
ESE	11	34	7	0	0	0	52
SE	18	34	4	1	0	0	57
SSE	15	7	2	0	0	0	24
S	10	19	0	0	0	0	29
SSW	9	17	0	0	0	0	26
SW	10	40	9	1	0	0	60
WSW	16	27	2	0	0	0	45
W	22	28	1	0	0	0	51
WNW	18	22	3	0	0	0	43
NW	13	20	8	0	0	0	41
NNW	3	11	2	0	0	0	16
Variable	0	0	0	0	0	0	0
Total	184	304	51	5	0	0	544

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005
Stability Class - Moderately Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	7	0	0	0	0	0	7
NNE	9	5	0	0	0	0	14
NE	9	3	0	0	0	0	12
ENE	10	4	0	0	0	0	14
E	17	3	1	0	0	0	21
ESE	25	30	1	0	0	0	56
SE	18	4	0	0	0	0	22
SSE	11	6	1	0	0	0	18
S	12	6	0	0	0	0	18
SSW	14	6	0	0	0	0	20
SW	8	2	0	0	0	0	10
WSW	4	0	0	0	0	0	4
W	9	1	0	0	0	0	10
WNW	9	0	0	0	0	0	9
NW	4	1	0	0	0	0	5
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	166	71	3	0	0	0	240

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005
Stability Class - Extremely Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	4	0	0	0	0	0	4
NNE	4	1	0	0	0	0	5
NE	3	0	0	0	0	0	3
ENE	9	0	0	0	0	0	9
E	18	5	0	0	0	0	23
ESE	29	16	0	0	0	0	45
SE	10	0	0	0	0	0	10
SSE	8	1	0	0	0	0	9
S	3	0	0	0	0	0	3
SSW	8	0	0	0	0	0	8
SW	9	0	0	0	0	0	9
WSW	1	0	0	0	0	0	1
W	5	1	0	0	0	0	6
WNW	5	1	0	0	0	0	6
NW	2	0	0	0	0	0	2
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	118	25	0	0	0	0	143

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005
Stability Class - Extremely Unstable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	0	0	0	1
NNE	0	0	3	1	0	0	4
NE	0	0	0	1	5	0	6
ENE	0	0	0	0	0	0	0
E	0	0	0	2	0	0	2
ESE	0	0	0	9	0	0	9
SE	0	0	3	5	0	0	8
SSE	0	0	4	11	3	1	19
S	0	0	2	13	4	0	19
SSW	0	1	10	17	8	0	36
SW	0	2	3	7	0	0	12
WSW	0	0	2	5	2	0	9
W	0	0	4	3	0	0	7
WNW	0	1	4	13	3	0	21
NW	0	0	3	0	5	1	9
NNW	0	0	1	0	6	1	8
Variable	0	0	0	0	0	0	0
Total	0	4	40	87	36	3	170

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 49

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005
Stability Class - Moderately Unstable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	3	0	0	0	3
NNE	0	0	7	2	0	0	9
NE	0	1	2	4	2	0	9
ENE	0	0	0	0	0	0	0
E	0	1	7	4	0	0	12
ESE	0	0	3	3	0	0	6
SE	0	1	2	3	1	0	7
SSE	0	6	6	4	1	0	17
S	0	2	2	1	3	0	8
SSW	0	8	4	7	1	1	21
SW	0	2	4	5	1	1	13
WSW	0	2	2	3	0	0	7
W	0	1	3	4	3	1	12
WNW	0	0	4	6	5	0	15
NW	0	0	4	1	0	0	5
NNW	0	1	5	0	3	1	10
Variable	0	0	0	0	0	0	0
Total	0	25	58	47	20	4	154

