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DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
2008 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

Enclosed is the Kewaunee Power Station (KPS) 2008 Annual Radioactive Effluent Release Report for January through December 2008. This report is submitted to meet the requirements of KPS Technical Specification 6.9.b.2 and 10 CFR 50.36a(a)(2).

If you have questions or require additional information, please feel free to contact Mr. Mike Hale at 920-388-8103.

Very truly yours,

Michael J. Wilson
Director Safety and Licensing

Commitments made by this letter: NONE

Enclosure

IE48
NRR

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2008 Annual Radioactive Effluent Release Report

Kewaunee Power Station

Dominion Energy Kewaunee, Inc.

DOCKET 50-305

KEWAUNEE POWER STATION

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

January 1 - December 31, 2008

Dominion Energy Kewaunee, Inc.

Table of Contents

0.0 SUMMARY

During 2008 all solid, liquid, and gaseous radioactive effluents from the Kewaunee Nuclear Plant were well below regulatory limits. For individual effluent streams, the quarterly limit most closely approached was:

GASEOUS:	Ingestion Pathway-Organ	Liver	
	Quarterly Limit (mRems)	7.5	
	Actual Dose (mRems)	3.559E-4	(2^{nd} Quarter)
	% of Specification	0.004745	
LIQUID:	Ingestion Pathway-Organ	Total Body	
	Quarterly Limit (mRems)	1.5	
	Actual Dose (mRems)	5.408E-4	(1^{st} Quarter)
	% of Limit	0.03606	
SOLID:	No upper limit for solid radioactive waste applies.		
	Cubic Meters Shipped	86.24 m^3	

1.0 INTRODUCTION

This report is being submitted in accordance with the requirements of Kewaunee Technical Specifications, Section 6.9.b.2 and the Offsite Dose Calculation Manual, Section 3/4.7. It includes data from all effluent releases made from January 1 - December 31, 2008. The report contains summaries of the gaseous and liquid releases made to the environment including the quantity, characterization, time duration and calculated radiation dose at the site boundary resulting from these releases. The report also includes a summation of solid waste disposal, revisions to the Process Control Program and the Offsite Dose Calculation Manual, and addresses the cumulative meteorological data. Values indicated as 0 (zero) in this report refer to actual values less than the detection limits. A table of these less than (LLD) values is identified in sections 2.1 and 3.1.

1.1 **Effluent Dose Limits**

Specifications are set to insure that offsite doses are maintained as low as reasonably achievable while still allowing for practical and dependable operation of the Kewaunee Plant.

The Kewaunee Offsite Dose Calculation Manual (ODCM) describes the methodology and parameters used in:

1.) The calculation of radioactive liquid and gaseous effluent monitoring instrumentation alarm/trip setpoints.

2.) The calculation of radioactive liquid and gaseous concentrations, dose rates and cumulative quarterly and annual doses. The ODCM methodology is acceptable for use in demonstrating compliance with 10 CFR 20.106; 10 CFR 50, Appendix I; and 40 CFR 190.

2.0 GASEOUS EFFLUENTS

2.1 Lower **Limits of Detection (LLD) for Gaseous Effluents**

Gaseous radioactive effluents are released in both the continuous mode and the batch mode. The auxiliary building stack is sampled continuously for particulates, halogens and Strontium by an "off-line" sample train. This stack is also grab-sampled daily for gaseous gamma emitters. Batch releases are sampled prior to release for principal gaseous and particulate gamma emitters, halogens and tritium.

The LLD's for gaseous radioanalyses, as listed in Table 4.4 of the Kewaunee ODCM are:

Analysis	LLD (μCi/ml)
Gaseous Gamma Emitters	1.00 E-04
Iodine 131	3.00 E-12
Particulate Gamma Emitters	1.00 E-11
Particulate Gross Alpha	1.00 E-11
Strontium 89, 90	1.00 E-11
Noble Gases, Gross Beta or Gamma	1.00 E-06

The nominal "a priori" LLD values are shown below.

Isotope	a priori LLD (μCi/ml)
a. Gaseous emissions:	
Kr-87	5.61E-08
Kr-88	1.02E-07
Xe-133	6.68E-08
Xe-133m	2.75E-07
Xe-135	2.99E-08
Xe-138	1.13E-07

b. Particulate emissions:

Mn-54	1.11E-13
Fe-59	2.27E-13
Co-58	2.28E-13
Co-60	3.57E-13
Zn-65	1.68E-13
Mo-99	2.73E-13
Cs-134	4.69E-13
Cs-137	1.68E-13
Ce-141	2.08E-13
Ce-144	1.24E-12

c. Other identifiable gamma emitters:

Ar-41	3.97E-10
Kr-85	8.63E-05
Kr-85m	4.62E-08
Kr-89	2.04E-06
Xe-127	4.20E-08
Xe-131m	1.82E-06
Xe-135m	1.90E-08
Xe-137	2.88E-07
I-131	1.32E-13

d. Composite particulate samples:

Sr-89	1 E-14
Sr-90	1 E-14
Gross Alpha	1.00 E-14

These "a priori" LLDs represent the capabilities of the counting systems in use, not an after the fact "a posteriori" limit for a particular measurement.

2.2 Gaseous Batch Release Statistics

The following is a summation of all gaseous batch releases made during 2008.

Number of batch releases.....53

Total time for all batch releases (min)..... 26,120.0

Maximum time for a batch release (min)..... 2,305.0

Average time for a batch release (min)..... 492.8

Minimum time for a batch release (min)..... 7.0

2.3 Gaseous Effluent Data

The following table 2.1 presents a quarterly summation of the total activity released and average release rates of four categories of gaseous effluents. Table 2.2 lists the quarterly sums of individual gaseous radionuclides released by continuous and batch modes. Table 2.3 is essentially the same data, but is presented as monthly summations. Table 2.4 presents the dose limits for gaseous effluents, and the calculated doses this year from gaseous effluents.

Table 2.1
Annual Radioactive Effluent Release Report 2008
Gaseous Effluents - Summation of all Releases

Fission and Activation Gases	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Total Activity Released (Ci)	5.882E-002	2.382E-002	2.614E-005	1.908E-005
Average Release Rate (μCi/sec)	7.481E-003	3.030E-003	3.325E-006	2.427E-006
Iodines				
Total Activity Released (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Average Release Rate (μCi/sec)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Particulates				
Total Activity Released (Ci)	0.000E+000	0.000E+000	1.744E-006	0.000E+000
Average Release Rate (μCi/sec)	0.000E+000	0.000E+000	2.218E-007	0.000E+000
Gross Alpha Released (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Tritium				
Total Activity Released (Ci)	1.950E+000	1.685E+001	3.822E+000	3.546E+000
Average Release Rate (μCi/sec)	2.481E-001	2.143E+000	4.861E-001	4.511E-001

Table 2.2
Annual Radioactive Effluent Release Report 2008
Gaseous Effluents

Nuclides Released (Ci)
Continuous Mode

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Fission Gases				
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Iodines				
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Particulates				
Mn-54	0.000E+000	0.000E+000	1.260E-007	0.000E+000
Co-58	0.000E+000	0.000E+000	1.220E-006	0.000E+000
Co-60	0.000E+000	0.000E+000	2.460E-007	0.000E+000
Cs-137	0.000E+000	0.000E+000	1.520E-007	0.000E+000
Total	0.000E+000	0.000E+000	1.744E-006	0.000E+000

Table 2.2(cont)
Annual Radioactive Effluent Release Report 2008
Gaseous Effluents

Nuclides Released (Ci)
Batch Mode

Fission Gases				
Ar-41	0.000E+000	5.376E-005	0.000E+000	0.000E+000
Kr-85m	0.000E+000	7.537E-006	0.000E+000	0.000E+000
Xe-133m	1.299E-003	2.345E-004	0.000E+000	0.000E+000
Xe-133	5.312E-002	2.332E-002	2.614E-005	1.908E-005
Xe-135	4.402E-003	2.104E-004	0.000E+000	0.000E+000
Total	5.882E-002	2.382E-002	2.614E-005	1.908E-005
Iodines				
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Particulates				
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3A
Annual Radioactive Effluent Release Report 2008
1st Quarter Gaseous Release
Total of all Releases

Noble Gasses (Curies)

Isotope	January	February	March	Total
Xe-133m	0.000E+000	0.000E+000	1.299E-003	1.299E-003
Xe-133	0.000E+000	3.282E-003	4.984E-002	5.312E-002
Xe-135	0.000E+000	0.000E+000	4.402E-003	4.402E-003
Total	0.000E+000	3.282E-003	5.554E-002	5.882E-002

Particulates (Curies)

Isotope	January	February	March	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Halogens (Curies)

Isotope	January	February	March	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3A (Con't)
Annual Radioactive Effluent Release Report 2008
1st Quarter Gaseous Release
Total of all Releases

Summary	January	February	March	Total
Total Noble Gases (Ci)	0.000E+000	3.282E-003	5.554E-002	5.882E-002
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Tritium (Ci)	4.525E-001	6.771E-005	1.498E+000	1.950E+000
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3A (Con't)
Annual Radioactive Effluent Release Report 2008
2nd Quarter Gaseous Release
Total of all Releases

Noble Gasses (Curies)

Isotope	April	May	June	Total
Ar-41	0.000E+000	5.376E-005	0.000E+000	5.376E-005
Kr-85m	0.000E+000	7.537E-006	0.000E+000	7.537E-006
Xe-133m	2.345E-004	0.000E+000	0.000E+000	2.345E-004
Xe-133	2.318E-002	1.394E-004	0.000E+000	2.332E-002
Xe-135	7.107E-005	1.393E-004	0.000E+000	2.104E-004
Total	2.348E-002	3.400E-004	0.000E+000	2.382E-002

Particulates (Curies)

Isotope	April	May	June	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Halogens (Curies)

Isotope	April	May	June	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3A (Con't)
Annual Radioactive Effluent Release Report 2008
2nd Quarter Gaseous Release
Total of all Releases

Summary

	April	May	June	Total
Total Noble Gases (Ci)	2.348E-002	3.400E-004	0.000E+000	2.382E-002
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Tritium (Ci)	1.211E+001	4.020E+000	7.127E-001	1.685E+001
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3A (con't)
Annual Radioactive Effluent Release Report 2008
3rd Quarter Gaseous Release
Total of all Releases

Noble Gasses (Curies)

Isotope	July	August	September	Total
Xe-133	0.000E+000	0.000E+000	2.614E-005	2.614E-005
Total	0.000E+000	0.000E+000	2.614E-005	2.614E-005

Particulates (Curies)

Isotope	July	August	September	Total
Mn-54	0.000E+000	1.260E-007	0.000E+000	1.260E-007
Co-58	0.000E+000	1.220E-006	0.000E+000	1.220E-006
Co-60	0.000E+000	2.460E-007	0.000E+000	2.460E-007
Cs-137	0.000E+000	1.520E-007	0.000E+000	1.520E-007
Total	0.000E+000	1.744E-006	0.000E+000	1.744E-006

Halogens (Curies)

Isotope	July	August	September	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3A (Con't)
Annual Radioactive Effluent Release Report 2008
3rd Quarter Gaseous Release
Total of all Releases

