

Attachment 1
Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report
SVP-07-025

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Effluent & Waste Disposable Summary

Gaseous Effluents – Summation of all Releases

Period: January – December 2006

Unit: 1 & 2

A. Fission & Activation Gases	Unit	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Est. Total Error %
1. Total Release	Ci	3.29E+01	2.82E+01	4.39E+01	3.58E+01	12.5
2. Average release rate for the period	μCi/sec	4.23E+00	3.58E+00	5.53E+00	4.50E+00	
3. Percent of ODCM limit ⁽¹⁾	%γ	3.28E-03	2.25E-03	3.68E-03	3.51E-03	
	%β	9.18E-04	5.40E-04	8.69E-04	8.01E-04	

B. Iodine						
1. Total Iodine – 131.	Ci	1.78E-04	3.93E-04	3.46E-04	4.54E-04	41.6
2. Average release rate for the period	μCi/sec	2.28E-05	4.99E-05	4.35E-05	5.72E-05	
3. Percent of ODCM limit	%	N/A	N/A	N/A	N/A	

C. Particulates						
1. Total particulates	Ci	8.61E-04	9.03E-04	3.62E-04	7.32E-04	32.3
2. Average release rate for the period	μCi/sec	1.11E-04	1.15E-04	4.55E-05	9.22E-05	
3. Percent of ODCM limit	%	N/A	N/A	N/A	N/A	
4. Gross alpha radioactivity	Ci	<LLD ⁽²⁾	<LLD ⁽²⁾	<LLD ⁽²⁾	<LLD ⁽²⁾	

D. Tritium						
1. Total Release	Ci	4.38E+01	2.76E+01	3.58E+01	2.75E+01	6.3
2. Average release rate for the period	μCi/sec	5.63E+00	3.51E+00	4.50E+00	3.45E+00	
3. Percent of ODCM limit	%	N/A	N/A	N/A	N/A	

E. Iodine 131 & 133, Tritium & Particulate					
1. Percent of ODCM limit	%	3.32E-01	6.47E-01	5.59E-01	7.38E-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
2006 Annual Radioactive Effluent Release Report**

Effluent & Waste Disposable Summary

Gaseous Effluents Release Point Main Chimney (Elevated)

Period: January – December 2006

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 ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Kr-85m	Ci	4.94E+00	9.07E+00	8.31E+00	4.57E+00	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Kr-87	Ci	9.23E-01	5.64E-01	8.86E-01	9.11E-01	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Kr-88	Ci	6.04E+00	4.67E+00	7.08E+00	5.47E+00	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Xe-131M	Ci	5.04E-02	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Xe-133	Ci	6.10E+00	3.77E+00	5.43E+00	4.15E+00	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Xe-135	Ci	7.00E-01	3.59E-01	3.57E+00	4.96E-01	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Xe-135m	Ci	2.63E+00	1.74E+00	5.81E+00	3.89E+00	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Xe-138	Ci	1.01E+01	7.07E+00	1.13E+01	1.53E+01	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ar-41	Ci	1.41E+00	9.36E-01	1.58E+00	1.02E+00	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Total for Period	Ci	3.29E+01	2.82E+01	4.40E+01	3.58E+01	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
2. Iodines									
I-131	Ci	1.66E-04	3.87E-04	3.46E-04	4.54E-04	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
I-133	Ci	8.83E-04	8.99E-04	1.65E-03	1.97E-03	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
I-135	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Total for Period	Ci	1.05E-03	1.29E-03	2.00E-03	2.42E-03	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
3. Particulates									
Sr-89	Ci	1.24E-05	1.81E-05	7.15E-05	5.25E-05	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Sr-90	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Cs-134	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Cs-137	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ba-140	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	2.94E-05	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
La-140	Ci	<LLD ⁽¹⁾	2.06E-05	<LLD ⁽¹⁾	1.56E-05	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Cr-51	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Mn-54	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Co-58	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Co-60	Ci	8.96E-05	3.22E-05	1.54E-05	5.60E-05	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Mo-99	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ag-110m	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ce-141	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ce-144	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Total for Period	Ci	1.02E-04	7.09E-05	1.16E-04	1.24E-04	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾

(1) Gaseous LLD's reported on page 6 of 70

(2) No gaseous batch releases

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Effluent & Waste Disposable Summary

Gaseous Effluents Release Point Reactor Vents (Mixed Mode)

Period: January – December 2006

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 ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Kr-85m	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Kr-87	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Kr-88	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Xe-131M	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Xe-133	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Xe-135	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Xe-135m	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Xe-138	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ar-41	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Total for Period	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
2. Iodines									
I-131	Ci	1.18E-05	5.29E-06	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
I-133	Ci	6.23E-05	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
I-135	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Total for Period	Ci	7.41E-05	5.29E-06	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
3. Particulates									
Sr-89	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Sr-90	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Cs-134	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Cs-137	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	7.24E-05	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ba-140	Ci	8.13E-05	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
La-140	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Cr-51	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Mn-54	Ci	3.85E-05	2.27E-05	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Co-58	Ci	1.24E-05	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Co-60	Ci	5.38E-04	7.92E-04	2.46E-04	5.36E-04	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Mo-99	Ci	6.36E-05	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ag-110m	Ci	4.38E-06	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ce-141	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ce-144	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Zn-65	Ci	2.03E-05	1.73E-05	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ce-144	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾
Total for Period	Ci	7.59E-04	8.32E-04	2.46E-04	6.08E-04	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾	N/A ⁽²⁾

(1) Gaseous LLD's reported on page 6 of 70

(2) No gaseous batch releases

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Effluent & Waste Disposal Summary

Liquid Effluents – Summation of all Releases

Period: January – December 2006

Unit: 1 & 2

A. Fission & Activation Products	Unit	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Est. Total Error %
1. Total Release (not including tritium, gases & alpha)	Ci	5.27E-05	2.76E-04	2.01E-05	<LLD ⁽²⁾	4.1
2. Average diluted concentration during period	μCi/mL	2.03E-13	2.10E-10	4.08E-14	N/A ⁽⁴⁾	
3. Percent of applicable limit ⁽¹⁾	WB	1.72E-04	6.93E-02	4.45E-05	<LLD ⁽²⁾	
	O	8.19E-05	3.42E-02	2.12E-05	<LLD ⁽²⁾	
4. Maximum diluted concentration during batch discharges	μCi/mL	N/A ⁽³⁾	1.86E-10	N/A ⁽³⁾	N/A ⁽³⁾	

B. Tritium						
1. Total Release	Ci	<LLD ⁽²⁾	1.04E+00	<LLD ⁽²⁾	<LLD ⁽²⁾	4.1
2. Average diluted concentration during period	μCi/mL	N/A	7.94E-07	N/A	N/A	
3. Percent of applicable limit	%	N/A	2.65E-02	N/A	N/A	

C. Dissolved & Entrained Gases						
1. Total Release	Ci	<LLD ⁽²⁾	<LLD ⁽²⁾	<LLD ⁽²⁾	<LLD ⁽²⁾	4.1
2. Average diluted concentration during period	μCi/mL	N/A	N/A	N/A	N/A	
3. Percent of applicable limit	%	N/A	N/A	N/A	N/A	