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 49

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005
Stability Class - Slightly Unstable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	7	0	0	1	0	8
NNE	0	3	3	0	0	0	6
NE	0	3	0	5	3	0	11
ENE	0	1	2	0	0	0	3
E	0	0	10	1	0	0	11
ESE	1	2	6	3	0	0	12
SE	0	3	7	1	0	0	11
SSE	0	9	7	3	0	1	20
S	0	6	5	1	1	0	13
SSW	0	8	3	5	4	2	22
SW	0	7	2	3	1	0	13
WSW	0	3	2	2	0	0	7
W	0	1	3	7	2	1	14
WNW	0	3	3	9	7	0	22
NW	0	1	2	6	2	0	11
NNW	1	2	1	3	2	0	9
Variable	0	0	0	0	0	0	0
Total	2	59	56	49	23	4	193

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 49

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005
Stability Class - Neutral - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	7	3	5	6	0	21
NNE	1	2	6	9	4	0	22
NE	1	6	6	19	14	1	47
ENE	3	7	8	19	11	1	49
E	0	8	10	9	11	1	39
ESE	0	5	14	10	6	6	41
SE	1	6	13	7	8	1	36
SSE	0	6	6	7	4	0	23
S	2	9	8	18	6	1	44
SSW	2	17	12	12	5	0	48
SW	3	9	11	17	2	2	44
WSW	1	6	11	9	13	1	41
W	1	6	6	30	25	4	72
WNW	1	3	7	47	13	10	81
NW	0	4	5	7	11	1	28
NNW	2	9	2	10	8	0	31
Variable	0	0	0	0	0	0	0
Total	18	110	128	235	147	29	667

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 49

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005
Stability Class - Slightly Stable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	1	7	4	0	0	13
NNE	0	3	2	2	0	0	7
NE	0	1	5	11	4	0	21
ENE	2	1	7	1	0	0	11
E	1	1	14	13	4	0	33
ESE	1	2	16	18	5	1	43
SE	0	3	16	35	7	0	61
SSE	0	4	15	17	6	0	42
S	1	2	23	23	7	0	56
SSW	0	0	12	37	3	0	52
SW	0	4	7	26	3	0	40
WSW	1	3	7	21	4	0	36
W	0	4	10	21	1	0	36
WNW	0	5	9	12	2	1	29
NW	1	5	16	10	6	1	39
NNW	1	6	12	15	1	0	35
Variable	0	0	0	0	0	0	0
Total	9	45	178	266	53	3	554

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 49

Quad Cities Nuclear Power Station **2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005

Stability Class - Moderately Stable - 296Ft-33Ft Delta-T (F)

Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	2	1	0	0	0	4
NNE	1	0	0	0	0	0	1
NE	1	3	5	8	0	0	17
ENE	1	2	6	4	0	0	13
E	1	4	9	2	0	0	16
ESE	1	3	17	23	9	0	53
SE	0	1	12	30	4	0	47
SSE	1	1	5	7	4	0	18
S	0	1	10	22	3	0	36
SSW	0	2	8	18	0	0	28
SW	1	3	2	8	0	0	14
WSW	0	1	0	2	0	0	3
W	0	1	2	6	0	0	9
WNW	1	1	2	4	0	0	8
NW	0	4	7	0	0	0	11
NNW	1	4	3	0	0	0	8
Variable	0	0	0	0	0	0	0
Total	10	33	89	134	20	0	286

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 49

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2005
Stability Class - Extremely Stable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	2	2	0	0	5
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	2	6	0	0	0	8
E	0	0	2	0	0	0	2
ESE	0	0	2	2	2	0	6
SE	1	1	1	8	2	0	13
SSE	0	0	6	5	0	0	11
S	1	0	5	15	0	0	21
SSW	0	1	6	6	0	0	13
SW	0	4	3	4	0	0	11
WSW	6	2	0	0	0	0	8
W	1	2	0	0	0	0	3
WNW	0	0	0	0	0	0	0
NW	1	0	2	0	0	0	3
NNW	1	3	0	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	12	15	35	42	4	0	108