Summary

	July	August	September	Total
Total Noble Gases (Ci)	0.000E+000	0.000E+000	2.614E-005	2.614E-005
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	1.744E-006	0.000E+000	1.744E-006
Total Tritium (Ci)	3.952E-001	8.615E-001	2.565E+000	3.822E+000
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3A (Con't)
Annual Radioactive Effluent Release Report 2008
4th Quarter Gaseous Release
Total of all Releases

Noble Gasses (Curies)

Isotope	October	November	December	Total
Xe-133	1.908E-005	0.000E+000	0.000E+000	1.908E-005
Total	1.908E-005	0.000E+000	0.000E+000	1.908E-005

Particulates (Curies)

Isotope	October	November	December	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Halogens (Curies)

Isotope	October	November	December	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3A (Con't)
Annual Radioactive Effluent Release Report 2008
4th Quarter Gaseous Release
Total of all Releases

Summary

	October	November	December	Total
Total Noble Gases (Ci)	1.908E-005	0.000E+000	0.000E+000	1.908E-005
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Tritium (Ci)	8.631E-001	5.963E-001	2.087E+000	3.546E+000
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3B
Annual Radioactive Effluent Release Report 2008
1st Quarter Gaseous Release
Continuous Mode Only

Noble Gasses (Curies)

Isotope	January	February	March	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Particulates (Curies)

Isotope	January	February	March	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Halogens (Curies)

Isotope	January	February	March	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3B (Con't)
Annual Radioactive Effluent Release Report 2008
1st Quarter Gaseous Release
Continuous Mode Only

Summary

	January	February	March	Total
Total Noble Gases (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Tritium (Ci)	4.477E-001	0.000E+000	1.498E+000	1.945E+000
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3B (Con't)
Annual Radioactive Effluent Release Report 2008
2nd Quarter Gaseous Release
Continuous Mode Only

Noble Gasses (Curies)

Isotope	April	May	June	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Particulates (Curies)

Isotope	April	May	June	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Halogens (Curies)

Isotope	April	May	June	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3B (Con't)
Annual Radioactive Effluent Release Report 2008
2nd Quarter Gaseous Release
Continuous Mode Only

Summary

	April	May	June	Total
Total Noble Gases (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Tritium (Ci)	1.181E+001	4.009E+000	7.126E-001	1.653E+001
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3B (con't)
Annual Radioactive Effluent Release Report 2008
3rd Quarter Gaseous Release
Continuous Mode Only

Noble Gasses (Curies)

Isotope	July	August	September	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Particulates (Curies)

Isotope	July	August	September	Total
Mn-54	0.000E+000	1.260E-007	0.000E+000	1.260E-007
Co-58	0.000E+000	1.220E-006	0.000E+000	1.220E-006
Co-60	0.000E+000	2.460E-007	0.000E+000	2.460E-007
Cs-137	0.000E+000	1.520E-007	0.000E+000	1.520E-007
Total	0.000E+000	1.744E-006	0.000E+000	1.744E-006

Halogens (Curies)

Isotope	July	August	September	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3B (Con't)
Annual Radioactive Effluent Release Report 2008
3rd Quarter Gaseous Release
Continuous Mode Only

Summary

	July	August	September	Total
Total Noble Gases (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	1.744E-006	0.000E+000	1.744E-006
Total Tritium (Ci)	3.952E-001	8.615E-001	2.565E+000	3.822E+000
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3B (Con't)
Annual Radioactive Effluent Release Report 2008
4th Quarter Gaseous Release
Continuous Mode Only

Noble Gasses (Curies)

Isotope	October	November	December	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Particulates (Curies)

Isotope	October	November	December	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Halogens (Curies)

Isotope	October	November	December	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3B (Con't)
Annual Radioactive Effluent Release Report 2008
4th Quarter Gaseous Release
Continuous Mode Only

Summary

	October	November	December	Total
Total Noble Gases (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Tritium (Ci)	8.546E-001	5.890E-001	2.078E+000	3.521E+000
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3C
Annual Radioactive Effluent Release Report 2008
1st Quarter Gaseous Release
Batch Mode Only

Noble Gasses (Curies)

Isotope	January	February	March	Total
Xe-133m	0.000E+000	0.000E+000	1.299E-003	1.299E-003
Xe-133	0.000E+000	3.282E-003	4.984E-002	5.312E-002
Xe-135	0.000E+000	0.000E+000	4.402E-003	4.402E-003
Total	0.000E+000	3.282E-003	5.554E-002	5.882E-002

Particulates (Curies)

Isotope	January	February	March	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Halogens (Curies)

Isotope	January	February	March	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3C (Con't)
Annual Radioactive Effluent Release Report 2008
1st Quarter Gaseous Release
Batch Mode Only

Summary

	January	February	March	Total
Total Noble Gases (Ci)	0.000E+000	3.282E-003	5.554E-002	5.882E-002
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Tritium (Ci)	4.797E-003	6.771E-005	2.940E-004	5.159E-003
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3C (Con't)
Annual Radioactive Effluent Release Report 2008
2nd Quarter Gaseous Release
Batch Mode Only

Noble Gasses (Curies)

Isotope	April	May	June	Total
Ar-41	0.000E+000	5.376E-005	0.000E+000	5.376E-005
Kr-85m	0.000E+000	7.537E-006	0.000E+000	7.537E-006
Xe-133m	2.345E-004	0.000E+000	0.000E+000	2.345E-004
Xe-133	2.318E-002	1.394E-004	0.000E+000	2.332E-002
Xe-135	7.107E-005	1.393E-004	0.000E+000	2.104E-004
Total	2.348E-002	3.400E-004	0.000E+000	2.382E-002

Particulates (Curies)

Isotope	April	May	June	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Halogens (Curies)

Isotope	April	May	June	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3C (Con't)
Annual Radioactive Effluent Release Report 2008
2nd Quarter Gaseous Release
Batch Mode Only

Summary

	April	May	June	Total
Total Noble Gases (Ci)	2.348E-002	3.400E-004	0.000E+000	2.382E-002
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Tritium (Ci)	3.032E-001	1.059E-002	1.143E-004	3.139E-001
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3C (con't)
Annual Radioactive Effluent Release Report 2008
3rd Quarter Gaseous Release
Batch Mode Only

Noble Gasses (Curies)

Isotope	July	August	September	Total
Xe-133	0.000E+000	0.000E+000	2.614E-005	2.614E-005
Total	0.000E+000	0.000E+000	2.614E-005	2.614E-005

Particulates (Curies)

Isotope	July	August	September	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Halogens (Curies)

Isotope	July	August	September	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3C (Con't)
Annual Radioactive Effluent Release Report 2008
3rd Quarter Gaseous Release
Batch Mode Only

Summary

	July	August	September	Total
Total Noble Gases (Ci)	0.000E+000	0.000E+000	2.614E-005	2.614E-005
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Tritium (Ci)	0.000E+000	0.000E+000	1.060E-005	1.060E-005
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3C (Con't)
Annual Radioactive Effluent Release Report 2008
4th Quarter Gaseous Release
Batch Mode Only

Noble Gasses (Curies)

Isotope	October	November	December	Total
Xe-133	1.908E-005	0.000E+000	0.000E+000	1.908E-005
Total	1.908E-005	0.000E+000	0.000E+000	1.908E-005

Particulates (Curies)

Isotope	October	November	December	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Halogens (Curies)

Isotope	October	November	December	Total
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.3C (Con't)
Annual Radioactive Effluent Release Report 2008
4th Quarter Gaseous Release
Batch Mode Only

Summary

	October	November	December	Total
Total Noble Gases (Ci)	1.908E-005	0.000E+000	0.000E+000	1.908E-005
Total Halogens (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Particulate Gross Beta-Gamma Half-Lives>8 Days (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total Tritium (Ci)	8.501E-003	7.271E-003	9.223E-003	2.499E-002
Total Particulate Gross Alpha (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000

Table 2.4
Annual Radioactive Effluent Release Report 2008
Dose from Gaseous Effluents

The offsite dose limits from radioactive materials in gaseous effluents are specified in Section 3/4.4 of the Kewaunee ODCM and can be summarized as follows:

Limit	Whole Body Gamma	Skin Beta	Organ
Quarterly	5.0 mRad	10.0 mRad	7.5 mRem
Annual	10.0 mRad	20.0 mRad	15.0 mRem

The total release of gaseous effluents during each quarter of 2008 was within limits. The following offsite doses were calculated using equations 2.7, 2.8, and 2.11 from the Kewaunee ODCM. Calculated offsite doses versus quarterly limits are shown below:

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
1. Gamma-Whole Body				
Specification (mRads)	5.000E+000	5.000E+000	5.000E+000	5.000E+000
Actual Dose (mRads)	3.153E-006	1.052E-006	1.053E-009	7.687E-010
% of Specification	6.306E-005	2.104E-005	2.106E-008	1.537E-008
2. Beta-Skin				
Specification (mRads)	1.000E+001	1.000E+001	1.000E+001	1.000E+001
Actual Dose (mRads)	7.820E-006	2.914E-006	3.132E-009	2.287E-009
% of Specification	7.820E-005	2.914E-005	3.132E-008	2.287E-008
3. Ingestion Pathway-Organ				
Specification (mRems)	7.500E+000	7.500E+000	7.500E+000	7.500E+000
Actual Dose (mRems)	4.120E-005	3.559E-004	8.289E-005	7.492E-005
% of Specification	5.494E-004	4.745E-003	1.105E-003	9.989E-004
	Liver	Liver	Liver	Liver

Table 2.4 (Con't)
Annual Radioactive Effluent Release Report 2008
Dose from Gaseous Effluents

In addition, the cumulative annual offsite doses for the period January 1 - December 31, 2008 versus the ODCM annual limits were:

	Annual
1. Gamma-Whole Body	
Specification (mRads)	1.000E+001
Actual Dose (mRads)	4.207E-006
% of Specification	4.207E-005
2. Beta-Skin	
Specification (mRads)	2.000E+001
Actual Dose (mRads)	1.074E-005
% of Specification	5.370E-005
3. Ingestion Pathway-Organ	
Specification (mRems)	1.500E+001
Actual Dose (mRems)	5.549E-004
% of Specification	3.699E-003
Liver	

3.0 LIQUID EFFLUENTS

3.1 Lower Limits of Detection (LLD) for Liquid Effluents

Liquid radioactive effluents are released as both batch releases and continuous releases. Each batch is sampled prior to release and analyzed for gamma emitters and tritium. A fraction of each sample is retained for a monthly proportional composite which is then analyzed for Gross Alpha, Strontium 89, Strontium 90 and Iron 55.

The LLD's for liquid batch release radioanalyses, as listed in Table 4.3 of the Kewaunee Nuclear Power Plant Off-Site Dose Calculation Manual, are:

Analysis	LLD (μCi/ml)
Principal Gamma Emitters	1.00 E-06
Iodine 131	1.00 E-06
Tritium	1.00 E-05
Gross Alpha	5.00 E-07
Strontium 89, 90	5.00 E-08
Iron 55	1.00 E-06

The actual obtained "a priori" LLD values for batch releases are shown below.