D. Gross Alpha Activity						
1. Total Release	Ci	<LLD ⁽²⁾	<LLD ⁽²⁾	<LLD ⁽²⁾	<LLD ⁽²⁾	14.8

E. Volume Of Waste Released (prior to dilution)	Liters	1.42E+05	3.03E+05	1.11E+05	0.00E+00
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F. Volume Of Dilution Water Used During Period	Liters	2.60E+11	3.82E+11	4.93E+11	3.23E+11
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- (1) Whole body/organ (ODCM)
- (2) Liquid LLD's reported on page 7 of 70
- (3) No liquid batch discharges
- (4) No liquid radioactivity released

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Effluent & Waste Disposal Summary

Liquid Effluents Release Point Mississippi River

Period: January – December 2006

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
Sr-89	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Sr-90	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Cs-134	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Cs-137	Ci	1.96E-05	1.49E-05	1.36E-05	<LLD ⁽¹⁾	N/A ⁽²⁾	5.24E-05	N/A ⁽²⁾	N/A ⁽²⁾
I-131	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Co-58	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Co-60	Ci	3.31E-05	1.70E-05	6.46E-06	<LLD ⁽¹⁾	N/A ⁽²⁾	1.27E-04	N/A ⁽²⁾	N/A ⁽²⁾
Fe-59	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Zn-65	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Mn-54	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Cr-51	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Zr-95	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Nb-95	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Mo-99	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Tc-99m	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ba-140	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
La-140	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ce-141	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Ag-110m	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Fe-55	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Zn-65	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	6.46E-05	N/A ⁽²⁾	N/A ⁽²⁾
	Ci								
	Ci								
Total for Period	Ci	5.27E-05	3.19E-05	2.01E-05	<LLD ⁽¹⁾	N/A ⁽²⁾	2.44E-04	N/A ⁽²⁾	N/A ⁽²⁾
Xe-133	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾
Xe-135	Ci	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	<LLD ⁽¹⁾	N/A ⁽²⁾	N/A ⁽²⁾

(1) Liquid LLD's reported on page 7 of 70

(2) No batch releases

**Quad Cities Nuclear Power Station
2006 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	3.65E-06	None
Kr-85m	uCi/cc	1.39E-08	None
Kr-87	uCi/cc	4.75E-08	1E-04
Kr-88	uCi/cc	4.63E-08	1E-04
Xe-133	uCi/cc	3.12E-08	1E-04
Xe-133m	uCi/cc	8.84E-08	1E-04
Xe-135	uCi/cc	1.02E-08	1E-04
Xe-135m	uCi/cc	1.07E-06	None
Xe-131m	uCi/cc	3.89E-07	None
Xe-138	uCi/cc	3.17E-06	1E-04
Ar-41	uCi/cc	3.40E-08	None
NUCLIDE LOWER LIMITS OF DETECTION (LLD's) 2. Iodines	UNIT	LLD Value	ODCM Required LLD*
I-131	uCi/cc	6.06E-13	1E-12
I-133	uCi/cc	8.71E-12	1E-10
I-135	uCi/cc	1.29E-08	None
NUCLIDE LOWER LIMITS OF DETECTION (LLD's) 3. Particulates and Tritium	UNIT	LLD Value	ODCM Required LLD*
H-3	uCi/cc	2.95E-11	1E-06
Sr-89	uCi/cc	8.56E-13	1E-11
Sr-90	uCi/cc	2.08E-13	1E-11
Cs-134	uCi/cc	4.06E-13	1E-11
Cs-137	uCi/cc	5.05E-13	1E-11
Ba-140	uCi/cc	1.72E-12	None
La-140	uCi/cc	2.36E-12	None
Mn-54	uCi/cc	3.81E-13	1E-11
Co-58	uCi/cc	4.13E-13	1E-11
Fe-59	uCi/cc	7.57E-13	1E-11
Co-60	uCi/cc	8.85E-13	1E-11
Zn-65	uCi/cc	1.37E-12	1E-11
Mo-99	uCi/cc	7.13E-12	1E-11
Ce-141	uCi/cc	5.57E-13	1E-11
Ce-144	uCi/cc	2.37E-12	1E-11
Aq-110m	uCi/cc	4.60E-13	None
Ba-133	uCi/cc	5.59E-13	None
Cr-51	uCi/cc	3.57E-12	None
Gross Alpha	uCi/cc	2.67E-13	1E-11

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

**Quad Cities Nuclear Power Station
2006 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	3.19E-06	1E-05
Sr-89	uCi/cc	3.97E-08	5E-08
Sr-90	uCi/cc	1.73E-08	5E-08
Fe-55	uCi/cc	9.53E-07	1E-06
Kr-85	uCi/cc	1.48E-05	None*
Kr-87	uCi/cc	2.50E-07	1E-05
Kr-88	uCi/cc	2.32E-07	1E-05
Xe-133	uCi/cc	1.31E-07	1E-05
Xe-133m	uCi/cc	3.81E-07	1E-05
Xe-135	uCi/cc	5.24E-08	1E-05
Xe-138	uCi/cc	5.75E-06	1E-05
Mn-54	uCi/cc	5.74E-08	5E-07
Co-58	uCi/cc	7.19E-08	5E-07
Co-60	uCi/cc	1.12E-07	5E-07
Zn-65	uCi/cc	1.43E-07	5E-07
Mo-99	uCi/cc	4.16E-07	5E-07
I-131	uCi/cc	5.01E-08	1E-06
Cs-134	uCi/cc	4.55E-08	5E-07
Cs-137	uCi/cc	7.03E-08	5E-07
Ce-141	uCi/cc	8.29E-08	5E-07
Ce-144	uCi/cc	3.40E-07	5E-06
Gross Alpha	uCi/cc	9.62E-08	1E-07
Fe-59	uCi/cc	1.18E-07	5E-07
Cr-51	uCi/cc	4.81E-07	None
Ag-110m	uCi/cc	6.40E-08	None

* Kr-85 required by UFSAR section 9.1.3.3.

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Supplemental Information

Facility: Quad Cities Nuclear Power Station January – December 2006

Licensee: Exelon Generation Company

1. Regulatory Limits

a. For Noble Gases:

Dose rate (per site)

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

Dose Gamma Radiation (per unit)

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

Beta Radiation (per unit)

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. (per site)

Dose (per unit)

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

d. For Liquid: (per unit)

Less than or equal to 1.5 mrem to the whole body during any calendar quarter.
Less than or equal to 5 mrem to any organ during any calendar quarter.
Less than or equal to 3 mrem to the whole body during any calendar year.
Less than or equal to 10 mrem to any organ during any calendar year.

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

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 2.0-5 and 2.0-6 from the Offsite Dose Calculation Manual Part II Chapter 2. 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 2.0-1 and 2.0-2 from the Offsite Dose Calculation Manual Part II Chapter 2. 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:

8.52E-01 MeV for Quarter 1
7.94E-01 MeV for Quarter 2
7.18E-01 MeV for Quarter 3
7.50E-01 MeV for Quarter 4

4. Measurements and Approximations of Total Radioactivity

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

- a,b,c. 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 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
2006 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
2006 Annual Radioactive Effluent Release Report**

Supplemental Information

5. Batch Releases

a. Liquid

- | | | |
|----|----------------------|---|
| 1. | Number of releases: | 1 |
| 2. | Total time: | 7.14E+02 minutes |
| 3. | Maximum time: | 7.14E+02 minutes |
| 4. | Average time: | 7.14E+02 minutes |
| 5. | Minimum time: | 7.14E+02 minutes |
| 6. | Average stream flow: | 61.9 gpm (discharge)
4.85E+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. Beginning in October 2006, the 2A RHR heat exchanger was not included in the monthly report. The residual radioactivity was no longer included because it became an insignificant source. The small amount of radioactivity originating from the 2A RHR heat exchanger during the time period January-September 2006 is 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. Beginning in October 2006, the 1B RHR heat exchanger was not included in the monthly report. The residual radioactivity was no longer included because it became an insignificant source. The small amount of radioactivity originating from the 1B RHR heat exchanger during the time period January-September 2006 is included in the "continuous" liquid section of this report.