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 49

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005
Stability Class - Extremely Unstable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	7	8	0	0	0	15
NNE	0	4	9	0	0	0	13
NE	0	14	13	0	0	0	27
ENE	0	4	2	0	0	0	6
E	1	3	7	0	0	0	11
ESE	0	3	7	0	0	0	10
SE	0	13	4	0	0	0	17
SSE	0	39	1	0	0	0	40
S	0	15	3	0	0	0	18
SSW	0	42	7	0	0	0	49
SW	0	31	8	0	0	0	39
WSW	0	10	5	0	0	0	15
W	0	6	4	0	0	0	10
WNW	0	10	1	0	0	0	11
NW	0	21	6	0	0	0	27
NNW	0	12	2	0	0	0	14
Variable	0	0	0	0	0	0	0
Total	1	234	87	0	0	0	322

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005
Stability Class - Moderately Unstable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	1	0	0	0	5
NNE	0	5	1	0	0	0	6
NE	0	2	0	0	0	0	2
ENE	0	3	0	0	0	0	3
E	0	0	0	0	0	0	0
ESE	0	3	0	0	0	0	3
SE	0	2	0	0	0	0	2
SSE	0	4	0	0	0	0	4
S	0	5	0	0	0	0	5
SSW	0	4	0	0	0	0	4
SW	0	8	0	0	0	0	8
WSW	0	2	0	0	0	0	2
W	0	2	0	0	0	0	2
WNW	0	6	0	0	0	0	6
NW	0	8	0	0	0	0	8
NNW	0	7	0	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	0	65	2	0	0	0	67

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005
Stability Class - Slightly Unstable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	14	1	0	0	0	15
NNE	0	6	0	0	0	0	6
NE	0	12	1	0	0	0	13
ENE	2	11	1	0	0	0	14
E	0	1	2	0	0	0	3
ESE	0	2	0	0	0	0	2
SE	0	9	1	0	0	0	10
SSE	2	5	0	0	0	0	7
S	0	10	0	0	0	0	10
SSW	2	14	3	0	0	0	19
SW	1	16	0	0	0	0	17
WSW	0	10	0	0	0	0	10
W	0	16	2	0	0	0	18
WNW	0	5	0	0	0	0	5
NW	0	14	1	0	0	0	15
NNW	0	10	0	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	7	155	12	0	0	0	174

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005
Stability Class - Neutral - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	33	17	0	0	0	52
NNE	1	19	3	0	0	0	23
NE	4	22	6	0	0	0	32
ENE	6	25	2	0	0	0	33
E	2	16	1	0	0	0	19
ESE	4	33	2	0	0	0	39
SE	4	13	1	0	0	0	18
SSE	5	14	0	0	0	0	19
S	7	16	0	0	0	0	23
SSW	4	20	3	0	0	0	27
SW	5	23	5	0	0	0	33
WSW	8	23	1	0	0	0	32
W	5	14	3	0	0	0	22
WNW	6	19	2	0	0	0	27
NW	6	29	6	0	0	0	41
NNW	5	24	4	0	0	0	33
Variable	0	0	0	0	0	0	0
Total	74	343	56	0	0	0	473

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005
Stability Class - Slightly Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	8	31	0	0	0	0	39
NNE	17	14	0	0	0	0	31
NE	11	19	0	0	0	0	30
ENE	11	12	0	0	0	0	23
E	13	5	0	0	0	0	18
ESE	12	23	0	0	0	0	35
SE	19	8	0	0	0	0	27
SSE	16	5	2	0	0	0	23
S	14	31	1	0	0	0	46
SSW	5	16	1	0	0	0	22
SW	7	23	1	0	0	0	31
WSW	12	18	0	0	0	0	30
W	14	16	0	0	0	0	30
WNW	16	21	1	0	0	0	38
NW	6	27	0	0	0	0	33
NNW	6	29	0	1	0	0	36
Variable	0	0	0	0	0	0	0
Total	187	298	6	1	0	0	492