Isotope	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Average a priori LLD (μCi/ml)
Mn-54	7.81E-10	7.88E-10	7.88E-10	7.88E-10	7.86E-10
Fe-59	1.75E-09	1.75E-09	1.75E-09	1.75E-07	4.51E-08
Co-58	7.73E-10	7.73E-10	1.09E-07	7.73E-10	2.78E-08
Co-60	1.04E-09	1.05E-07	1.17E-09	1.05E-09	2.71E-08
Zn-65	1.97E-09	2.79E-07	1.98E-09	1.98E-09	7.12E-08
Mo-99	5.55E-09	5.56E-09	7.44E-07	5.56E-09	1.90E-07
Cs-134	6.12E-08	1.31E-07	6.13E-10	6.13E-10	4.84E-08
Cs-137	7.59E-10	7.59E-10	7.59E-10	1.28E-07	3.26E-08
Ce-141	4.77E-08	9.80E-08	1.04E-07	1.05E-07	8.87E-08
Ce-144	1.76E-09	4.45E-07	4.59E-07	5.18E-07	3.56E-07
I-131	5.18E-08	4.64E-10	9.76E-08	5.19E-08	5.04E-08
H-3	2.96E-06	2.58E-06	2.91E-06	2.92E-06	2.84E-06
Sr-89	1.28E-08	1.56E-08	1.84E-08	1.08E-08	1.44E-08
Sr-90	6.32E-09	8.62E-09	8.48E-09	9.28E-09	8.18E-09
Gross Alpha	9.75E-09	9.94E-09	8.79E-09	1.17E-08	1.00E-08
Fe-55	6.55E-07	6.53E-07	6.95E-07	8.84E-07	7.22E-07

Continuous liquid releases are grab sampled weekly and analyzed for principal gamma emitters. A fraction of each weekly sample is retained for a monthly proportional composite which is then analyzed for Tritium, Gross Alpha, Strontium 89, Strontium 90 and Iron 55.

The LLD's for liquid continuous release radioanalyses, as listed in Table 4.3 of the Kewaunee Nuclear Power Plant Off-Site Dose Calculation Manual, are:

Analysis	LLD (μCi/ml)
Principal Gamma Emitters	5.00 E-07
Iodine 131	1.00 E-06
Tritium	1.00 E-05
Gross Alpha	5.00 E-07
Strontium 89, 90	5.00 E-08
Iron 55	1.00 E-06

The actual obtained "a priori" LLD values for continuous releases are shown below.

Isotope	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Average a priori LLD (μCi/ml)
Mn-54	1.31E-10	1.49E-08	1.42E-08	5.64E-11	7.32E-09
Fe-59	2.92E-10	1.52E-08	2.19E-08	1.27E-08	1.25E-08
Co-58	1.28E-10	6.65E-09	2.72E-08	2.50E-08	1.47E-08
Co-60	4.34E-08	1.07E-08	8.48E-09	1.66E-08	1.98E-08
Zn-65	3.29E-10	1.60E-08	1.43E-10	1.43E-08	7.69E-09
Mo-99	1.90E-07	1.18E-07	3.98E-10	9.59E-08	1.01E-07
Cs-134	3.38E-08	4.34E-11	1.09E-08	1.38E-08	1.46E-08
Cs-137	1.26E-10	1.64E-08	1.98E-08	5.39E-11	9.09E-09
Ce-141	6.60E-08	2.58E-08	1.44E-08	2.94E-11	2.66E-08
Ce-144	1.72E-07	9.82E-08	7.16E-08	9.96E-08	1.10E-07
I-131	2.99E-08	3.24E-11	1.49E-08	9.60E-09	1.36E-08
H-3	2.96E-06	2.58E-06	2.91E-06	2.92E-06	2.84E-06
Sr-89	1.36E-08	1.92E-08	1.63E-08	1.12E-08	1.51E-08
Sr-90	7.67E-09	1.06E-08	8.36E-09	8.66E-09	8.82E-09
Gross Alpha	7.00E-09	6.96E-09	1.48E-09	5.71E-09	5.29E-09
Fe-55	6.61E-07	6.43E-07	7.15E-07	8.07E-07	7.07E-07

3.2 Liquid Batch Release Statistics

The following is a summation of all liquid batch releases made during 2008.

Release Type	Number	Gallons Released
A SGBT Monitor Tk.	13	120,281
B SGBT Monitor Tk.	14	122,655
A CVC Monitor	6	39,830
B CVC Monitor	6	38,815
Both WCTs	3	4,385

Total time for all batch releases..... 15,315 Min.

Maximum time for a batch release..... 629 Min.

Minimum time for a batch release..... 5 Min.

Average time for a batch release..... 364.6 Min.

3.3 Liquid Effluent Data

The following Table 3.1 presents a quarterly summation of the total activity released and average concentration for all liquid effluents. It also presents the gross alpha activity released, volume of waste released and volume of dilution water used. Tables 3.2 and 3.3 are monthly summations of the same information in Table 3.1. Table 3.2 contains the quantity of the individual isotopes released to the unrestricted area for batch releases. Table 3.3 presents a monthly summation of gross radioactivity, tritium, gross alpha and isotopic activity for the secondary blowdown and leakage releases. It also presents the monthly total volume for these releases and dilution volumes. Table 3.4 presents the doses from liquid effluents for each quarter and the calculated doses this year from liquid effluents.

TABLE 3.1
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Summation of all Releases

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Fission and Activation Products				
Total Release Excluding H3 and Dissolved Gases (Ci)	4.629E-003	1.611E-002	1.534E-003	5.760E-004
Average Concentration (μCi/ml)	3.176E-011	1.019E-010	7.520E-012	3.317E-012
Tritium				
Total Release (Ci)	6.305E+001	3.944E+001	1.761E+001	3.917E+001
Average Concentration (μCi/ml)	4.327E-007	2.495E-007	8.630E-008	2.256E-007
% of Tech. Spec. Limit(3.0E-3 μCi/ml)	1.442E-002	8.317E-003	2.877E-003	7.520E-003
Dissolved Gases				
Total Release (Ci)	5.389E-005	1.027E-004	0.000E+000	0.000E+000
Average Concentration (μCi/ml)	3.698E-013	6.496E-013	0.000E+000	0.000E+000
% of Tech. Spec. Limit(2.0E-4 μCi/ml)	1.849E-007	3.248E-007	0.000E+000	0.000E+000
Gross Alpha Activity				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Volume of Waste Released				
Batch (liters)	3.582E+005	3.244E+005	3.034E+005	2.477E+005
Continuous (liters)	2.265E+007	2.497E+007	1.712E+007	1.999E+007
Total (liters)	2.301E+007	2.530E+007	1.742E+007	2.024E+007
Volume of Dilution Water				
Batch (liters)	4.411E+009	3.836E+009	5.170E+009	3.945E+009
Continuous (liters)	1.413E+011	1.542E+011	1.988E+011	1.697E+011
Total (liters)	1.457E+011	1.580E+011	2.040E+011	1.736E+011

TABLE 3.2A
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Batch Releases

	January	February	March	Total
Gross Radioactivity				
Total Release Excluding H3 and Dissolved Gases (Ci)	2.525E-004	7.138E-004	3.663E-003	4.629E-003
Avg. Conc. (µCi/ml)	9.161E-010	9.382E-010	1.085E-009	
Tritium				
Total Release (Ci)	4.379E+000	7.036E+000	5.163E+001	6.305E+001
Avg. Conc. (µCi/ml)	1.589E-005	9.247E-006	1.530E-005	
Dissolved Gases				
Total Release (Ci)	0.000E+000	0.000E+000	5.389E-005	5.389E-005
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	1.597E-011	
Gross Alpha Activity				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Volume of Waste Released				
(liters)	3.705E+004	7.345E+004	2.477E+005	3.582E+005
Volume of Dilution Water				
(liters)	2.755E+008	7.608E+008	3.375E+009	4.411E+009

TABLE 3.2A (Con't)
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Batch Releases

Isotope (Ci)	January	February	March	Total
Ag-110m	1.980E-005	3.410E-005	2.048E-004	2.587E-004
Alpha	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Ar-41	0.000E+000	0.000E+000	1.224E-005	1.224E-005
Co-58	1.229E-005	8.321E-006	2.544E-004	2.750E-004
Co-60	3.525E-005	4.804E-005	5.489E-004	6.322E-004
Cr-51	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Cs-137	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Fe-55	1.578E-004	3.129E-004	1.055E-003	1.526E-003
Fe-59	0.000E+000	0.000E+000	0.000E+000	0.000E+000
H-3	4.379E+000	7.036E+000	5.163E+001	6.305E+001
Mn-54	0.000E+000	0.000E+000	9.505E-005	9.505E-005
Nb-95	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sb-125	2.728E-005	3.105E-004	1.504E-003	1.842E-003
Sr-89	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sr-90	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Xe-133	0.000E+000	0.000E+000	3.817E-005	3.817E-005
Xe-135	0.000E+000	0.000E+000	3.477E-006	3.477E-006
Total	4.380E+000	7.036E+000	5.164E+001	6.305E+001

TABLE 3.2B
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Batch Releases

	April	May	June	Total
Gross Radioactivity				
Total Release Excluding H3 and Dissolved Gases (Ci)	8.258E-003	6.049E-003	1.804E-003	1.611E-002
Avg. Conc. (µCi/ml)	5.360E-009	4.266E-009	2.054E-009	
Tritium				
Total Release (Ci)	2.609E+001	1.185E+001	1.491E+000	3.944E+001
Avg. Conc. (µCi/ml)	1.694E-005	8.359E-006	1.698E-006	
Dissolved Gases				
Total Release (Ci)	1.027E-004	0.000E+000	0.000E+000	1.027E-004
Avg. Conc. (µCi/ml)	6.665E-011	0.000E+000	0.000E+000	
Gross Alpha Activity				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Volume of Waste Released				
(liters)	1.849E+005	1.022E+005	3.729E+004	3.244E+005
Volume of Dilution Water				
(liters)	1.540E+009	1.418E+009	8.781E+008	3.836E+009

TABLE 3.2B (Con't)
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Batch Releases

Isotope (Ci)	April	May	June	Total
Ag-110m	1.698E-004	3.198E-005	4.072E-005	2.425E-004
Alpha	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Ar-41	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Co-58	8.928E-004	1.992E-003	4.411E-004	3.326E-003
Co-60	9.724E-004	1.351E-004	1.195E-004	1.227E-003
Cr-51	1.535E-004	5.186E-004	0.000E+000	6.721E-004
Cs-137	9.991E-007	0.000E+000	0.000E+000	9.991E-007
Fe-55	5.472E-003	3.026E-003	1.104E-003	9.602E-003
Fe-59	2.682E-004	2.488E-004	5.727E-005	5.742E-004
H-3	2.609E+001	1.185E+001	1.491E+000	3.944E+001
Mn-54	3.283E-004	3.329E-005	0.000E+000	3.616E-004
Nb-95	0.000E+000	6.344E-005	4.154E-005	1.050E-004
Sb-125	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sr-89	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sr-90	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Xe-133	1.027E-004	0.000E+000	0.000E+000	1.027E-004
Xe-135	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total	2.610E+001	1.186E+001	1.493E+001	3.945E+001