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Supplemental Information

b. Gaseous

1. A small nuclear fuel leak developed in November 2005 on Unit 2. The leaking fuel was identified and suppressed for the remainder of the cycle. The leaking fuel was replaced during Q2R18 in April of 2006. The radioactivity attributed to this nuclear fuel leak was included in the monthly effluent calculations.
2. In March of 2006, a waste collector filter was changed out. Air samples taken near an adjacent door in radwaste indicated that a small amount of activity was released to the environment. The small amount of activity outside the door indicates that some outward airflow occurred while the door was open. The small amount of particulate gaseous radioactivity released was estimated to be 0.18 μCi . This nominal activity was included in the monthly effluent calculations.

7. Radiological Impact on Man

a. Liquid Dose to a Member of the Public for 2006:

Total Body: 2.09E-03 mrem

Organ: 3.43E-03 mrem

b. Gaseous Dose to a Member of the Public for 2006:

Total Body: 9.24E-03 mrem

Skin: 9.49E-04 mrem

Organ (Particulate/Iodine): 1.71E-01 mrem

c. Direct Radiation Dose to a Member of the Public for 2006:

Total Body: 6.62 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

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Supplemental Information

- 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 2006.

Submitted by: Blake A. Young
Blake A. Young

Date: 4/17/07

Reviewed by: James G. Wooldridge
James G. Wooldridge

Date: 4/18/07

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006

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	8	0	0	0	8
NNE	0	0	5	2	0	0	7
NE	0	0	0	0	0	0	0
ENE	0	3	0	0	0	0	3
E	0	0	2	0	0	0	2
ESE	0	0	4	2	0	0	6
SE	0	3	7	0	0	0	10
SSE	0	10	16	0	0	0	26
S	0	4	0	0	0	0	4
SSW	0	16	5	0	0	0	21
SW	0	6	5	0	0	0	11
WSW	0	0	8	0	0	0	8
W	0	2	3	1	0	0	6
WNW	0	0	9	4	0	0	13
NW	0	2	21	0	0	0	23
NNW	0	1	4	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	0	47	97	9	0	0	153

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006

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	0	6	0	0	0	6
NNE	0	3	4	1	0	0	8
NE	0	2	0	0	0	0	2
ENE	0	2	1	0	0	0	3
E	0	1	1	0	0	0	2
ESE	0	0	2	0	0	0	2
SE	0	0	1	0	0	0	1
SSE	0	3	2	0	0	0	5
S	0	3	0	0	0	0	3
SSW	0	2	0	0	0	0	2
SW	0	2	0	1	0	0	3
WSW	0	1	0	0	0	0	1
W	0	2	0	0	0	0	2
WNW	1	3	2	0	0	0	6
NW	0	3	1	0	0	0	4
NNW	0	0	3	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	1	27	23	2	0	0	53

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 2006 Annual Radioactive Effluent Release Report

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006
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	1	5	1	0	0	7
NNE	0	3	3	0	0	0	6
NE	0	1	4	1	0	0	6
ENE	0	3	3	1	0	0	7
E	0	2	2	3	0	0	7
ESE	0	3	2	1	0	0	6
SE	0	5	2	0	0	0	7
SSE	0	6	2	0	0	0	8
S	1	2	0	0	0	0	3
SSW	2	2	0	0	0	0	4
SW	0	8	2	0	0	0	10
WSW	1	1	1	3	0	0	6
W	0	10	2	0	0	0	12
WNW	0	3	6	0	0	0	9
NW	0	3	7	1	0	0	11
NNW	0	3	3	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	4	56	44	11	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 2006 Annual Radioactive Effluent Release Report

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006
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	21	28	1	0	0	52
NNE	5	20	32	2	0	0	59
NE	2	13	24	8	0	0	47
ENE	1	19	29	11	0	0	60
E	3	20	30	3	0	0	56
ESE	1	22	13	6	0	0	42
SE	3	23	16	0	0	0	42
SSE	0	17	3	0	0	0	20
S	4	17	2	0	0	0	23
SSW	5	10	1	0	0	0	16
SW	8	30	23	1	0	0	62
WSW	1	30	12	12	1	0	56
W	4	41	34	18	0	0	97
WNW	7	87	102	15	0	0	211
NW	2	88	68	2	0	0	160
NNW	2	33	28	0	0	0	63
Variable	0	0	0	0	0	0	0
Total	50	491	445	79	1	0	1066

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006
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	10	4	0	0	0	18
NNE	2	7	3	0	0	0	12
NE	4	6	1	0	0	0	11
ENE	1	22	2	0	0	0	25
E	1	18	4	1	0	0	24
ESE	3	22	16	0	0	0	41
SE	6	19	15	0	0	0	40
SSE	7	15	3	0	0	0	25
S	3	7	9	0	0	0	19
SSW	5	5	6	0	0	0	16
SW	4	16	5	0	0	0	25
WSW	10	19	1	1	0	0	31
W	8	39	0	0	0	0	47
WNW	14	32	2	0	0	0	48
NW	12	29	3	0	0	0	44
NNW	2	8	2	0	0	0	12
Variable	0	0	0	0	0	0	0
Total	86	274	76	2	0	0	438

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006
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	3	2	0	0	0	0	5
NNE	1	3	0	0	0	0	4
NE	5	0	0	0	0	0	5
ENE	5	1	0	0	0	0	6
E	4	4	0	0	0	0	8
ESE	8	46	0	0	0	0	54
SE	10	10	0	0	0	0	20
SSE	10	4	0	0	0	0	14
S	10	0	0	0	0	0	10
SSW	7	6	0	0	0	0	13
SW	2	0	0	0	0	0	2
WSW	5	1	0	0	0	0	6
W	17	2	0	0	0	0	19
WNW	6	0	1	0	0	0	7
NW	2	0	0	0	0	0	2
NNW	2	1	0	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	97	80	1	0	0	0	178

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006
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	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	3	0	0	0	0	0	3
E	2	1	0	0	0	0	3
ESE	7	15	0	0	0	0	22
SE	7	1	0	0	0	0	8
SSE	8	0	0	0	0	0	8
S	2	0	0	0	0	0	2
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	0	0	0	0	0	0	0
WNW	1	0	0	0	0	0	1
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	33	17	0	0	0	0	50

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006
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	0	0	0	0
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	1	3	3	7
S	0	0	0	1	0	1	2
SSW	0	0	1	1	0	0	2
SW	0	1	1	1	0	0	3
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	2	2
NW	0	0	1	3	0	0	4
NNW	0	0	1	3	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	1	4	10	3	6	24

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: 41

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006

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	3	0	0	3
NNE	0	0	0	3	2	0	5
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	1	0	0	1
ESE	0	0	0	2	2	0	4
SE	0	0	0	0	0	0	0
SSE	0	0	3	4	4	0	11
S	0	0	1	3	2	1	7
SSW	0	0	3	4	2	0	9
SW	0	0	1	2	0	0	3
WSW	0	0	1	4	0	0	5
W	0	0	2	0	0	0	2
WNW	0	0	2	1	3	2	8
NW	0	0	1	15	3	0	19
NNW	0	0	2	1	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	0	16	43	18	3	80