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005
Stability Class - Moderately Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	13	3	0	0	0	0	16
NNE	14	0	0	0	0	0	14
NE	10	3	0	0	0	0	13
ENE	12	1	0	0	0	0	13
E	16	2	0	0	0	0	18
ESE	28	10	0	0	0	0	38
SE	26	0	0	0	0	0	26
SSE	35	1	0	0	0	0	36
S	16	9	0	0	0	0	25
SSW	8	8	0	0	0	0	16
SW	3	0	0	0	0	0	3
WSW	9	1	0	0	0	0	10
W	4	2	0	0	0	0	6
WNW	14	2	0	0	0	0	16
NW	12	1	0	0	0	0	13
NNW	9	1	0	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	229	44	0	0	0	0	273

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005
Stability Class - Extremely Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	0	0	0	0	0	3
NNE	5	0	0	0	0	0	5
NE	6	2	0	0	0	0	8
ENE	3	0	0	0	0	0	3
E	28	0	0	0	0	0	28
ESE	73	2	0	0	0	0	75
SE	33	0	0	0	0	0	33
SSE	18	0	0	0	0	0	18
S	10	0	0	0	0	0	10
SSW	0	0	0	0	0	0	0
SW	2	0	0	0	0	0	2
WSW	0	0	0	0	0	0	0
W	7	0	0	0	0	0	7
WNW	13	0	0	0	0	0	13
NW	3	0	0	0	0	0	3
NNW	4	0	0	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	208	4	0	0	0	0	212

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005

Stability Class - Extremely Unstable - 296Ft-33Ft Delta-T (F)

Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	0	0	2
NNE	0	0	3	0	0	0	3
NE	0	0	4	9	0	0	13
ENE	0	0	2	0	0	0	2
E	0	0	1	0	0	0	1
ESE	0	0	0	2	0	0	2
SE	0	0	3	2	0	0	5
SSE	0	1	17	6	0	0	24
S	0	1	2	4	0	0	7
SSW	0	2	10	28	1	0	41
SW	0	1	7	1	0	0	9
WSW	0	0	1	2	0	0	3
W	0	0	0	1	0	0	1
WNW	0	0	0	2	0	0	2
NW	0	0	3	4	0	0	7
NNW	0	0	2	2	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	5	57	63	1	0	126

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 32

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005

Stability Class - Moderately Unstable - 296Ft-33Ft Delta-T (F)

Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	3	3	0	0	7
NNE	0	2	5	1	0	0	8
NE	0	3	5	2	0	0	10
ENE	0	3	1	1	0	0	5
E	0	2	4	1	0	0	7
ESE	0	0	1	1	0	0	2
SE	0	1	6	2	1	0	10
SSE	0	0	6	3	2	0	11
S	0	2	4	5	1	0	12
SSW	0	2	7	4	1	0	14
SW	0	2	0	1	0	0	3
WSW	0	1	1	3	0	0	5
W	0	3	0	4	0	0	7
WNW	0	1	5	4	0	0	10
NW	0	2	8	3	0	0	13
NNW	0	2	11	1	0	0	14
Variable	0	0	0	0	0	0	0
Total	0	27	67	39	5	0	138

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 32

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005
Stability Class - Slightly Unstable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	6	8	1	0	0	15
NNE	0	2	7	0	0	0	9
NE	0	8	8	1	0	0	17
ENE	1	1	6	1	0	0	9
E	0	1	4	1	0	0	6
ESE	0	1	1	2	0	0	4
SE	0	4	4	1	0	0	9
SSE	0	7	6	2	1	0	16
S	0	3	5	2	1	0	11
SSW	0	10	10	7	1	0	28
SW	0	10	5	2	0	0	17
WSW	0	4	1	3	0	0	8
W	0	9	1	1	0	0	11
WNW	0	7	1	3	0	0	11
NW	0	14	6	2	0	0	22
NNW	0	9	6	0	0	0	15
Variable	0	0	0	0	0	0	0
Total	1	96	79	29	3	0	208