TABLE 3.2C
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Batch Releases

	July	August	September	Total
Gross Radioactivity				
Total Release Excluding H3 and Dissolved Gases (Ci)	1.199E-003	1.485E-004	1.864E-004	1.534E-003
Avg. Conc. (µCi/ml)	2.782E-010	3.382E-010	4.428E-010	
Tritium				
Total Release (Ci)	1.430E+001	6.919E-001	2.531E+000	1.753E+001
Avg. Conc. (µCi/ml)	3.318E-006	1.576E-006	6.013E-006	
Dissolved Gases				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Gross Alpha Activity				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Volume of Waste Released				
(liters)	2.304E+005	3.372E+004	3.925E+004	3.034E+005
Volume of Dilution Water				
(liters)	4.310E+009	4.391E+008	4.209E+008	5.170E+009

TABLE 3.2C (Con't)
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Batch Releases

Isotope (Ci)	July	August	September	Total
Ag-110m	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Alpha	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Ar-41	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Co-58	6.524E-004	5.506E-005	1.071E-004	8.146E-004
Co-60	8.122E-005	2.532E-005	0.000E+000	1.065E-004
Cr-51	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Cs-137	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Fe-55	4.655E-004	6.811E-005	7.928E-005	6.129E-004
Fe-59	0.000E+000	0.000E+000	0.000E+000	0.000E+000
H-3	1.430E+001	6.919E-001	2.531E+000	1.753E+001
Mn-54	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Nb-95	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sb-125	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sr-89	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sr-90	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Xe-133	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Xe-135	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total	1.430E+001	6.920E-001	2.531E+000	1.753E+001

TABLE 3.2D
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Batch Releases

	October	November	December	Total
Gross Radioactivity				
Total Release Excluding H3 and Dissolved Gases (Ci)	0.000E+000	1.327E-004	4.432E-004	5.760E-004
Avg. Conc. (μCi/ml)	0.000E+000	1.223E-010	2.141E-010	
Tritium				
Total Release (Ci)	4.632E+000	1.234E+001	2.206E+001	3.904E+001
Avg. Conc. (μCi/ml)	5.872E-006	1.137E-005	1.065E-005	
Dissolved Gases				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (μCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Gross Alpha Activity				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (μCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Volume of Waste Released				
(liters)	3.531E+004	6.889E+004	1.435E+005	2.477E+005
Volume of Dilution Water				
(liters)	7.888E+008	1.086E+009	2.070E+009	3.945E+009

TABLE 3.2D (Con't)
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Batch Releases

Isotope (Ci)	October	November	December	Total
Ag-110m	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Alpha	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Ar-41	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Co-58	0.000E+000	9.382E-005	3.198E-004	4.136E-004
Co-60	0.000E+000	3.893E-005	0.000E+000	3.893E-005
Cr-51	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Cs-137	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Fe-55	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Fe-59	0.000E+000	0.000E+000	0.000E+000	0.000E+000
H-3	4.632E+000	1.234E+001	2.206E+001	3.904E+001
Mn-54	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Nb-95	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sb-125	0.000E+000	0.000E+000	1.234E-004	1.234E-004
Sr-89	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sr-90	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Xe-133	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Xe-135	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total	4.632E+000	1.234E+001	2.206E+001	3.904E+001

TABLE 3.3A
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Continuous Releases

	January	February	March	Total
Gross Radioactivity				
Total Release Excluding H3 and Dissolved Gases (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (μCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Tritium				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (μCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Dissolved Gases				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (μCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Gross Alpha Activity				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (μCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Volume of Waste Released				
(liters)	7.062+006	6.421E+006	9.165E+006	2.265E+007
Volume of Dilution Water				
(liters)	5.050E+010	3.078E+010	6.000E+010	1.413E+011

TABLE 3.3A (Con't)
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Continuous Releases

Isotope (Ci)	January	February	March	Total
Alpha	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Fe-55	0.000E+000	0.000E+000	0.000E+000	0.000E+000
H-3	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sr-89	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sr-90	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total	0.000E+000	0.000E+000	0.000E+000	0.000E+000

TABLE 3.3B
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Continuous Releases

	April	May	June	Total
Gross Radioactivity				
Total Release Excluding H3 and Dissolved Gases (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Tritium				
Total Release (Ci)	0.000E+000	0.000E+000	5.832E-003	5.832E-003
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	7.232E-011	
Dissolved Gases				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Gross Alpha Activity				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Volume of Waste Released				
(liters)	1.311E+007	5.797E+006	6.069E+006	2.497E+007
Volume of Dilution Water				
(liters)	1.846E+010	5.511E+010	8.063E+010	1.542E+011

TABLE 3.3B (Con't)
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Continuous Releases

Isotope (Ci)	April	May	June	Total
Alpha	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Fe-55	0.000E+000	0.000E+000	0.000E+000	0.000E+000
H-3	0.000E+000	0.000E+000	5.832E-003	5.832E-003
Sr-89	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sr-90	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total	0.000E+000	0.000E+000	5.832E-003	5.832E-003

TABLE 3.3C
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Continuous Releases

	July	August	September	Total
Gross Radioactivity				
Total Release Excluding H3 and Dissolved Gases (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Tritium				
Total Release (Ci)	2.583E-002	1.890E-002	3.501E-002	7.975E-002
Avg. Conc. (µCi/ml)	4.167E-010	3.134E-010	4.576E-010	
Dissolved Gases				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Gross Alpha Activity				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (µCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Volume of Waste Released				
(liters)	5.786E+006	4.242E+006	7.089E+006	1.712E+007
Volume of Dilution Water				
(liters)	6.200E+010	6.031+010	7.650E+010	1.988E+011

TABLE 3.3C (Con't)
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Continuous Releases

Isotope (Ci)	July	August	September	Total
Alpha	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Fe-55	0.000E+000	0.000E+000	0.000E+000	0.000E+000
H-3	2.583E-002	1.890E-002	3.501E-002	7.975E-002
Sr-89	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sr-90	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total	2.583E-002	1.890E-002	3.501E-002	7.975E-002

TABLE 3.3D
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Continuous Releases

	October	November	December	Total
Gross Radioactivity				
Total Release Excluding H3 and Dissolved Gases (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (μCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Tritium				
Total Release (Ci)	4.095E-002	3.702E-002	5.339E-002	1.314E-001
Avg. Conc. (μCi/ml)	6.501E-010	6.136E-010	1.152E-009	
Dissolved Gases				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (μCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Gross Alpha Activity				
Total Release (Ci)	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Avg. Conc. (μCi/ml)	0.000E+000	0.000E+000	0.000E+000	
Volume of Waste Released				
(liters)	6.204E+006	5.650E+006	8.138E+006	1.999E+007
Volume of Dilution Water				
(liters)	6.299E+010	6.032E+010	4.635E+010	1.697E+011

TABLE 3.3D (Con't)
Annual Radioactive Effluent Release Report 2008
Liquid Effluents - Continuous Releases

Isotope (Ci)	October	November	December	Total
Alpha	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Fe-55	0.000E+000	0.000E+000	0.000E+000	0.000E+000
H-3	4.095E-002	3.702E-002	5.339E-002	1.314E-001
Sr-89	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Sr-90	0.000E+000	0.000E+000	0.000E+000	0.000E+000
Total	4.095E-002	3.702E-002	5.339E-002	1.314E-001

Table 3.4
Annual Radioactive Effluent Report 2008
Dose from Liquid Effluents

The dose to a member of the public from total liquid radioactive releases for each quarter was below the ODCM limits of 1.5 mrems to the total body and less than or equal to 5 mrems to any organ. Additionally, the dose to a member of the public from total liquid radioactive releases for the year was below the ODCM limits of 3 mrems to the total body and less than or equal to 10 mrems to any organ.

Instantaneous release concentrations are limited by the individual radionuclide concentrations established in 10 CFR 20, Appendix B, for unrestricted areas. During the report period, none of the isotopes released exceed the concentrations specified in Appendix B. The following offsite doses were calculated using equation 1.5 from the Kewaunee ODCM.

Organ 1st Qtr Dose	Dose Total mRem	Quarterly Limit mRem	Percent of Limit
Total Body	5.408E-004	1.5	3.606E-02
Bone	7.716E-005	5.0	1.543E-03
Liver	5.976E-004	5.0	1.195E-02
Thyroid	4.526E-004	5.0	9.053E-03
Kidney	5.010E-004	5.0	1.002E-02
Lung	4.808E-004	5.0	9.616E-03
GI-LLI	7.234E-004	5.0	1.447E-02

Organ 2nd Qtr Dose	Dose Total mRem	Quarterly Limit mRem	Percent of Limit
Total Body	2.399E-004	1.5	1.599E-02
Bone	4.912E-005	5.0	9.824E-04
Liver	2.666E-004	5.0	5.331E-03
Thyroid	2.092E-004	5.0	4.183E-03
Kidney	2.135E-004	5.0	4.270E-03
Lung	2.281E-004	5.0	4.562E-03
GI-LLI	4.480E-004	5.0	8.959E-03

Table 3.4 (Con't)
Annual Radioactive Effluent Report 2008
Dose from Liquid Effluents

Organ 3rd Qtr Dose	Dose Total mRem	Quarterly Limit mRem	Percent of Limit
Total Body	6.735E-005	1.5	4.490E-03
Bone	4.469E-006	5.0	8.939E-05
Liver	6.835E-005	5.0	1.367E-03
Thyroid	6.414E-005	5.0	1.283E-03
Kidney	6.414E-005	5.0	1.283E-03
Lung	6.588E-005	5.0	1.318E-03
GI-LLI	8.798E-005	5.0	1.760E-03

Organ 4th Qtr Dose	Dose Total mRem	Quarterly Limit mRem	Percent of Limit
Total Body	1.832E-004	1.5	1.221E-02
Bone	1.649E-008	5.0	3.298E-07
Liver	1.823E-004	5.0	3.646E-03
Thyroid	1.816E-004	5.0	3.633E-03
Kidney	1.816E-004	5.0	3.633E-03
Lung	1.816E-004	5.0	3.633E-03
GI-LLI	1.953E-004	5.0	3.907E-03

Calculated Dose This Year

Organ	Dose Total mRem	Quarterly Limit mRem	Percent of Limit
Total Body	1.041E-003	3.0	3.468E-02
Bone	1.708E-004	10.0	1.708E-03
Liver	1.156E-003	10.0	1.156E-02
Thyroid	9.492E-004	10.0	9.492E-03
Kidney	9.667E-004	10.0	9.667E-03
Lung	1.016E-003	10.0	1.016E-02
GI-LLI	4.190E-003	10.0	4.190E-02