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: 41

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006
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	7	6	0	0	13
NNE	0	0	6	3	1	0	10
NE	0	0	5	1	2	0	8
ENE	0	4	5	0	2	0	11
E	0	0	1	1	2	0	4
ESE	0	1	2	2	1	0	6
SE	0	0	0	0	2	0	2
SSE	0	2	3	4	6	0	15
S	0	2	3	2	0	0	7
SSW	0	1	3	5	2	0	11
SW	0	2	3	2	2	0	9
WSW	0	0	1	1	1	0	3
W	0	0	4	1	0	0	5
WNW	0	1	1	2	2	0	6
NW	0	0	4	3	1	0	8
NNW	0	0	4	7	1	0	12
Variable	0	0	0	0	0	0	0
Total	0	13	52	40	25	0	130

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: 41

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006
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	5	22	29	5	0	62
NNE	3	4	19	31	3	1	61
NE	0	6	11	14	19	4	54
ENE	0	7	6	16	20	7	56
E	1	2	16	16	17	2	54
ESE	2	5	8	14	14	7	50
SE	0	4	10	12	12	1	39
SSE	0	3	11	19	9	1	43
S	1	3	11	11	2	1	29
SSW	2	10	6	8	3	1	30
SW	0	9	15	30	6	1	61
WSW	1	4	7	16	8	10	46
W	0	6	27	19	16	20	88
WNW	0	8	40	68	56	21	193
NW	0	14	51	101	33	7	206
NNW	1	8	21	37	16	1	84
Variable	0	0	0	0	0	0	0
Total	12	98	281	441	239	85	1156

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 21
Hours of missing stability measurements in all stability classes: 41

Quad Cities Nuclear Power Station 2006 Annual Radioactive Effluent Release Report

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006
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	6	11	1	0	19
NNE	0	3	8	10	2	0	23
NE	0	3	8	7	0	0	18
ENE	0	0	7	12	1	0	20
E	0	0	13	4	2	0	19
ESE	0	0	4	14	11	0	29
SE	0	1	6	20	17	1	45
SSE	1	0	7	19	13	7	47
S	0	5	6	19	9	5	44
SSW	0	1	5	4	8	6	24
SW	0	2	5	11	6	2	26
WSW	0	3	5	11	2	1	22
W	0	1	11	8	1	0	21
WNW	1	4	13	19	1	0	38
NW	2	9	16	29	0	1	57
NNW	0	1	9	20	0	0	30
Variable	0	0	0	0	0	0	0
Total	4	34	129	218	74	23	482

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: 41

Quad Cities Nuclear Power Station 2006 Annual Radioactive Effluent Release Report

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006

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	6	3	1	0	0	11
NNE	2	2	6	1	0	0	11
NE	2	5	3	2	0	0	12
ENE	0	0	1	0	0	0	1
E	0	1	1	2	0	0	4
ESE	2	2	2	3	1	0	10
SE	0	3	3	23	11	0	40
SSE	0	4	10	12	2	0	28
S	0	0	6	6	1	0	13
SSW	0	0	3	19	2	0	24
SW	0	1	3	3	3	0	10
WSW	0	1	1	1	0	0	3
W	0	2	5	5	0	0	12
WNW	0	1	0	1	1	0	3
NW	0	3	2	1	0	0	6
NNW	0	4	0	3	0	0	7
Variable	0	0	0	0	0	0	0
Total	7	35	49	83	21	0	195

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: 41

Quad Cities Nuclear Power Station 2006 Annual Radioactive Effluent Release Report

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: January - March 2006
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	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	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	1	0	0	1
SE	0	1	1	1	1	0	4
SSE	0	0	0	4	0	0	4
S	0	0	1	6	0	0	7
SSW	0	2	0	7	0	0	9
SW	0	0	0	0	0	0	0
WSW	1	0	0	0	0	0	1
W	0	2	0	0	0	0	2
WNW	0	1	0	0	0	0	1
NW	0	1	0	0	0	0	1
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	1	7	2	19	1	0	30

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: 41

Quad Cities Nuclear Power Station 2006 Annual Radioactive Effluent Release Report

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	2	7	0	0	0	9
NNE	0	13	7	0	0	0	20
NE	0	3	4	1	0	0	8
ENE	0	5	6	0	0	0	11
E	0	6	0	0	0	0	6
ESE	0	5	9	3	0	0	17
SE	0	6	5	0	0	0	11
SSE	0	9	4	0	0	0	13
S	0	23	10	0	0	0	33
SSW	0	22	13	0	0	0	35
SW	0	15	5	0	0	0	20
WSW	0	8	13	1	0	0	22
W	0	17	6	0	0	0	23
WNW	0	12	32	0	0	0	44
NW	0	13	12	5	0	0	30
NNW	0	0	9	2	0	0	11
Variable	0	0	0	0	0	0	0
Total	0	159	142	12	0	0	313

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	3	2	0	0	0	5
NNE	0	3	1	0	0	0	4
NE	0	1	0	0	0	0	1
ENE	0	2	2	0	0	0	4
E	0	1	0	0	0	0	1
ESE	0	2	0	1	0	0	3
SE	0	1	1	0	0	0	2
SSE	0	1	0	0	0	0	1
S	0	1	0	0	0	0	1
SSW	0	8	0	0	0	0	8
SW	0	2	0	0	0	0	2
WSW	0	4	1	0	0	0	5
W	0	9	1	0	0	0	10
WNW	0	5	2	0	0	0	7
NW	0	5	3	0	0	0	8
NNW	0	1	2	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	49	15	1	0	0	65

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	5	1	0	0	10
NNE	0	4	4	0	0	0	8
NE	0	5	0	2	0	0	7
ENE	0	6	1	0	0	0	7
E	0	4	1	0	0	0	5
ESE	0	8	3	0	0	0	11
SE	0	5	3	0	0	0	8
SSE	0	4	0	0	0	0	4
S	0	3	4	0	0	0	7
SSW	0	7	1	0	0	0	8
SW	1	4	0	0	0	0	5
WSW	0	10	1	0	0	0	11
W	2	11	2	0	0	0	15
WNW	1	4	3	0	0	0	8
NW	0	7	5	0	0	0	12
NNW	0	8	5	0	0	0	13
Variable	0	0	0	0	0	0	0
Total	4	94	38	3	0	0	139

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	0	15	11	0	0	0	26
NNE	1	12	5	3	0	0	21
NE	2	28	25	11	0	0	66
ENE	3	25	19	2	0	0	49
E	4	14	12	1	0	0	31
ESE	5	17	28	12	0	0	62
SE	5	15	11	4	0	0	35
SSE	1	13	1	0	0	0	15
S	2	14	2	0	0	0	18
SSW	3	16	7	0	0	0	26
SW	3	19	3	0	0	0	25
WSW	5	17	12	0	0	0	34
W	6	22	13	0	0	0	41
WNW	6	44	28	2	0	0	80
NW	3	48	26	11	0	0	88
NNW	0	21	8	0	0	0	29
Variable	0	0	0	0	0	0	0
Total	49	340	211	46	0	0	646