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 32

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005

Stability Class - Neutral - 296Ft-33Ft Delta-T (F)

Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	20	16	21	2	0	60
NNE	2	9	10	10	0	0	31
NE	3	14	14	10	0	0	41
ENE	3	10	13	3	0	0	29
E	1	3	13	6	0	0	23
ESE	0	2	16	15	0	0	33
SE	0	6	10	2	2	0	20
SSE	0	9	8	6	0	0	23
S	1	10	11	12	3	0	37
SSW	0	12	15	15	8	0	50
SW	1	10	16	7	3	0	37
WSW	0	14	10	15	0	0	39
W	1	9	2	9	2	0	23
WNW	1	15	7	7	3	0	33
NW	4	6	21	12	3	2	48
NNW	1	14	13	10	1	1	40
Variable	0	0	0	0	0	0	0
Total	19	163	195	160	27	3	567

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 32

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005
Stability Class - Slightly Stable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	6	20	22	0	0	48
NNE	2	6	22	18	0	0	48
NE	0	3	13	16	0	0	32
ENE	0	4	22	3	0	0	29
E	1	6	7	6	0	0	20
ESE	0	3	9	17	2	0	31
SE	2	3	15	15	0	0	35
SSE	0	3	14	14	2	0	33
S	0	3	13	26	8	1	51
SSW	0	0	9	34	10	0	53
SW	1	3	9	11	3	0	27
WSW	1	1	8	5	3	0	18
W	0	0	12	13	0	0	25
WNW	0	2	5	17	0	0	24
NW	0	1	10	21	2	0	34
NNW	0	0	7	16	0	0	23
Variable	0	0	0	0	0	0	0
Total	7	44	195	254	30	1	531

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 5
Hours of missing stability measurements in all stability classes: 32

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005
Stability Class - Moderately Stable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	6	2	2	0	14
NNE	0	6	18	7	0	0	31
NE	2	4	9	1	0	0	16
ENE	0	3	3	4	0	0	10
E	1	4	20	3	0	0	28
ESE	0	4	17	16	1	0	38
SE	0	2	9	14	0	0	25
SSE	2	3	13	25	0	0	43
S	0	0	12	35	4	0	51
SSW	0	2	6	33	2	0	43
SW	0	2	3	0	1	0	6
WSW	1	2	4	4	0	0	11
W	1	0	5	12	0	0	18
WNW	1	0	0	6	0	0	7
NW	0	1	3	7	0	0	11
NNW	1	2	0	2	0	0	5
Variable	0	0	0	0	0	0	0
Total	9	39	128	171	10	0	357

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 6
Hours of missing stability measurements in all stability classes: 32

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2005
Stability Class - Extremely Stable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	6	7	0	0	0	15
NNE	2	0	3	0	0	0	5
NE	0	1	4	1	0	0	6
ENE	4	8	4	2	0	0	18
E	2	4	1	0	0	0	7
ESE	1	6	10	4	0	0	21
SE	1	2	4	11	0	0	18
SSE	0	3	7	12	0	0	22
S	0	7	16	27	0	0	50
SSW	2	2	19	16	0	0	39
SW	1	1	4	3	0	0	9
WSW	0	2	1	0	0	0	3
W	2	3	2	1	0	0	8
WNW	1	1	3	1	0	0	6
NW	0	1	4	1	0	0	6
NNW	0	0	3	2	0	0	5
Variable	0	0	0	0	0	0	0
Total	18	47	92	81	0	0	238