3.5 GROUND WATER MONITORING

Sample Point	Sample Collection Date	H-3 (pCi/l)	Total Gamma Activity (µCi/ml)	Vendor H-3 (pCi/l)
MW-0706	10/29/2008	<500	None Detected	
AB-707	10/30/2008	<500	None Detected	
AB-708	10/30/2008	<500	None Detected	
AB-709	10/29/2008	<500	None Detected	
AB-710	10/30/2008	<500	None Detected	
AB-711	10/30/2008	<500	None Detected	
AB-712	10/29/2008	<500	None Detected	
AB-715	10/30/2008	<500	None Detected	
AB-717	10/29/2008	<500	None Detected	
Settling Plug B	06/30/2008	<500	None Detected	
Settling Plug C Inner	06/30/2008	<500	None Detected	
Settling Plug C Outer	06/30/2008	515	None Detected	
Settling Plug G Inner	06/30/2008	<500	None Detected	
Settling Plug G Outer	06/30/2008	1510	None Detected	
Settling Plug B	09/19/2008	<500	None Detected	
Settling Plug C Inner	09/19/2008	<500	None Detected	
Settling Plug C Outer	09/19/2008	<500	None Detected	
Settling Plug G Inner	09/19/2008	<500	None Detected	
Settling Plug G Outer	09/19/2008	3450	None Detected	
Settling Plug H Inner	09/19/2008	<500	None Detected	
Settling Plug B Inner	12/03/2008	<500	None Detected	
Settling Plug B Outer	12/03/2008	2360	None Detected	
Settling Plug C Inner	12/03/2008	<500	None Detected	
Settling Plug C Outer	12/03/2008		2.61E-07	
Settling Plug G Outer	12/03/2008	6080	None Detected	
MW-0701	06/25/2007	<500	<1.0E-7	
MW-0702	06/28/2007	<500	<1.0E-7	
MW-0703	06/28/2007	<500	<1.0E-7	
MW-0704	06/29/2007	<500	<1.0E-7	
MW-0705	06/25/2007	<500	<1.0E-7	
MW-0706	06/26/2007	<500	<1.0E-7	
AB-707	06/26/2007	<500	<1.0E-7	
AB-708	06/27/2007	<500	<1.0E-7	
AB-709 #1	06/26/2007	<500	<1.0E-7	
AB-709 #2	06/27/2007	---	---	
AB-710	06/26/2007	<500	<1.0E-7	
AB-711	06/26/2007	<500	<1.0E-7	
AB-712	06/26/2007	<500	<1.0E-7	
AB-715	06/27/2007	<500	<1.0E-7	

Sample Point	Sample Collection Date	H-3 (pCi/l)	Total Gamma Activity (µCi/ml)	Vendor H-3 (pCi/l)
AB-717	06/27/2007	<500	<1.0E-7	
Settling Plug B-inner	08/25/2006	5272	None Detected	
Settling Plug B-outer	08/25/2006	5516	None Detected	
Settling Plug C-inner	08/25/2006	4048	None Detected	
Settling Plug C-outer	08/25/2006	16340	None Detected	
Settling Plug A	08/10/2006		None Detected	
Settling Plug A	08/05/2006	96330		102111
Settling Plug B	08/05/2006	<LLD	None Detected	275
Settling Plug C	08/05/2006	<LLD	None Detected	<246
Settling Plug E	08/05/2006	8656	None Detected	8807
Settling Plug G	08/05/2006	<LLD	None Detected	1793
Settling Plug A	08/05/2006	101800		
Settling Plug B	08/05/2006	<LLD		
Settling Plug C	08/05/2006	<LLD		
Settling Plug E	08/05/2006	9287		
Settling Plug G	08/05/2006	<LLD		
Settling Plug A	08/05/2006	102500		
Settling Plug B	08/05/2006	<LLD		
Settling Plug C	08/05/2006	8101		
Settling Plug E	08/05/2006	13970		
Settling Plug G	08/05/2006	6187		
IFISI well S-1	05/24/2006	<LLD		
IFISI well S-5	05/24/2006	<LLD		
IFISI well S-9	05/24/2006	<LLD		
IFISI well MW-4	05/24/2006	<LLD		
IFISI well S-5	04/05/2006	<LLD		
IFISI well MW-4	04/05/2006	<LLD		
Settling Plug C	01/11/2006	<LLD	None Detected	
Settling Plug G	01/11/2006	<LLD	None Detected	
Settling Plug C	01/10/2006	<LLD	None Detected	
Settling Plug G	01/10/2006	<LLD	None Detected	
Settling Plug B	01/10/2006	5081		
Settling Plug C	01/10/2006	<LLD		
Settling Plug D	01/10/2006	4248		
Settling Plug G	01/10/2006	3903		
Settling Plug B	10/31/2005	<LLD	None Detected	
Settling Plug C	10/31/2005	<LLD	None Detected	
Settling Plug D	10/31/2005	<LLD	None Detected	
Settling Plug G	10/31/2005	<LLD	None Detected	
Settling Plug A	Oct-04	110000		

4.0 UNPLANNED RELEASES

No unplanned releases were made from the Kewaunee Plant during the report period.

5.0 METEOROLOGICAL DATA

See Appendix A for missing meteorological data and the joint frequency distribution tables.

6.0 SOLID WASTE DISPOSAL

Table 6.1 is a summation of solid wastes shipped during 2008. Presented are the types of wastes, major nuclide composition and disposition of the wastes. Table 6.1 contains the radionuclide content (curies) and percent abundance for each type of waste.

Table 6.1
Annual Radioactive Effluent Report 2008
Solid Waste and Irradiated Fuel Shipments

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

1. Type of Waste

		Ci	M^3
a.	Resins, Filters and Evap Bottoms	3.44E+01	2.44E+00
b.	Dry Active Waste (DAW)	1.01E-01	8.38E+01
c.	Irradiated Components	0.00E+00	0.00E+00
d.	Other Waste	0.00E+00	0.00E+00

2. Estimate of Major Nuclide by Composition

a. Resins, Filters and Evap Bottoms

Nuclide	% Abundance	Ci
H-3	0.038	1.31E-02
C-14	0.007	2.53E-03
Cr-51	0.944	3.24E-01
Mn-54	3.863	1.33E+00
Fe-55	28.226	9.70E+00
Fe-59	0.252	8.67E-02
Co-57	0.034	1.17E-02
Co-58	38.499	1.32E+01
Co-60	10.685	3.67E+00
Ni-63	10.266	3.53E+00
Zn-65	0.579	1.99E-01
Zr-95	0.918	3.15E-01
Nb-95	2.522	8.66E-01
Tc-99	0.618	2.12E-01
Ag-110m	1.672	5.75E-01
Sb-125	0.563	1.94E-01
Cs-137	0.021	7.12E-03
Ce-144	0.290	9.98e-02
U-233	0.000	9.38E-05
U-238	0.000	5.91E-05
Pu-238	0.001	2.50E-04
Am-241	0.000	6.10E-05

b. Dry Active Waste (DAW)

Nuclide	% Abundance	Ci
H-3	0.524	5.31E-04
C-14	0.520	5.26E-04
Cr-51	0.548	5.54E-04
Mn-54	3.394	3.44E-03
Fe-55	31.654	3.20E-02
Fe-59	0.100	1.01E-04
Co-57	0.092	9.34E-05
Co-58	34.441	3.49E-02
Co-60	8.072	8.17E-03
Ni-63	11.448	1.16E-02
Zn-65	0.195	1.97e-04
Zr-95	0.468	4.74e-04
Nb-95	0.900	9.11e-04
Tc-99	0.603	6.10E-04
Ag-110m	5.594	5.66E-03
Sb-125	0.634	6.42e-04
Cs-137	0.263	2.66e-04
Ce-144	0.548	5.55e-04
Pu-238	0.001	1.42E-06
Pu-239	0.000	4.53e-07

c. Irradiated Components

Nuclide	% Abundance	Ci
None	N/A	N/A

d. Other Waste

Nuclide	% Abundance	Ci
None	N/A	N/A

3. Solid Waste Disposition

Date of Shipment	Mode of Transportation	Destination
03/18/08	Hittman Transport	Duratek Inc.
05/20/08	Hittman Transport	Barnwell Disposal Facility
12/09/08	Hittman Transport	Clive Disposal Facility (Bulk)

B. IRRADIATED FUEL SHIPMENTS

No irradiated fuel shipments were made from the Kewaunee Nuclear Power Plant during 2008.

7.0 PROGRAM REVISIONS

In accordance with Technical Specifications 6.18.b.3 and 6.19.a, the revisions to the Process Control Program, Offsite Dose Calculation Manual and radioactive waste treatment systems are listed below.

7.1 **Offsite Dose Calculation Manual**

The Offsite Dose Calculation Manual (ODCM) has not been revised during this report period.

7.2 **Major Changes to the Radioactive Liquid, Gaseous and Solid Waste Treatment Systems**

Major changes to the radioactive liquid, gaseous or solid waste systems are submitted in the annual Updated Final Safety Analysis Report consistent with Technical Specification 6.19.

8.0 REPORTABLE OCCURRENCES

No reportable occurrences in 2008.

The Event Notification Worksheet 2006 is being included because all the ground water results prior to 2008 are included in this report.

Appendix A

Kewaunee Power Station

Meteorological Data

Appendix A

Kewaunee Power Station

2008 Meteorological Data

Missing Data

First Quarter: 1.5 hours
Second Quarter: 344.0 hours
Third Quarter: 114.25 hours
Fourth Quarter: 1.25 hours

Note: A total of 461 hours of data is missing or otherwise unavailable. This represents the availability of 94.75% of the data for the year.

FIRST QUARTER 2008

Stability Class A Total Hours Missing = 1.5

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	3.75	21.5	15.25	0	0	40.5
NNE	0	0.75	1.25	22	23.75	10.75	3.75	62.25
NE	0	0	9.75	40.75	10.5	0	0	61
ENE	0	0.25	7.5	13.25	9.5	0	0	30.5
E	0	2.25	7.5	10.25	4.25	0	0	24.25
ESE	0	0.75	8.5	7.5	1.75	0.25	0	18.75
SE	0	1.25	4.25	19.25	15.5	0.25	0	40.5
SSE	0	1.5	1.75	6.25	18.25	9.5	0	37.25
S	0	1	11.75	18.25	8	0.75	0	39.75
SSW	0	0.25	26.75	24.25	1	0	0	52.25
SW	0	2	35.25	12.75	4.75	0	0	54.75
WSW	0.25	1.75	31	19.5	11.5	0	0	64
W	0.25	1.75	22.5	67.75	23.5	9.75	0.25	125.75
WNW	0	1.75	19.5	21.5	10	8.5	0.25	61.5
NW	0	0.25	11.25	25.25	10.25	0	0	47
NNW	0	0.25	5.5	43.25	16.25	1.25	0	66.5
TOTAL	0.5	15.75	207.75	373.25	184	41	4.25	826.5