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	10	0	0	0	0	14
NNE	4	3	3	0	0	0	10
NE	6	11	7	0	0	0	24
ENE	7	15	2	0	0	0	24
E	8	22	1	1	0	0	32
ESE	6	14	11	11	0	0	42
SE	8	20	1	0	0	0	29
SSE	11	29	2	0	0	0	42
S	13	20	2	0	0	0	35
SSW	9	11	4	0	0	0	24
SW	7	21	4	0	0	0	32
WSW	9	17	3	0	0	0	29
W	13	30	3	0	0	0	46
WNW	10	34	3	0	0	0	47
NW	9	33	3	0	0	0	45
NNW	3	19	1	0	0	0	23
Variable	0	0	0	0	0	0	0
Total	127	309	50	12	0	0	498

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	2	0	0	0	0	6
NNE	6	1	0	0	0	0	7
NE	5	0	0	0	0	0	5
ENE	11	3	0	0	0	0	14
E	9	1	0	0	0	0	10
ESE	27	14	0	0	0	0	41
SE	31	9	0	0	0	0	40
SSE	15	15	0	0	0	0	30
S	9	4	0	0	0	0	13
SSW	17	1	0	0	0	0	18
SW	9	3	0	0	0	0	12
WSW	6	1	0	0	0	0	7
W	17	2	0	0	0	0	19
WNW	18	5	0	0	0	0	23
NW	13	8	0	0	0	0	21
NNW	7	2	0	0	0	0	9
Variable	0	0	0	0	0	0	0
Total	204	71	0	0	0	0	275

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	2	0	0	0	0	0	2
NNE	2	0	0	0	0	0	2
NE	1	0	0	0	0	0	1
ENE	2	0	0	0	0	0	2
E	6	0	0	0	0	0	6
ESE	23	8	0	0	0	0	31
SE	8	0	0	0	0	0	8
SSE	11	0	0	0	0	0	11
S	3	0	0	0	0	0	3
SSW	10	0	0	0	0	0	10
SW	1	0	0	0	0	0	1
WSW	1	0	0	0	0	0	1
W	9	1	0	0	0	0	10
WNW	4	0	0	0	0	0	4
NW	2	2	0	0	0	0	4
NNW	1	0	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	86	11	0	0	0	0	97

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 **2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	2	0	0	2
NE	0	0	1	1	0	0	2
ENE	0	0	0	4	0	0	4
E	0	0	0	0	0	0	0
ESE	0	0	2	2	1	1	6
SE	0	0	0	2	1	0	3
SSE	0	0	1	3	0	0	4
S	0	0	4	12	5	3	24
SSW	0	0	4	5	7	0	16
SW	0	0	2	1	0	0	3
WSW	0	0	1	5	1	0	7
W	0	0	1	0	0	0	1
WNW	0	0	2	12	6	0	20
NW	0	0	1	6	2	1	10
NNW	0	0	0	0	3	2	5
Variable	0	0	0	0	0	0	0
Total	0	0	19	55	26	7	107

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: 29

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	1	5	0	0	6
NNE	0	1	11	0	0	0	12
NE	0	0	2	3	2	0	7
ENE	0	0	2	2	0	0	4
E	0	0	3	1	0	0	4
ESE	0	0	3	0	0	0	3
SE	0	0	5	3	1	0	9
SSE	0	0	6	0	1	0	7
S	0	0	0	3	4	1	8
SSW	0	0	5	10	1	0	16
SW	0	0	4	1	1	0	6
WSW	0	1	2	5	0	0	8
W	0	1	4	1	0	0	6
WNW	0	2	10	6	4	0	22
NW	0	2	10	4	1	1	18
NNW	0	0	2	3	2	1	8
Variable	0	0	0	0	0	0	0
Total	0	7	70	47	17	3	144

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: 29

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	6	5	1	0	14
NNE	0	3	7	3	0	0	13
NE	0	3	1	1	0	2	7
ENE	0	3	5	2	0	0	10
E	0	0	4	0	0	0	4
ESE	0	0	1	1	0	1	3
SE	0	4	3	0	0	0	7
SSE	0	1	3	3	0	1	8
S	0	1	2	2	2	1	8
SSW	0	5	4	8	2	0	19
SW	0	1	5	0	0	0	6
WSW	0	0	11	1	2	0	14
W	0	6	8	2	0	0	16
WNW	0	3	9	1	5	0	18
NW	0	5	6	9	2	0	22
NNW	0	0	3	6	0	0	9
Variable	0	0	0	0	0	0	0
Total	0	37	78	44	14	5	178

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: 29

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	5	15	10	6	0	36
NNE	0	4	11	3	0	2	20
NE	0	9	14	28	15	12	78
ENE	1	2	18	21	5	4	51
E	0	3	16	15	4	0	38
ESE	2	10	5	8	20	12	57
SE	0	3	6	11	12	15	47
SSE	1	3	4	5	5	1	19
S	1	5	12	12	15	3	48
SSW	2	6	8	17	6	2	41
SW	0	5	11	5	1	0	22
WSW	1	6	10	12	4	0	33
W	1	11	13	11	14	0	50
WNW	1	9	26	17	18	3	74
NW	1	8	30	25	22	20	106
NNW	0	7	18	11	5	3	44
Variable	0	0	0	0	0	0	0
Total	11	96	217	211	152	77	764

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: 29

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	4	12	6	1	0	24
NNE	1	1	4	8	0	0	14
NE	0	2	6	8	1	0	17
ENE	1	2	7	7	1	0	18
E	1	6	9	11	3	0	30
ESE	0	2	7	14	8	8	39
SE	0	2	4	12	7	1	26
SSE	0	3	8	20	12	0	43
S	0	2	10	39	18	4	73
SSW	0	2	8	18	7	3	38
SW	1	2	7	11	4	1	26
WSW	1	0	7	16	3	0	27
W	0	1	12	12	5	0	30
WNW	0	1	16	36	3	0	56
NW	0	2	10	25	4	0	41
NNW	0	2	13	15	7	0	37
Variable	0	0	0	0	0	0	0
Total	6	34	140	258	84	17	539

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 4

Hours of missing stability measurements in all stability classes: 29

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	3	6	4	2	0	15
NNE	0	1	10	3	0	0	14
NE	0	1	2	2	0	0	5
ENE	0	0	3	1	0	0	4
E	1	4	6	2	0	0	13
ESE	1	5	9	9	1	0	25
SE	0	3	6	21	4	0	34
SSE	0	4	7	18	3	0	32
S	0	0	13	23	3	0	39
SSW	0	2	7	17	0	0	26
SW	0	0	10	4	0	0	14
WSW	1	1	8	3	0	0	13
W	1	2	6	8	0	0	17
WNW	0	1	6	4	0	0	11
NW	2	1	12	5	0	0	20
NNW	0	0	9	8	2	0	19
Variable	0	0	0	0	0	0	0
Total	6	28	120	132	15	0	301

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: 29

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: April - June 2006

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	0	3	2	1	0	6
NNE	0	3	6	3	0	0	12
NE	0	4	2	1	0	0	7
ENE	1	0	0	0	0	0	1
E	3	3	1	0	0	0	7
ESE	0	1	2	1	0	0	4
SE	1	4	3	2	0	0	10
SSE	0	1	8	2	0	0	11
S	0	5	2	1	0	0	8
SSW	0	1	0	7	4	0	12
SW	0	1	3	7	0	0	11
WSW	0	3	1	2	0	0	6
W	0	0	4	0	0	0	4
WNW	0	1	1	0	0	0	2
NW	0	0	1	1	0	0	2
NNW	1	3	3	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	6	30	40	29	5	0	110