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 32

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Extremely Unstable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	0	0	0	1
NNE	0	2	3	0	0	0	5
NE	0	4	9	0	0	0	13
ENE	0	2	3	0	0	0	5
E	0	0	0	0	0	0	0
ESE	0	0	2	0	0	0	2
SE	0	2	0	0	0	0	2
SSE	0	0	0	0	0	0	0
S	0	6	1	0	0	0	7
SSW	0	18	15	0	0	0	33
SW	0	17	4	0	0	0	21
WSW	0	2	3	0	0	0	5
W	0	5	3	1	0	0	9
WNW	0	4	9	1	0	0	14
NW	0	4	9	1	0	0	14
NNW	0	1	1	4	0	0	6
Variable	0	0	0	0	0	0	0
Total	0	67	63	7	0	0	137

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Moderately Unstable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	0	0	0	1
NNE	0	0	1	0	0	0	1
NE	0	1	2	0	0	0	3
ENE	0	1	0	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	1	1	0	0	0	2
SSE	0	0	0	0	0	0	0
S	0	2	0	0	0	0	2
SSW	0	5	2	0	0	0	7
SW	0	2	0	0	0	0	2
WSW	0	2	1	0	0	0	3
W	0	1	1	1	0	0	3
WNW	0	0	2	3	0	0	5
NW	0	3	2	0	0	0	5
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	19	12	4	0	0	35

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Slightly Unstable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	7	0	0	0	11
NNE	0	1	3	0	0	0	4
NE	0	1	2	0	0	0	3
ENE	0	5	0	0	0	0	5
E	0	3	0	0	0	0	3
ESE	0	1	0	0	0	0	1
SE	0	3	1	0	0	0	4
SSE	0	3	1	0	0	0	4
S	0	3	4	0	0	0	7
SSW	0	3	0	0	0	0	3
SW	0	8	3	0	0	0	11
WSW	0	5	2	0	0	0	7
W	0	15	5	0	0	0	20
WNW	0	6	2	0	0	0	8
NW	0	8	9	1	0	0	18
NNW	0	5	0	1	0	0	6
Variable	0	0	0	0	0	0	0
Total	0	74	39	2	0	0	115

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Neutral - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	7	25	35	1	0	0	68
NNE	5	14	4	0	0	0	23
NE	10	26	10	0	0	0	46
ENE	9	36	9	0	0	0	54
E	6	31	13	0	0	0	50
ESE	7	18	10	0	0	0	35
SE	5	19	23	2	0	0	49
SSE	7	10	6	0	0	0	23
S	1	21	4	0	0	0	26
SSW	4	19	11	0	0	0	34
SW	6	36	22	1	0	0	65
WSW	7	56	35	10	0	0	108
W	11	88	71	30	0	0	200
WNW	3	80	62	22	0	0	167
NW	7	57	13	10	0	0	87
NNW	3	43	8	0	0	0	54
Variable	0	0	0	0	0	0	0
Total	98	579	336	76	0	0	1089

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Slightly Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	4	7	2	0	0	0	13
NNE	5	4	0	0	0	0	9
NE	10	19	2	0	0	0	31
ENE	8	12	1	0	0	0	21
E	7	4	0	1	0	0	12
ESE	8	7	10	2	0	0	27
SE	13	7	6	2	0	0	28
SSE	12	18	1	0	0	0	31
S	5	37	5	0	0	0	47
SSW	3	39	5	1	0	0	48
SW	7	32	15	1	0	0	55
WSW	10	26	2	1	0	0	39
W	16	37	2	0	0	0	55
WNW	4	25	2	0	0	0	31
NW	7	25	0	0	0	0	32
NNW	3	8	2	0	0	0	13
Variable	0	0	0	0	0	0	0
Total	122	307	55	8	0	0	492

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Moderately Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	4	0	0	0	0	0	4
NNE	9	1	0	0	0	0	10
NE	10	1	0	0	0	0	11
ENE	1	3	0	0	0	0	4
E	8	2	0	0	0	0	10
ESE	12	14	0	0	0	0	26
SE	18	3	0	0	0	0	21
SSE	21	5	0	0	0	0	26
S	6	9	0	0	0	0	15
SSW	2	4	0	0	0	0	6
SW	1	1	0	0	0	0	2
WSW	2	0	0	0	0	0	2
W	3	6	0	0	0	0	9
WNW	3	2	0	0	0	0	5
NW	3	2	0	0	0	0	5
NNW	6	0	0	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	109	53	0	0	0	0	162