Stability Class B

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0.5	2	2	0	0	4.5
NNE	0	0.25	0	1.75	0.75	1.5	0	4.25
NE	0	0	1.25	0.25	0	0	0	1.5
ENE	0	0	0.25	2.25	0	0	0	2.5
E	0	0.75	2.25	1.5	0	0	0	4.5
ESE	0	0	0.25	2.25	0	0	0	2.5
SE	0	0.75	0.25	1	0.75	0.25	0	3
SSE	0	0.25	0	1.75	2.75	0	0	4.75
S	0	0.25	5.75	3.5	2.25	0	0	11.75
SSW	0	0.75	15.25	7.5	1	0	0	24.5
SW	0	0.75	4.25	2.5	0.75	0.25	0	8.5
WSW	0	0	5.75	4.75	1.5	4.25	0	16.25
W	0	0	6	14.75	2	0	0	22.75
WNW	0	0	2.25	10	2.25	0	0	14.5
NW	0	0.25	2.25	9.5	4.5	0	0	16.5
NNW	0	0	1	7.25	1	0	0	9.25
TOTAL	0	4	47.25	72.5	21.5	6.25	0	151.5

Stability Class C

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.5	1.25	1	1.25	0	0	4
NNE	0	0	0.5	2.25	2.25	0.25	0	5.25
NE	0	0	1.25	2	0	0	0	3.25
ENE	0	0.25	0.75	2.5	0	0	0	3.5
E	0	0.25	0.75	2	1.25	0	0	4.25
ESE	0	0.5	0.5	2.25	0.25	0	0	3.5
SE	0	0.5	3.25	0.75	1	0	0	5.5
SSE	0	0.5	0.5	0.75	1.5	0	0	3.25
S	0	0	2.5	0.25	0.75	0	0	3.5
SSW	0	0.25	9.25	7.25	0.75	0	0	17.5
SW	0	0	8	2.25	0.75	0	0	11
WSW	0	0.25	5	2.25	5.75	0	0	13.25
W	0	0.25	3.75	13	4.25	0	0	21.25
WNW	0	0	0.75	8.5	5.25	0	0	14.5
NW	0	0.75	3	12	2	0	0	17.75
NNW	0	0.25	1.75	8	0.5	0	0	10.5
TOTAL	0	4.25	42.75	67	27.5	0.25	0	141.75

Stability Class D

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.5	5.75	3.5	0.75	0	0	10.5
NNE	0	0	2.25	3.5	1	0	0	6.75
NE	0	0	5	0.25	0.5	0	0	5.75
ENE	0	1.75	6.5	1.25	1	0	0	10.5
E	0	0.75	2.75	2.25	0.75	0.75	0	7.25
ESE	0	1.25	3.5	10.25	3.25	0	0	18.25
SE	0	1.25	5	6	3	0	0	15.25
SSE	0	0.5	1.5	1.5	4.25	0.5	0	8.25
S	0	2	4	15	19.5	1.25	0	41.75
SSW	0.25	0.5	13.25	9	1.25	0	0	24.25
SW	0	1	13.25	11	5.75	1	0	32
WSW	0	1	12.5	19.75	2.5	0	0	35.75
W	0	2	12.5	46	12	3.25	0	75.75
WNW	0	0.5	8	23.5	8.5	0	0	40.5
NW	0	0.25	12	30.25	5.25	0	0	47.75
NNW	0	0.25	13.75	19.5	3.75	0	0	37.25
TOTAL	0.25	13.5	121.5	202.5	73	6.75	0	417.5

Stability Class E

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.25	4.5	6.25	0	0	0	11
NNE	0	0.25	2.25	3	0	0	0	5.5
NE	0	0.25	2.5	0	0	0	0	2.75
ENE	0	1	0.5	0	0	0	0	1.5
E	0	0.25	0.5	0.5	0	0	0	1.25
ESE	0	0.5	1.75	1.25	0.25	0	0	3.75
SE	0	0.5	0.25	0.25	0	0	0	1
SSE	0	0	1.75	1.75	0	0.5	0	4
S	0	1	7.75	10.75	0.5	0.75	0	20.75
SSW	0	3	19.25	5.25	0.25	0	0	27.75
SW	0.25	2.75	22	17.25	0	0	0	42.25
WSW	0.25	1	25.75	19.25	0.5	0	0	46.75
W	0	1.25	17.25	24.25	0	0	0	42.75
WNW	0	1.75	9.25	19.25	0.25	0	0	30.5
NW	0	1.25	15.75	15.5	3.75	0	0	36.25
NNW	0	1	16.25	24	0	0	0	41.25
TOTAL	0.5	16	147.25	148.5	5.5	1.25	0	319

Stability Class F

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.25	1.5	0.25	0	0	0	2
NNE	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0
ENE	0	1.75	0	0	0	0	0	1.75
E	0	1.5	0.75	0	0	0	0	2.25
ESE	0	0.25	1	0.5	0	0	0	1.75
SE	0	0	0.5	0	0	0	0	0.5
SSE	0	0	0.5	0.25	0	0	0	0.75
S	0	0.75	7	0	0	0	0	7.75
SSW	0	1.75	13.5	2.25	0	0	0	17.5
SW	0	1.5	17.25	6.25	1.5	0	0	26.5
WSW	0	2.5	11	7.75	0	0	0	21.25
W	0	2.75	15	11	0	0	0	28.75
WNW	0	1.75	17	14	0	0	0	32.75
NW	0	1	13.75	5.5	0	0	0	20.25
NNW	0	0	6.75	3.75	0	0	0	10.5
TOTAL	0	15.75	105.5	51.5	1.5	0	0	174.25

Stability Class G

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0.25	0	0	0	0	0.25
NNE	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	0
SSE	0	0	0	0.75	0	0	0	0.75
S	0	0	1.75	0	0	0	0	1.75
SSW	0	0	5.25	1	0	0	0	6.25
SW	0	0	6.5	5.5	0	0	0	12
WSW	0	1	16.5	15	0	0	0	32.5
W	0	3	29.25	13	0	0	0	45.25
WNW	0	3	25.25	5.25	0	0	0	33.5
NW	0	2.5	11.75	0	0	0	0	14.25
NNW	0	0.75	4.5	0.25	0	0	0	5.5
TOTAL	0	10.25	101	40.75	0	0	0	152

2nd QUARTER 2008

Stability Class A Total Hours Missing = 344

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	1.5	6.25	8.25	0.5	0	16.5
NNE	0	0	7	19	25.5	29.25	0	80.75
NE	0	0.25	14.25	15.75	2.5	0	0	32.75
ENE	0	0	13.75	2.25	0	0	0	16
E	0	0	12.75	0.25	0	0	0	13
ESE	0	0	8	0	0	0	0	8
SE	0	0	8	1.75	0	0	0	9.75
SSE	0	0	4.75	8	7.5	1.25	0	21.5
S	0	0	1.5	10.25	3.75	0	0	15.5
SSW	0	0	1	4.25	0	0	0	5.25
SW	0	0	2.75	13	3.25	5.75	0	24.75
WSW	0	0	4.75	26.75	9	1.5	0	42
W	0	0.5	4.5	14	3	0	0	22
WNW	0	0	7.25	15.75	9.25	0	0	32.25
NW	0	0.25	6	14	9	0	0	29.25
NNW	0	0	1.75	17.5	12.5	0	0	31.75
TOTAL	0	1	99.5	168.75	93.5	38.25	0	401

Stability Class B

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0.5	0.5	1	0	0	2
NNE	0	0	1.5	3.25	7.75	1.75	0	14.25
NE	0	0.25	1.5	1.75	0	0	0	3.5
ENE	0	0	0.5	0.25	0.5	0	0	1.25
E	0	0	1	0	0	0	0	1
ESE	0	0	0.75	0	0	0	0	0.75
SE	0	0	1	0	0	0	0	1
SSE	0	0	0.75	0.5	1	0	0	2.25
S	0	0	0.5	3.5	0.75	0	0	4.75
SSW	0	0	0.75	0.25	0	0	0	1
SW	0	0	0	1.25	1	0	0	2.25
WSW	0	0	0.5	2.5	0.25	1	0	4.25
W	0	0.25	1	1.5	0.75	0	0	3.5
WNW	0	0	0	0.5	0.5	0	0	1
NW	0	0	0.5	1.25	1.25	0	0	3
NNW	0	0	0.25	3	2	0	0	5.25
TOTAL	0	0.5	11	20	16.75	2.75	0	51

Stability Class C

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0.75	1	3.25	0	0	5
NNE	0	0	3.25	5.75	11	1	0	21
NE	0	0	1	4.25	2	0	0	7.25
ENE	0	0	2.5	1	0.5	0	0	4
E	0	0	0.75	0.25	0	0	0	1
ESE	0	0.25	2	0.25	0	0	0	2.5
SE	0	0	1.5	0.75	0	0	0	2.25
SSE	0	0	1	1	0.75	0.25	0	3
S	0	0	0.75	2.25	1.5	0	0	4.5
SSW	0	0	1.25	1.25	0	0	0	2.5
SW	0	0	0.5	1.5	1.25	0	0	3.25
WSW	0	0	1	1.75	1.25	0.25	0	4.25
W	0	0	0.25	1.75	1.25	0	0	3.25
WNW	0	0	0.25	2	1.5	0	0	3.75
NW	0	0	1.25	3.25	0.75	0	0	5.25
NNW	0	0	0.5	1.5	1.75	0	0	3.75
TOTAL	0	0.25	18.5	29.5	26.75	1.5	0	76.5

Stability Class D

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.25	2	2	2.75	0	0	7
NNE	0	0.25	7	24.75	18.5	4.5	0	55
NE	0	1.5	14	6	0.5	0	0	22
ENE	0	0.25	6.5	4.5	1.5	0	0	12.75
E	0	0.5	7.25	1.75	0.5	0	0	10
ESE	0	1	5	1.75	0	0	0	7.75
SE	0	0.25	3.25	2	0	0	0	5.5
SSE	0	0	5.25	8.25	12.5	2.25	0	28.25
S	0	0.25	8	17	7	0	0	32.25
SSW	0	0	7.75	6.25	0	0	0	14
SW	0	0.25	1.5	3.75	3.75	0	0	9.25
WSW	0	0.5	3	5.25	5.25	3	0	17
W	0	0.75	1.75	1.75	0	0	0	4.25
WNW	0	0	1.75	4	1.5	0	0	7.25
NW	0	0.5	4.25	7	6.25	0	0	18
NNW	0	0	6.25	7.25	6	0	0	19.5
TOTAL	0	6.25	84.5	103.25	66	9.75	0	269.75

Stability Class E

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	1.75	2.5	2.75	4.25	0	0	11.25
NNE	0	0.75	12.75	15.5	8.25	6.5	0.25	44
NE	0	3	14.25	6	1.5	0	0	24.75
ENE	0	4.5	8.25	0.75	0	0	0	13.5
E	0	3.75	7.5	0.5	0	0	0	11.75
ESE	0	6.25	10	0.5	0	0	0	16.75
SE	0	1.75	10.25	1.25	0	0	0	13.25
SSE	0	2.25	8.5	7.25	3.75	0.5	0	22.25
S	0	3.25	20	30.25	2.25	0.25	0	56
SSW	0	1	14.75	14	0.75	0	0	30.5
SW	0	1.75	8	7	1.75	0.25	0	18.75
WSW	0	0.75	6.75	2.75	3.25	0	0	13.5
W	0	0.75	10.75	7.25	0	0	0	18.75
WNW	0	2	5.5	6	0	0	0	13.5
NW	0	0.75	4.5	5	0.25	0	0	10.5
NNW	0	1	5.5	1.5	3.5	0	0	11.5
TOTAL	0	35.25	149.75	108.25	29.5	7.5	0.25	330.5