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: 29

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006
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	3	5	0	0	0	8
NNE	0	1	2	0	0	0	3
NE	0	5	2	0	0	0	7
ENE	0	9	11	0	0	0	20
E	0	2	0	0	0	0	2
ESE	0	8	2	0	0	0	10
SE	0	6	7	0	0	0	13
SSE	0	18	7	0	0	0	25
S	0	2	0	0	0	0	2
SSW	0	13	0	0	0	0	13
SW	0	26	3	0	0	0	29
WSW	0	8	2	0	0	0	10
W	0	18	2	0	0	0	20
WNW	0	7	1	0	0	0	8
NW	0	5	3	0	0	0	8
NNW	0	4	8	0	0	0	12
Variable	0	0	0	0	0	0	0
Total	0	135	55	0	0	0	190

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006

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	2	0	0	0	0	2
NE	0	5	2	0	0	0	7
ENE	0	8	1	0	0	0	9
E	0	5	0	0	0	0	5
ESE	0	3	0	0	0	0	3
SE	0	3	0	0	0	0	3
SSE	0	4	0	0	0	0	4
S	0	1	0	0	0	0	1
SSW	0	6	1	0	0	0	7
SW	0	12	1	0	0	0	13
WSW	0	3	0	0	0	0	3
W	0	9	0	0	0	0	9
WNW	0	1	1	0	0	0	2
NW	0	3	1	0	0	0	4
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	0	69	9	0	0	0	78

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006

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	5	0	0	0	9
NNE	0	1	0	0	0	0	1
NE	0	7	0	0	0	0	7
ENE	1	15	3	0	0	0	19
E	0	5	0	0	0	0	5
ESE	0	7	0	0	0	0	7
SE	1	11	3	0	0	0	15
SSE	0	9	0	0	0	0	9
S	1	9	0	0	0	0	10
SSW	0	14	1	0	0	0	15
SW	0	10	3	0	0	0	13
WSW	2	6	1	0	0	0	9
W	2	9	0	0	0	0	11
WNW	0	6	5	0	0	0	11
NW	1	12	2	0	0	0	15
NNW	0	12	2	0	0	0	14
Variable	0	0	0	0	0	0	0
Total	8	137	25	0	0	0	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: 0

Quad Cities Nuclear Power Station 2006 Annual Radioactive Effluent Release Report

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006
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	4	26	8	0	0	0	38
NNE	1	11	2	0	0	0	14
NE	8	40	6	0	0	0	54
ENE	5	61	15	0	0	0	81
E	9	27	7	0	0	0	43
ESE	8	38	0	0	0	0	46
SE	6	22	4	0	0	0	32
SSE	8	16	0	0	0	0	24
S	7	11	0	0	0	0	18
SSW	4	22	0	0	0	0	26
SW	10	38	12	0	0	0	60
WSW	7	22	6	0	0	0	35
W	7	31	2	1	0	0	41
WNW	4	32	5	0	0	0	41
NW	10	44	2	0	0	0	56
NNW	4	27	8	0	0	0	39
Variable	0	0	0	0	0	0	0
Total	102	468	77	1	0	0	648

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006
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	20	16	0	0	0	0	36
NNE	12	6	2	0	0	0	20
NE	10	21	2	0	0	0	33
ENE	25	24	1	0	0	0	50
E	28	9	1	0	0	0	38
ESE	21	13	6	0	0	0	40
SE	15	22	4	0	0	0	41
SSE	19	14	0	0	0	0	33
S	6	16	0	0	0	0	22
SSW	10	19	0	0	0	0	29
SW	17	38	10	0	0	0	65
WSW	24	13	3	0	0	0	40
W	15	19	0	0	0	0	34
WNW	15	11	0	0	0	0	26
NW	26	26	0	0	0	0	52
NNW	14	16	3	0	0	0	33
Variable	0	0	0	0	0	0	0
Total	277	283	32	0	0	0	592

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006
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	3	0	0	0	0	0	3
NNE	10	3	0	0	0	0	13
NE	12	0	0	0	0	0	12
ENE	7	5	0	0	0	0	12
E	18	0	0	0	0	0	18
ESE	23	7	0	0	0	0	30
SE	18	4	0	0	0	0	22
SSE	26	2	0	0	0	0	28
S	8	6	0	0	0	0	14
SSW	5	3	0	0	0	0	8
SW	10	1	0	0	0	0	11
WSW	8	1	0	0	0	0	9
W	10	2	0	0	0	0	12
WNW	8	5	0	0	0	0	13
NW	5	3	0	0	0	0	8
NNW	6	0	0	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	177	42	0	0	0	0	219

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006
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	2	0	0	0	0	0	2
NE	1	0	0	0	0	0	1
ENE	4	0	0	0	0	0	4
E	14	0	0	0	0	0	14
ESE	20	5	0	0	0	0	25
SE	19	0	0	0	0	0	19
SSE	11	0	0	0	0	0	11
S	14	0	0	0	0	0	14
SSW	10	1	0	0	0	0	11
SW	4	0	0	0	0	0	4
WSW	4	0	0	0	0	0	4
W	10	0	0	0	0	0	10
WNW	13	1	0	0	0	0	14
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	128	7	0	0	0	0	135

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006

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	1	0	0	1
ENE	0	0	0	9	0	0	9
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	2	0	0	0	2
SSE	0	0	0	4	2	2	8
S	0	0	0	0	0	0	0
SSW	0	0	1	1	0	0	2
SW	0	0	1	1	0	0	2
WSW	0	0	0	0	0	0	0
W	0	0	1	0	0	0	1
WNW	0	0	0	0	0	0	0
NW	1	0	0	0	0	0	1
NNW	0	0	0	1	0	0	1
Variable	0	0	0	0	0	0	0
Total	1	0	5	17	2	2	27

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: 11

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006
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	1	1	0	0	2
NNE	0	1	1	0	0	0	2
NE	0	1	3	1	0	0	5
ENE	0	0	11	1	0	0	12
E	0	0	1	0	0	0	1
ESE	0	0	4	1	0	0	5
SE	0	0	5	0	0	0	5
SSE	0	1	6	3	3	2	15
S	0	0	0	3	1	0	4
SSW	0	0	4	5	0	0	9
SW	0	1	5	4	0	0	10
WSW	0	0	3	0	0	0	3
W	0	3	5	4	0	0	12
WNW	0	0	1	3	0	0	4
NW	0	2	2	2	0	0	6
NNW	0	1	3	6	0	0	10
Variable	0	0	0	0	0	0	0
Total	0	10	55	34	4	2	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: 11

Quad Cities Nuclear Power Station 2006 Annual Radioactive Effluent Release Report

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006
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	3	5	1	0	0	9
NNE	0	1	0	2	0	0	3
NE	0	4	7	0	0	0	11
ENE	0	7	10	3	0	0	20
E	0	6	3	0	0	0	9
ESE	0	2	6	0	0	0	8
SE	0	2	7	0	1	0	10
SSE	0	4	1	8	0	0	13
S	0	2	3	2	0	1	8
SSW	0	3	5	8	2	0	18
SW	0	4	5	12	1	0	22
WSW	0	1	6	4	0	0	11
W	0	5	12	4	0	0	21
WNW	0	6	2	1	2	0	11
NW	0	2	3	2	1	0	8
NNW	0	7	2	4	0	0	13
Variable	0	0	0	0	0	0	0
Total	0	59	77	51	7	1	195