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Extremely Stable - 196Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	0	0	0	0	1
NNE	2	0	0	0	0	0	2
NE	6	0	0	0	0	0	6
ENE	5	0	0	0	0	0	5
E	3	0	0	0	0	0	3
ESE	25	9	0	0	0	0	34
SE	14	1	0	0	0	0	15
SSE	10	1	0	0	0	0	11
S	3	0	0	0	0	0	3
SSW	3	0	0	0	0	0	3
SW	3	0	0	0	0	0	3
WSW	1	0	0	0	0	0	1
W	5	0	0	0	0	0	5
WNW	9	1	0	0	0	0	10
NW	5	0	0	0	0	0	5
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	95	12	0	0	0	0	107

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Extremely Unstable - 296Ft-333Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	3	0	0	3
ENE	0	0	2	0	0	0	2
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	1	1	0	2
SSW	0	0	1	17	6	0	24
SW	0	0	5	0	0	0	5
WSW	0	0	1	0	0	0	1
W	0	0	0	0	0	0	0
WNW	0	0	0	3	0	0	3
NW	0	0	2	3	0	0	5
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	0	11	27	7	0	45

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 1

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Moderately Unstable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	3	1	0	0	4
NE	0	0	6	3	0	0	9
ENE	0	0	1	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	0	2	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	1	2	0	0	3
SSW	0	0	3	2	0	0	5
SW	0	0	3	1	0	0	4
WSW	0	0	1	1	0	0	2
W	0	0	3	1	0	0	4
WNW	0	0	3	5	0	1	9
NW	0	0	0	3	0	1	4
NNW	0	0	1	0	0	3	4
Variable	0	0	0	0	0	0	0
Total	0	0	25	21	0	5	51

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 1

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Slightly Unstable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	4	1	0	0	5
NNE	0	0	3	2	1	0	6
NE	0	2	1	1	0	0	4
ENE	0	0	4	0	0	0	4
E	0	1	0	0	0	0	1
ESE	0	1	0	0	0	0	1
SE	0	0	1	1	0	0	2
SSE	0	0	3	0	0	0	3
S	0	0	1	4	2	0	7
SSW	0	0	0	14	2	0	16
SW	0	0	3	6	1	0	10
WSW	0	3	4	2	0	0	9
W	0	2	3	1	0	0	6
WNW	0	1	4	4	0	5	14
NW	0	1	6	4	0	0	11
NNW	0	1	3	1	0	1	6
Variable	0	0	0	0	0	0	0
Total	0	12	40	41	6	6	105

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 1

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Neutral - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	6	17	44	8	1	77
NNE	3	4	11	6	2	0	26
NE	1	6	12	24	1	0	44
ENE	3	7	17	24	1	0	52
E	4	10	28	14	1	0	57
ESE	3	7	8	8	5	1	32
SE	3	3	6	16	16	4	48
SSE	0	7	5	12	12	0	36
S	2	5	10	14	9	2	42
SSW	0	7	3	23	17	8	58
SW	1	7	9	19	11	4	51
WSW	2	18	28	38	9	7	102
W	0	12	61	52	34	34	193
WNW	1	13	38	67	37	23	179
NW	5	12	24	30	12	14	97
NNW	4	5	26	33	1	1	70
Variable	0	0	0	0	0	0	0
Total	33	129	303	424	176	99	1164

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 3
Hours of missing stability measurements in all stability classes: 1