Stability Class F

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	1.5	5.25	0.25	1.25	0	0	8.25
NNE	0	0.75	6.75	4.25	0	0	0	11.75
NE	0	1.75	7.75	1.5	0	0	0	11
ENE	0	3	3.5	1	1	0	0	8.5
E	0	2.25	1.75	0	0	0	0	4
ESE	0	1.75	3.75	0.25	0	0.25	0	6
SE	0	2.75	5.75	1.75	0.5	0	0	10.75
SSE	0	3.75	12	9.75	3.25	0	0	28.75
S	0	4	17	11.75	1.5	0	0	34.25
SSW	0	2.5	21.5	7.5	0.5	0	0	32
SW	0	3.75	8.75	9.5	0.25	0	0	22.25
WSW	0	1	17.75	7	0.5	0	0	26.25
W	0	1.25	14.75	2.25	0	0	0	18.25
WNW	0	1.5	10.5	2.5	0	0	0	14.5
NW	0	2.25	11.75	2.25	0	0	0	16.25
NNW	0	1.75	7.75	0.25	0.75	0	0	10.5
TOTAL	0	35.5	156.25	61.75	9.5	0.25	0	263.25

Stability Class G

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	1.5	6	0.75	0	0	0	8.25
NNE	0	2.75	6.5	3	0	0	0	12.25
NE	0	2.75	4.75	1.5	0	0	0	9
ENE	0	0.75	6.5	0.25	0	0	0	7.5
E	0	2.25	4.5	0.25	0	0	0	7
ESE	0	0.5	8	1.75	2.25	0.25	0	12.75
SE	0	1.5	15.25	5.25	1.25	0.25	0.5	24
SSE	0	2.25	48.25	44.25	9	0.25	0.5	104.5
S	0	1.75	34.25	19.75	1	0	0	56.75
SSW	0	2.5	28.75	4.25	0	0	0	35.5
SW	0	5.5	35	5.5	0	0	0	46
WSW	0	1.5	33.5	3.75	0	0	0	38.75
W	0	3.25	28	9.75	0	0	0	41
WNW	0	2.75	9	4.5	0	0	0	16.25
NW	0	1.5	9.5	3	0	0	0	14
NNW	0	4	9	1.5	0	0	0	14.5
TOTAL	0	37	286.75	109	13.5	0.75	1	448

3rd QUARTER 2008
Stability Class A Total Hours Missing = 114.25

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.5	13.25	20.5	0.75	0	0	35
NNE	0	0	16	27.25	14	0.25	0	57.5
NE	0	1	31.75	10.75	0	0	0	43.5
ENE	0	0	20	7.75	0	0	0	27.75
E	0	0	12.5	7.5	0	0	0	20
ESE	0	0	13.25	2	0	0	0	15.25
SE	0	0.5	16	10.5	0	0	0	27
SSE	0	0.75	7.25	31.75	29	0.5	0.25	69.5
S	0	0.25	15.5	20.5	9	1.25	0	46.5
SSW	0	0	3.5	7	0.25	0	0	10.75
SW	0	0	5.5	22.25	1.75	0	0	29.5
WSW	0	0	10.5	37.25	0	0	0	47.75
W	0	0	21.25	31.75	1.75	0	0	54.75
WNW	0	0.5	26.25	16.5	0.5	0	0.25	44
NW	0	1.25	37.25	28.75	0.5	0	0	67.75
NNW	0	0.25	24.25	25.75	2	0	0	52.25
TOTAL	0	5	274	307.75	59.5	2	0.5	648.75

Stability Class B

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	1.25	0.5	0	0	0	1.75
NNE	0	0.25	2.5	3.25	1	0	0	7
NE	0	0	5	3.25	0	0	0	8.25
ENE	0	0	2.25	0.25	0	0	0	2.5
E	0	0	1.5	0	0	0	0	1.5
ESE	0	0	3.25	0.5	0	0	0	3.75
SE	0	0	2	0.25	0	0	0	2.25
SSE	0	0	1	2.75	0.75	0	0	4.5
S	0	0	3.5	2.25	0	0	0	5.75
SSW	0	0	0.75	1	0	0	0	1.75
SW	0	0.25	1	1.75	0	0	0	3
WSW	0	0.25	2	3.5	0	0	0	5.75
W	0	0	1.25	4	0.25	0	0	5.5
WNW	0	0.25	2	3	0	0	0.25	5.5
NW	0	0	2	1.75	0	0	0	3.75
NNW	0	0.25	2	1.25	0	0	0	3.5
TOTAL	0	1.25	33.25	29.25	2	0	0.25	66

Stability Class C

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	1	1	0.25	0	0	2.25
NNE	0	0	2.25	7.75	1	0	0	11
NE	0	0	12.25	7	0	0	0	19.25
ENE	0	0	12.75	1	0	0	0	13.75
E	0	0	4.25	1.5	0	0	0	5.75
ESE	0	0	6.5	0	0.25	0	0	6.75
SE	0	0	7	9.25	0.25	0	0	16.5
SSE	0	0	2.25	3.25	1	0	0	6.5
S	0	0.25	7.75	3.75	0	0	0	11.75
SSW	0	0.25	1.25	0	0	0	0	1.5
SW	0	0	1.25	0.25	0	0	0	1.5
WSW	0	0	1.75	4	0	0	0	5.75
W	0	0	2.5	3.25	1.25	0	0	7
WNW	0	0	2.75	1.75	1.25	0	0	5.75
NW	0	0	1.5	1	0	0	0	2.5
NNW	0	0.5	1.25	0.25	0	0	0	2
TOTAL	0	1	68.25	45	5.25	0	0	119.5

Stability Class D

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.5	1.5	2.25	1.25	0	0	5.5
NNE	0	1	3.25	12.25	0.25	0	0	16.75
NE	0	1.25	14.5	3	0	0	0	18.75
ENE	0	1	12	1.5	0	0	0	14.5
E	0	0.25	5	1.75	0	0	0	7
ESE	0	1.5	12.75	0.5	0.75	0	0	15.5
SE	0	0.5	12.5	12.5	0	0	0	25.5
SSE	0	1.5	10.75	15	3	0	0	30.25
S	0	2.5	9.75	8.25	0	0	0	20.5
SSW	0	1	7.5	1	0	0	0	9.5
SW	0	0.25	5.5	1.5	0	0	0	7.25
WSW	0	1.75	11.25	5	0	0	0	18
W	0	1.5	8	4.5	0	0	0	14
WNW	0	1	5.5	8	0.25	0	0	14.75
NW	0	1.25	3.25	3.25	0	0	0	7.75
NNW	0	0.75	4.25	0.75	0	0	0	5.75
TOTAL	0	17.5	127.25	81	5.5	0	0	231.25

Stability Class E

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.75	5.25	2.5	0.25	0	0	8.75
NNE	0	2.25	10	3.75	0	0	0	16
NE	0	0.75	10.5	0.75	0	0	0	12
ENE	0	1.25	2.25	0	0	0	0	3.5
E	0	1.5	3	0	0	0	0	4.5
ESE	0	0.75	3.25	0.25	0	0	0	4.25
SE	0	4.25	2.5	2.25	0.25	0	0	9.25
SSE	0	3.5	13.75	11.75	9.25	0	0	38.25
S	0	4.5	36.75	8	0.25	0	0	49.5
SSW	0	5.75	17.75	1	0	0	0	24.5
SW	0	2.5	15.5	0.75	0	0	0	18.75
WSW	0	2.25	14.25	6.5	0	0	0	23
W	0	1	16.25	3	0.75	0	0	21
WNW	0	1.75	7.75	3.5	0	0	0	13
NW	0	1.25	8.25	2	0	0	0	11.5
NNW	0	3	6	2.25	0	0	0	11.25
TOTAL	0	37	173	48.25	10.75	0	0	269

Stability Class F

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.5	5.5	0.25	0	0	0	6.25
NNE	0	0.5	2.5	2.5	0.5	0	0	6
NE	0	1.25	2	0.25	0	0	0	3.5
ENE	0	1.25	1.25	0	0	0	0	2.5
E	0	0.5	0.75	0	0	0	0	1.25
ESE	0	0.75	2.25	0	0	0	0	3
SE	0	1.5	2.75	0.5	0	0	0	4.75
SSE	0	3.25	6.5	10.75	5.5	0	0	26
S	0	3.25	22.75	5.25	0.5	0	0	31.75
SSW	0	5.75	22.25	0.5	0	0	0	28.5
SW	0	3	10.25	0.25	0	0	0	13.5
WSW	0	3.5	30.5	6.75	0	0	0	40.75
W	0	3.5	31.75	0.25	0	0	0	35.5
WNW	0	2	15.5	0.5	0	0	0	18
NW	0	2.75	19.75	0	0	0	0	22.5
NNW	0	2.25	8.25	0.25	0	0	0	10.75
TOTAL	0	35.5	184.5	28	6.5	0	0	254.5

Stability Class G

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	1.5	1.5	0	0	0	0	3
NNE	0	0.75	4	0.25	0	0	0	5
NE	0	1	2.5	0	0	0	0	3.5
ENE	0	1.25	3.25	0	0	0	0	4.5
E	0	1.75	1.25	0	0	0	0	3
ESE	0	0.5	3.5	0	0	0	0	4
SE	0	1.5	7	0.5	0	0	0	9
SSE	0	2	24	30.5	2.75	0	0	59.25
S	0	7.25	23	19.5	0.5	0	0	50.25
SSW	0	9.75	43.75	0.75	0	0	0	54.25
SW	0	13.75	29	0	0	0	0	42.75
WSW	0	10.75	69.25	1	0	0	0	81
W	0	17.75	52.25	4	0	0	0	74
WNW	0	15	37.75	0	0	0	0	52.75
NW	0	8.75	29	0	0	0	0	37.75
NNW	0	3.75	17	0	0	0	0	20.75
TOTAL	0	97	348	56.5	3.25	0	0	504.75

4th QUARTER 2008

Stability Class A Total Hours Missing = 1.25

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	1.5	4.75	14	2.75	0	23
NNE	0	0.25	4.25	9.5	6	2	0	22
NE	0	0.25	9.5	12	10.5	0.25	0	32.5
ENE	0	0	6.75	6.25	4.5	2.25	0	19.75
E	0	0.25	9	17	1.5	0	0	27.75
ESE	0	0	12	23.25	15.25	3	0	53.5
SE	0	0.75	6.5	13.5	50.75	4.75	0	76.25
SSE	0	0.25	2.5	11	21.25	29.25	4.75	69
S	0	0	17	54.75	10.25	0.5	0	82.5
SSW	0	0.25	18.25	41	1.5	0	0	61
SW	0	1.75	15.25	19.25	6.5	0	0	42.75
WSW	0	2.75	21.5	20.5	16.5	10.25	2.25	73.75
W	0	3.75	38.25	78.5	22.5	14.25	3.25	160.5
WNW	0	2.5	27.5	60.75	11.5	0	0	102.25
NW	0	1	13.75	50	30	7.75	0	102.5
NNW	0	0.75	4.25	18	16.75	4	0	43.75
TOTAL	0	14.5	207.75	440	239.25	81	10.25	992.75