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: 11

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006
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	12	31	9	1	0	54
NNE	1	1	2	7	1	0	12
NE	0	5	30	17	1	0	53
ENE	1	12	45	28	2	0	88
E	0	12	21	4	2	0	39
ESE	0	7	19	15	2	0	43
SE	3	18	17	7	3	0	48
SSE	0	12	6	12	3	1	34
S	1	13	5	8	1	0	28
SSW	2	16	20	15	1	0	54
SW	0	12	17	20	13	1	63
WSW	1	10	12	8	2	0	33
W	0	16	22	19	2	1	60
WNW	0	9	15	21	3	1	49
NW	2	14	11	17	3	0	47
NNW	0	18	17	27	1	0	63
Variable	0	0	0	0	0	0	0
Total	12	187	290	234	41	4	768

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: 11

Quad Cities Nuclear Power Station 2006 Annual Radioactive Effluent Release Report

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006

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	10	18	8	0	0	36
NNE	0	4	14	7	1	0	26
NE	2	6	18	13	0	0	39
ENE	1	3	20	20	0	0	44
E	0	6	26	7	1	0	40
ESE	1	2	21	7	2	5	38
SE	1	5	21	15	6	1	49
SSE	1	3	9	20	12	0	45
S	0	3	8	23	2	0	36
SSW	0	2	5	31	16	0	54
SW	2	3	18	26	7	1	57
WSW	0	5	18	8	3	0	34
W	1	8	21	20	1	1	52
WNW	2	8	9	8	0	0	27
NW	2	5	15	8	0	0	30
NNW	0	8	20	15	0	0	43
Variable	0	0	0	0	0	0	0
Total	13	81	261	236	51	8	650

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: 11

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006

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	3	2	1	0	0	6
NNE	0	4	4	1	0	0	9
NE	0	4	3	2	0	0	9
ENE	0	3	2	2	0	0	7
E	0	6	6	4	0	0	16
ESE	1	5	6	7	0	0	19
SE	0	1	9	20	3	0	33
SSE	0	1	14	9	3	0	27
S	0	1	4	14	1	0	20
SSW	1	3	10	27	3	0	44
SW	0	2	6	5	0	0	13
WSW	2	4	6	8	0	0	20
W	1	1	5	3	0	0	10
WNW	0	3	5	9	0	0	17
NW	0	4	2	0	1	0	7
NNW	0	2	5	2	0	0	9
Variable	0	0	0	0	0	0	0
Total	5	47	89	114	11	0	266

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: 11

Quad Cities Nuclear Power Station **2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: July - September 2006

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	3	2	2	1	0	0	8
NNE	0	1	2	0	0	0	3
NE	0	2	0	0	0	0	2
ENE	1	0	2	0	0	0	3
E	2	3	1	0	0	0	6
ESE	3	1	3	0	0	0	7
SE	1	4	5	3	2	0	15
SSE	1	2	4	10	0	0	17
S	0	3	5	2	0	0	10
SSW	3	8	6	7	1	0	25
SW	0	3	2	4	0	0	9
WSW	2	3	4	6	0	0	15
W	1	6	5	3	0	0	15
WNW	1	4	5	5	0	0	15
NW	2	2	3	5	0	0	12
NNW	0	4	7	4	0	0	15
Variable	0	0	0	0	0	0	0
Total	20	48	56	50	3	0	177

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 7

Hours of missing stability measurements in all stability classes: 11

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006

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	1	0	0	2
NNE	0	0	9	0	0	0	9
NE	0	1	1	0	0	0	2
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	1	0	0	0	1
SE	0	3	6	0	0	0	9
SSE	0	19	4	0	0	0	23
S	0	4	8	0	0	0	12
SSW	0	16	2	0	0	0	18
SW	0	12	3	0	0	0	15
WSW	0	0	0	0	0	0	0
W	0	1	3	5	0	0	9
WNW	0	1	9	1	0	0	11
NW	0	0	6	0	0	0	6
NNW	0	0	3	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	57	56	7	0	0	120

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006

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	0	3	0	0	0	3
NNE	0	0	3	1	0	0	4
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	1	1	0	0	0	2
SE	0	2	0	0	0	0	2
SSE	0	6	0	0	0	0	6
S	0	2	0	0	0	0	2
SSW	0	5	0	0	0	0	5
SW	0	9	1	0	0	0	10
WSW	0	2	0	0	0	0	2
W	0	1	1	5	0	0	7
WNW	0	0	1	2	0	0	3
NW	0	1	4	0	0	0	5
NNW	0	3	2	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	0	32	16	8	0	0	56

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006

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	2	10	2	0	0	14
NNE	0	0	0	0	0	0	0
NE	0	0	4	2	0	0	6
ENE	0	0	0	0	0	0	0
E	0	0	1	0	0	0	1
ESE	0	3	2	0	0	0	5
SE	0	2	1	0	0	0	3
SSE	0	10	1	0	0	0	11
S	0	5	1	0	0	0	6
SSW	0	8	0	0	0	0	8
SW	0	11	1	0	0	0	12
WSW	0	3	0	0	0	0	3
W	0	6	6	2	0	0	14
WNW	0	5	9	1	0	0	15
NW	0	5	7	0	0	0	12
NNW	0	4	2	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	0	64	45	7	0	0	116

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006

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	9	57	13	0	0	80
NNE	0	3	13	9	0	0	25
NE	2	35	23	2	0	0	62
ENE	4	16	7	1	0	0	28
E	3	22	30	2	0	0	57
ESE	3	22	17	5	0	0	47
SE	5	25	10	0	0	0	40
SSE	5	21	2	0	0	0	28
S	2	22	5	0	0	0	29
SSW	7	24	4	0	0	0	35
SW	6	17	10	0	0	0	33
WSW	6	21	26	0	0	0	53
W	7	43	73	18	0	0	141
WNW	2	53	67	13	0	0	135
NW	4	65	34	2	0	0	105
NNW	1	23	26	0	0	0	50
Variable	0	0	0	0	0	0	0
Total	58	421	404	65	0	0	948

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006
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	3	0	0	0	0	7
NNE	4	4	0	0	0	0	8
NE	7	8	5	0	0	0	20
ENE	1	12	0	0	0	0	13
E	5	7	0	1	0	0	13
ESE	10	26	1	1	0	0	38
SE	10	42	4	0	0	0	56
SSE	13	30	0	0	0	0	43
S	6	38	1	0	0	0	45
SSW	15	32	3	0	0	0	50
SW	11	32	13	0	0	0	56
WSW	5	26	6	1	0	0	38
W	9	26	12	0	0	0	47
WNW	14	49	7	0	0	0	70
NW	10	15	0	0	0	0	25
NNW	4	8	2	0	0	0	14
Variable	0	0	0	0	0	0	0
Total	128	358	54	3	0	0	543

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006
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	2	3	0	0	0	0	5
NNE	0	2	0	0	0	0	2
NE	3	3	0	0	0	0	6
ENE	5	0	0	0	0	0	5
E	4	2	0	0	0	0	6
ESE	18	25	0	0	0	0	43
SE	28	14	0	0	0	0	42
SSE	19	8	0	0	0	0	27
S	7	6	0	0	0	0	13
SSW	2	4	0	0	0	0	6
SW	6	0	0	0	0	0	6
WSW	7	0	0	0	0	0	7
W	7	3	0	0	0	0	10
WNW	1	0	0	0	0	0	1
NW	2	0	0	0	0	0	2
NNW	0	1	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	111	71	0	0	0	0	182