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Slightly Stable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	5	8	0	0	14
NNE	2	0	7	2	0	0	11
NE	0	6	7	7	7	0	27
ENE	0	7	9	16	1	0	33
E	1	5	9	4	0	1	20
ESE	0	2	0	2	5	1	10
SE	0	2	5	11	8	1	27
SSE	1	1	4	4	3	1	14
S	2	2	10	45	11	6	76
SSW	1	2	4	34	36	7	84
SW	1	1	6	22	18	2	50
WSW	0	0	8	9	4	0	21
W	1	4	13	28	3	0	49
WNW	0	1	20	15	2	0	38
NW	1	0	8	20	3	0	32
NNW	1	1	6	14	2	0	24
Variable	0	0	0	0	0	0	0
Total	11	35	121	241	103	19	530

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 5
Hours of missing stability measurements in all stability classes: 1

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Moderately Stable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	1	3	0	0	0	7
NNE	0	2	2	0	0	0	4
NE	1	5	5	2	0	0	13
ENE	0	6	12	2	0	0	20
E	1	4	0	1	0	0	6
ESE	0	1	3	0	0	0	4
SE	0	2	6	1	6	0	15
SSE	0	2	3	15	2	0	22
S	0	1	1	23	3	0	28
SSW	1	1	6	16	2	0	26
SW	0	5	1	0	0	0	6
WSW	0	2	5	0	0	0	7
W	0	3	0	4	3	0	10
WNW	0	0	0	7	1	0	8
NW	0	1	0	12	3	0	16
NNW	0	2	0	3	0	0	5
Variable	0	0	0	0	0	0	0
Total	6	38	47	86	20	0	197

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 8
Hours of missing stability measurements in all stability classes: 1

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2005
Stability Class - Extremely Stable - 296Ft-33Ft Delta-T (F)
Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	3	4	0	0	8
NNE	0	1	1	0	0	0	2
NE	0	0	3	3	0	0	6
ENE	0	2	1	1	0	0	4
E	1	2	0	0	0	0	3
ESE	0	1	0	0	0	0	1
SE	0	0	2	0	1	0	3
SSE	1	2	0	1	0	0	4
S	0	0	1	14	0	0	15
SSW	1	0	2	7	1	0	11
SW	1	0	1	2	1	0	5
WSW	1	4	1	0	0	0	6
W	1	3	1	1	0	0	6
WNW	0	0	0	2	0	0	2
NW	0	0	1	5	0	0	6
NNW	0	2	2	2	0	0	6
Variable	0	0	0	0	0	0	0
Total	7	17	19	42	3	0	88

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 11
Hours of missing stability measurements in all stability classes: 1

**Quad Cities Nuclear Power Station
2005 Annual Radioactive Effluent Release Report**

Solid Waste and Irradiated Fuel Shipments

A. Solid Waste Shipped Offsite for Burial or Disposal (Not irradiated fuel)

1. Types of Waste

Types of Waste	Total Quantity (m ³)	Total Activity (Ci)	Period	Est. Total Error %
a. Spent resins, filter sludges, evaporator bottoms, etc	1.54E+02	2.80E+03	2005	2.50E+01
b. Dry compressible waste, contaminated equip, etc	1.89E+03	5.78E+01	2005	2.50E+01
c. Irradiated components, control rods, etc	3.96E+01	1.81E+02	2005	2.50E+01
d. Other (describe) Combined Packages of a. and b.	1.01E+02	7.64E+02	2005	2.50E+01

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

Major Nuclide Composition		%
a.	Mn-54	3.34E+00
	Fe-55	6.79E+01
	Co-60	2.67E+01
b.	Mn-54	1.52E+00
	Fe-55	5.95E+01
	Co-60	2.84E+01
	Zn-65	6.47E+00
	Cs-137	3.26E+00
c.	Mn-54	1.12E+00
	Fe-55	6.63E+01
	Co-60	2.98E+01
	Ni-63	7.81E-01

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
30	Highway	Processor
65	Highway	Disposal

B. Irradiated Fuel Shipments (disposition)

Number of Shipments	Mode of Transportation	Destination
2	Highway	Disposal

C. Changes to the Process Control Program

None.