Stability Class B

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.25	0.5	0.75	0	0	0	1.5
NNE	0	0	0	0.25	0.5	0	0	0.75
NE	0	0.25	0.25	0.75	0	0	0	1.25
ENE	0	0	0	1.75	0	0	0	1.75
E	0	0	1.5	0	0	0	0	1.5
ESE	0	0	0.25	0	0.75	0	0	1
SE	0	0	0.25	0.25	0.25	0	0	0.75
SSE	0	0	0.25	0.5	0.25	0.25	0	1.25
S	0	0.25	0.75	8.75	0.5	0	0	10.25
SSW	0	0	8	2.25	0	0	0	10.25
SW	0	0.25	2.25	1.25	0	0.75	0	4.5
WSW	0	0.25	0.5	1.5	1	1.5	0	4.75
W	0	0.5	1.25	7.25	2.75	0.5	0	12.25
WNW	0	1	3.5	10.5	5.75	0.5	0	21.25
NW	0	0.25	2.25	3.75	4.25	0	0	10.5
NNW	0	0	0.75	1	0.25	0	0	2
TOTAL	0	3	22.25	40.5	16.25	3.5	0	85.5

Stability Class C

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0.25	0	0	0	0	0.25
NNE	0	0	0.5	0.5	0.25	0	0	1.25
NE	0	0.25	0.5	2.25	0	0	0	3
ENE	0	0	0	0.75	0	0	0	0.75
E	0	0	4.5	0	0	0	0	4.5
ESE	0	0	0.25	0.5	0.25	0	0	1
SE	0	0	1.25	0.5	0	0	0	1.75
SSE	0	0	0	0.25	0.25	0.75	0	1.25
S	0	0.25	3.5	5	0.75	0	0	9.5
SSW	0	0	6.25	2.5	0.25	0	0	9
SW	0	0	1.25	0.75	0.25	1.25	0	3.5
WSW	0	0.5	1.5	2.5	1	0	0	5.5
W	0	0.25	2	16	7	0	0	25.25
WNW	0	0	3.25	9.5	3.25	0	0	16
NW	0	0	1.5	3.75	6	0	0	11.25
NNW	0	0	0.25	1.25	0.25	0	0	1.75
TOTAL	0	1.25	26.75	46	19.5	2	0	95.5

Stability Class D

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.25	1.25	1.5	0	0	0	3
NNE	0	0	3.25	2.25	1.25	0	0	6.75
NE	0	0	3.75	2	0	0	0	5.75
ENE	0	0	3.25	0.5	0	0	0	3.75
E	0	0	4.5	0	0	0	0	4.5
ESE	0	0	0.25	0.75	0	0	0	1
SE	0	0	1.75	1.5	0	0	0	3.25
SSE	0	0	1.25	2.75	2.25	0.25	0	6.5
S	0	0.25	13.25	23.75	4.25	0	0	41.5
SSW	0	0.25	15.5	18.25	0.75	0	0	34.75
SW	0	1.25	10.75	4	0.5	0	0	16.5
WSW	0	0.5	6.25	7.5	0.5	0	0	14.75
W	0	1.25	13.75	26.75	9	0.25	0	51
WNW	0	1.5	18.75	22.75	8.5	0	0	51.5
NW	0	1	5	23.75	10.5	0	0	40.25
NNW	0	0	0.5	5.75	0.75	0	0	7
TOTAL	0	6.25	103	143.75	38.25	0.5	0	291.75

Stability Class E

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0.25	1.75	2.25	0	0	0	4.25
NNE	0	0	0.25	0.25	0	0	0	0.5
NE	0	0.5	4	0.5	0	0	0	5
ENE	0	0.25	1.25	0	0	0	0	1.5
E	0	0.5	0.5	0	0	0	0	1
ESE	0	1.75	0.5	0	0	0	0	2.25
SE	0	0.5	0	3.5	0	0	0	4
SSE	0	0.25	1.75	5.5	9.75	1.5	0	18.75
S	0	1.5	17.5	10.75	1.25	0	0	31
SSW	0	4.25	26.5	9	0	0	0	39.75
SW	0	5.5	16.75	4.25	1.25	0	0	27.75
WSW	0	4.75	11.5	20.25	0	0	0	36.5
W	0	2	17	25.75	0	0	0	44.75
WNW	0	1.75	9.75	15.75	2.75	0	0	30
NW	0	4.25	16.5	14.75	0	0	0	35.5
NNW	0	0.25	7.25	4.5	0.5	0	0	12.5
TOTAL	0	28.25	132.75	117	15.5	1.5	0	295

Stability Class F

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	0	0.75	0.5	0	0	0	1.25
NNE	0	0	0.75	0	0	0	0	0.75
NE	0	0.25	2	0	0	0	0	2.25
ENE	0	0.75	0	0	0	0	0	0.75
E	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0
SE	0	1	0	0	0	0	0	1
SSE	0	1	6	6.5	3.75	0.25	0	17.5
S	0	4.5	15	4.5	0	0	0	24
SSW	0	2.5	25.5	1	0	0	0	29
SW	0	4	7.5	0.75	0	0	0	12.25
WSW	0	3	7.5	16.75	0	0	0	27.25
W	0	1.5	14	7.5	0	0	0	23
WNW	0	1	5.75	7	0	0	0	13.75
NW	0	2.5	14.75	1.25	0	0	0	18.5
NNW	0	0.25	5.25	0	0	0	0	5.5
TOTAL	0	22.25	104.75	45.75	3.75	0.25	0	176.75

Stability Class G

Wind Direction

	CALM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	1.5	1.25	0.25	0	0	0	3
NNE	0	0.25	0.5	0	0	0	0	0.75
NE	0	0.75	0.75	0	0	0	0	1.5
ENE	0	0.75	0	0	0	0	0	0.75
E	0	1.25	0	0	0	0	0	1.25
ESE	0	1	0	0	0	0	0	1
SE	0	3.25	0	0	0	0	0	3.25
SSE	0	2.75	8	8	0	0	0	18.75
S	0	5.75	15.5	2.5	0	0	0	23.75
SSW	0	3.5	25	2	0	0	0	30.5
SW	0	8.5	20.75	0	0	0	0	29.25
WSW	0	4.75	32.75	5.5	0	0	0	43
W	0	5.5	51.25	1	0	0	0	57.75
WNW	0	3.25	28	1.5	0	0	0	32.75
NW	0	4	10.5	0	0	0	0	14.5
NNW	0	1.25	6.5	0	0	0	0	7.75
TOTAL	0	48	200.75	20.75	0	0	0	269.5

Appendix B

Kewaunee Power Station

Event Notification Worksheet

NRC FORM 361 (12-2000)

U.S. NUCLEAR REGULATORY COMMISSION
OPERATIONS CENTER

REACTOR PLANT EVENT NOTIFICATION WORKSHEET

EN # 42762

NRC OPERATION TELEPHONE NUMBER: PRIMARY -- 301-816-5100 or 800-532-3469*, BACKUPS – [1st] 301-951-0550 or 800-449-3694*, [2nd] 301-415-0550 and [3rd] 301-415-0553 *Licensees who maintain their own ETS are provided these telephone numbers.

NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	NAME OF CALLER	CALL BACK #
1638	Kewaunee Power Station	N/A	David Karst	(920) 388-8235

EVENT TIME & ZONE	EVENT DATE	POWER/MODE BEFORE	POWER/MODE AFTER
1400 Central	08/10/2006	Operating	Operating

EVENT CLASSIFICATIONS

	GENERAL EMERGENCY	GEN/AAEC
	SITE AREA EMERGENCY	SIT/AAEC
	ALERT	ALE/AAEC
	UNUSUAL EVENT	UNU/AAEC
	50.72 NON-EMERGENCY	(see next columns)
	PHYSICAL SECURITY (73.71)	DDDD
	MATERIAL/EXPOSURE	B???
	FITNESS FOR DUTY	HFIT
	OTHER UNSPECIFIED REQMT.	(see last column)
	INFORMATION ONLY	NNF

1-Hr. Non-Emergency 10 CFR 50.72(b)(1)

		TS Deviation	ADEV

4-Hr. Non-Emergency 10 CFR 50.72(b)(2)

	(i)	TS Required S/D	ASHU
	(iv)(A)	ECCS Discharge to RCS	ACCS
	(iv)(B)	RPS Actuation (scram)	ARPS
✓	(xi)	Offsite Notification	APRE

8-Hr. Non-Emergency 10 CFR 50.72(b)(3)

	(ii)(A)	Degraded Condition	ADEG
	(ii)(B)	Unanalyzed Condition	AUNA
	(iv)(A)	Specified System Actuation	AESF

	(v)(A)	Safe S/D Capability	AINA
	(v)(B)	RHR Capability	AINB
	(v)(C)	Control of Rad Release	AINC
	(v)(D)	Accident Mitigation	AIND
	(xii)	Offsite Medical	AMED
	(xiii)	Loss Comm/Asmt/Resp	ACOM

60-Day Optional 10 CFR 50.73(a)(1)

	Invalid Specified System Actuation	AINV

Other Unspecified Requirement (Identify)

	NONR
	NONR

DESCRIPTION

Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. *(Continue on back)*

At 1400 on 8/10/06 KPS is planning on making a notification to the State and Local Government that samples taken at settling plugs in the basement of the Auxiliary Building and Turbine Building show elevated tritium levels. Detected tritium levels were between 6,000 and 103,000 pico curries per liter. The Radiological Effluent Program has not detected any elevated tritium levels outside the plant. RCS leakage is .19 gpm, stable and within Technical Specification limits and there is currently no identified leakage from the Spent Fuel Pool.

Investigation is continuing to identify the reason for the increase in tritium levels.

PERSONNEL CONTACTED:

LORI HUCEK, KEWAUNEE COUNTY EMERGENCY DIRECTOR

~~NANCY CROWLEY, MANITOWOC COUNTY EMERGENCY DIRECTOR~~

MARY HERZOG, MANITOWOC COUNTY EMERGENCY DIRECTOR

BOB NOST, WISCONSIN DEPARTMENT OF EMERGENCY MANAGEMENT

LORI GETTER, WISCONSIN " " " " (PIO)

DAN HEALY, WISCONSIN DNR REGIONAL OFFICE

NOTIFICATIONS	YES	NO	WILL BE
NRC RESIDENT	✓		
STATE(s)	✓		
LOCAL	✓		
OTHER GOV AGENCIES		✓	
MEDIA/PRESS RELEASE		✓	

ANYTHING UNUSUAL OR NOT UNDERSTOOD? ☐ YES (Explain above) ☑ NO

DID ALL SYSTEMS FUNCTION AS REQUIRED? ☑ YES ☐ NO (Explain above)

MODE OF OPERATION UNTIL CORRECTED: Op

ESTIMATED RESTART DATE: N/A

ADDITIONAL INFO ON BACK ☐ YES ☑ NO