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006

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	0	1	0	0	0	0	1
NE	1	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	6	1	0	0	0	0	7
ESE	41	57	1	1	0	0	100
SE	22	3	0	0	0	0	25
SSE	13	0	0	0	0	0	13
S	4	0	0	0	0	0	4
SSW	4	0	0	0	0	0	4
SW	1	0	0	0	0	0	1
WSW	1	0	0	0	0	0	1
W	0	0	0	0	0	0	0
WNW	1	0	0	0	0	0	1
NW	4	1	0	0	0	0	5
NNW	2	0	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	101	63	1	1	0	0	166

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006

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	1	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	1	2	2	0	5
SSE	0	0	1	5	1	0	7
S	0	0	1	6	1	0	8
SSW	0	0	2	3	0	0	5
SW	0	0	1	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	1	1	2
NW	0	0	0	0	2	0	2
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	0	6	17	7	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: 1

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006

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	2	0	0	2
NNE	0	0	6	2	0	0	8
NE	0	0	1	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	2	1	1	0	4
SSE	0	0	4	0	1	0	5
S	0	0	1	3	3	0	7
SSW	0	0	10	5	0	0	15
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	1	0	2	3
WNW	0	0	0	4	1	0	5
NW	0	0	0	1	2	0	3
NNW	0	0	0	0	2	0	2
Variable	0	0	0	0	0	0	0
Total	0	0	24	19	10	2	55

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006

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	0	5	0	0	5
NNE	0	0	1	1	0	1	3
NE	0	0	1	1	3	0	5
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	1	1	0	0	0	2
SE	0	0	3	0	1	0	4
SSE	0	0	3	4	0	0	7
S	0	0	5	2	2	1	10
SSW	0	3	8	6	4	0	21
SW	0	0	4	2	0	0	6
WSW	0	0	0	0	0	0	0
W	0	1	3	1	0	4	9
WNW	0	0	5	1	5	4	15
NW	0	0	4	5	3	0	12
NNW	0	0	10	2	0	0	12
Variable	0	0	0	0	0	0	0
Total	0	5	48	30	18	10	111

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
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006
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	2	9	37	36	2	86
NNE	0	2	1	4	12	3	22
NE	0	4	5	43	12	1	65
ENE	1	0	8	10	4	3	26
E	0	6	14	24	6	1	51
ESE	2	8	11	16	13	6	56
SE	1	4	5	15	7	0	32
SSE	2	8	10	12	7	0	39
S	1	7	15	20	6	2	51
SSW	1	11	11	20	13	0	56
SW	2	11	12	7	9	0	41
WSW	3	7	8	8	19	1	46
W	0	9	15	46	51	14	135
WNW	0	2	29	51	40	12	134
NW	0	6	36	45	24	1	112
NNW	0	4	13	37	14	0	68
Variable	0	0	0	0	0	0	0
Total	13	91	202	395	273	46	1020

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 7
Hours of missing stability measurements in all stability classes: 1

**Quad Cities Nuclear Power Station
2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006

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	0	6	4	1	0	11
NNE	0	3	4	4	0	0	11
NE	0	1	1	5	5	0	12
ENE	1	4	4	6	6	0	21
E	0	1	7	3	0	0	11
ESE	1	5	4	8	2	2	22
SE	0	2	7	19	2	1	31
SSE	0	4	21	40	8	0	73
S	0	1	10	42	20	1	74
SSW	0	9	13	45	30	2	99
SW	0	3	7	14	19	1	44
WSW	0	4	9	19	4	3	39
W	0	0	13	13	17	1	44
WNW	1	1	14	22	9	0	47
NW	2	3	21	21	2	0	49
NNW	0	2	5	15	1	0	23
Variable	0	0	0	0	0	0	0
Total	5	43	146	280	126	11	611

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 **2006 Annual Radioactive Effluent Release Report**

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006

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	0	1	1	0	0	3
NNE	1	1	1	1	0	0	4
NE	0	2	0	5	0	0	7
ENE	0	4	0	1	0	0	5
E	0	2	1	0	0	0	3
ESE	1	1	0	5	2	0	9
SE	0	2	2	15	6	0	25
SSE	0	3	4	31	2	0	40
S	0	3	16	27	5	0	51
SSW	1	0	17	19	2	0	39
SW	0	3	8	2	1	0	14
WSW	1	1	4	0	0	0	6
W	0	2	3	2	0	0	7
WNW	0	2	8	1	0	0	11
NW	0	0	4	7	0	0	11
NNW	0	2	1	3	0	0	6
Variable	0	0	0	0	0	0	0
Total	5	28	70	120	18	0	241

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: 1

Quad Cities Nuclear Power Station 2006 Annual Radioactive Effluent Release Report

Joint Frequency Data

Quad Cities Nuclear Station

Period of Record: October - December 2006

Stability Class - Extremely Stable - 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	1	0	0	0	0	0	1
NNE	1	0	1	0	0	0	2
NE	0	1	0	0	0	0	1
ENE	0	1	0	0	0	0	1
E	1	0	3	1	0	0	5
ESE	1	4	2	1	0	0	8
SE	0	0	4	2	7	0	13
SSE	0	0	8	14	2	0	24
S	1	0	7	15	1	0	24
SSW	1	0	13	14	0	0	28
SW	0	0	5	3	0	0	8
WSW	0	3	0	0	0	0	3
W	0	1	1	0	0	0	2
WNW	1	4	3	0	0	0	8
NW	0	0	1	0	0	0	1
NNW	0	1	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	7	15	48	50	10	0	130

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
2006 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	9.42E+01	1.24E+03	2006	2.50E+01
b. Dry compressed waste, contaminated equip, etc	2.26E+03	5.27E+00	2006	2.50E+01
c. Irradiated components, control rods, etc	0.00E+00	0.00E+00	2006	2.50E+01
d. Other (describe)	0.00E+00	0.00E+00	2006	2.50E+01

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

Major Nuclide Composition	%
a. Co-60	2.60E+01
Fe-55	5.64E+01
Zn-65	1.26E+01
b. Fe-55	5.46E+01
Co-60	2.65E+01
Ba-140	3.57E+00
Zn-65	3.36E+00
Fe-59	3.26E+00
La-140	2.37E+00
Mn-54	2.08E+00
c. N/A	N/A
d. N/a	N/A

3. Solid Waste Disposition

Number of Shipments
40
17

Mode of Transportation
Highway
Highway

Destination
Processor
Disposal

B. Irradiated Fuel Shipments (disposition)

Number of Shipments
0

Mode of Transportation
N/A

Destination
N/A

C. Changes to the Process Control Program

None.

**Quad Cities Nuclear Power Station
2006 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	9.42E+01	1.24E+03	2006	2.50E+01
b. Dry compressed waste, contaminated equip, etc	2.26E+03	5.27E+00	2006	2.50E+01
c. Irradiated components, control rods, etc	0.00E+00	0.00E+00	2006	2.50E+01
d. Other (describe)	0.00E+00	0.00E+00	2006	2.50E+01

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

Major Nuclide Composition	%
a. Co-60	2.60E+01
Fe-55	5.64E+01
Zn-65	1.26E+01
b. Fe-55	5.46E+01
Co-60	2.65E+01
Ba-140	3.57E+00
Zn-65	3.36E+00
Fe-59	3.26E+00
La-140	2.37E+00
Mn-54	2.08E+00
c. N/A	N/A
d. N/a	N/A

3. Solid Waste Disposition

Number of Shipments
40
17

Mode of Transportation
Highway
Highway

Destination
Processor
Disposal

B. Irradiated Fuel Shipments (disposition)

Number of Shipments
0

Mode of Transportation
N/A

Destination
N/A

C. Changes to the Process Control Program

None.