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Exelon Nuclear

April 30, 2004
BW040041

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Subject: 2003 Radioactive Effluent Release Report

The attached document includes the Radioactive Effluent Release Report for Braidwood Station. This report is being submitted in accordance with 10 CFR 50.36a, "Technical specifications on effluents from nuclear power reactors," and Technical Specification 5.6.3, "Radioactive Effluent Release Report," and includes a summary of radiological liquid and gaseous effluents and solid waste released from the site from January 2003 through December 2003.

If you have any questions regarding this information, please contact Ms. Kelly Root, Regulatory Assurance Manager, at (815) 417-2800.

Respectfully,

T.P. Joyce
Site Vice President
Braidwood Station

Attachment

cc: Regional Administrator - NRC Region III
NRC Senior Resident Inspector - Braidwood Station

IE48

RADIOACTIVE EFFLUENT RELEASE REPORT

Supplemental Information

January - December 2003

Facility: BRAIDWOOD NUCLEAR POWER STATION

Licensee: EXELON GENERATION COMPANY, LLC

1. Regulatory Limits

a. For Noble Gases:

Dose Rate

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

Dose Gamma Radiation

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

Beta Radiation

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

b. Iodine: (summed with particulate, see below)

c. Particulates with half-lives > 8 days:

Dose Rate

1) Less than 1500 mrem/year.

Dose

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

d. For Liquid

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

2. Maximum Permissible Concentration

a. Fission and Activation Gasses: 10CFR20 Appendix B Table 2
b. Iodine: 10CFR20 Appendix B Table 2
c. Particulates: 10CFR20 Appendix B Table 2
d. Liquid Effluents: 10 X 10CFR20 Appendix B Table 2

3. Average Energy

This item is not applicable. Release rates are calculated using an isotopic mix rather than average energy.

4. Measurements and Approximations of Total Radioactivity

a. Fission and Activation Gases, Iodines, and Particulates

Containment batch releases are analyzed for noble gas and tritium before being discharged by gamma isotopic and scintillation, respectively. Gaseous decay tanks are analyzed for noble gas before being discharged by gamma isotopic. Released activity is normally calculated using volume of release, which is determined by change in tank or containment pressure.

The Auxiliary Building ventilation exhaust system is continually monitored for iodines and particulates. These samples are pulled every 7 days and analyzed by gamma isotopic. The particulate samples are also analyzed quarterly for gross alpha and Sr-89/90.

Noble gas and tritium grab samples are pulled and analyzed weekly by gamma isotopic and scintillation, respectively. The average flow at the release points are used to calculate the curies released.

b. Liquid Effluents

The liquid release tanks are analyzed before discharge by gamma isotopic and for tritium. A representative portion of this sample is saved. This is composited, every 31 days, with other discharges that occurred and is analyzed for tritium and gross alpha. The batch composites are composited quarterly and sent to a vendor for Sr-89/90 and Fe-55 analysis. Circulating Water Blowdown, Condensate Polisher Sump and Waste Water Treatment are analyzed weekly by gamma isotopic and for tritium. These weekly samples are composited monthly. The monthly composites are then composited quarterly and sent to a vendor for Sr-89/90 and Fe-55 analysis.

The first quarter 2003 composite samples for the continuous and batch effluent streams did not include February samples. This was due to the incorrect disposal of February monthly composite samples prior to the performance the quarterly composite activity. This issue was documented in the Braidwood Corrective Action Program as CR #156732.

On 12/16/03, during routine equipment checks, the composite sample for the Condensate Polisher Sump continuous effluent path was found to be malfunctioning (the sample pump hose was not properly directed to the sample collection bottle). It was determined that the maximum time the equipment was malfunctioning was 24 hours. Therefore, the requirement for continuous sampling of this effluent stream was not met for the 24 hour period. This issue was documented in the Braidwood Corrective Action Program as CR #191366.

The tank volumes and activities are used to calculate the curies released for the liquid release tanks. The total volume of water released and the activity is used to calculate the diluted activity released at the discharge point from batch discharges.

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

Samples are analyzed such that the Offsite Dose Calculation Manual (ODCM) LLD requirements are met. When a nuclide is not detected during the quarter then <LLD is reported.

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
GAS RELEASES
UNIT 1 (Docket Number 50-456)
SUMMATION OF ALL RELEASES

	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
A. Fission and Activation Gas Releases						
1. Total Release Activity	Ci	1.01E-01	4.11E+01	1.55E+01	3.76E+00	**6.05E+01**
2. Average Release Rate	uCi/sec	1.30E-02	2.07E+02	1.95E+00	4.73E-01	**5.23E+01**
B. Iodine Releases						
1. Total I-131 Activity	Ci	<LLD	4.08E-05	8.59E-05	7.69E-04	**8.96E-04**
2. Average Release Rate	uCi/sec	<LLD	5.19E-06	<LLD	9.67E-05	**2.84E-05**
C. Particulate (> 8 day half-life) Releases						
1. Gross Activity	Ci	<LLD	<LLD	1.66E-05	2.05E+00	**2.05E+00**
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	<LLD	**6.50E-02**
3. Gross Alpha Activity	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
D. Tritium Releases						
1. Total Release Activity	Ci	3.56E-01	1.93E+00	1.79E+00	1.64E+01	**2.05E+01**
2. Average Release Rate	uCi/sec	4.58E-02	2.45E-01	2.25E-01	2.06E+00	**6.49E-01**
E. Sum of Iodine, Particulate (> 8 day half-life), and Tritium Releases.						
1. Total Release Activity	Ci	3.56E-01	1.93E+00	1.79E+00	1.85E+01	**2.25E+01**

Note: LLD Values are included in Appendix A of this report.

Note: % Limit Values are included in Appendix B of this report.

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
GAS RELEASES
UNIT 1 (Docket Number 50-456)
BATCH MODE

	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total

A. Particulate (> 8 day half-life) Releases

Cr-51	Ci	*	*	*	*	*
Mn-54	Ci	*	*	*	*	*
Co-57	Ci	*	*	*	*	*
Co-58	Ci	*	*	*	*	*
Fe-59	Ci	*	*	*	*	*
Co-60	Ci	*	*	*	*	*
Zn-65	Ci	*	*	*	*	*
Sr-89	Ci	*	*	*	*	*
Sr-90	Ci	*	*	*	*	*
Mo-99	Ci	*	*	*	*	*
Sn-117m	Ci	*	*	*	*	*
Cs-134	Ci	*	*	*	*	*
Cs-137	Ci	*	*	*	*	*
Ba\La-140	Ci	*	*	*	*	*
Ce-141	Ci	*	*	*	*	*
Ce-144	Ci	*	*	*	*	*

* Value reported as Continuous Mode

B. Tritium Releases

1. Total Release Activity	Ci	3.56E-01	1.83E+00	6.05E-02	8.96E-02	**2.34E+00**

C. Fission and Activation Gas Releases

Ar-41	Ci	6.30E-02	8.10E-02	4.11E-02	4.29E-02	**2.28E-01**
Kr-85	Ci	<LLD	<LLD	5.47E-02	3.95E-01	**4.50E-01**
Kr-85m	Ci	<LLD	8.02E-04	<LLD	1.09E-03	**1.89E-03**
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-131m	Ci	<LLD	<LLD	2.29E-02	4.73E-02	**7.02E-02**
Xe-133	Ci	3.70E-02	2.06E-01	1.45E+00	3.20E+00	**4.89E+00**
Xe-133m	Ci	<LLD	<LLD	8.31E-04	3.01E-02	**3.09E-02**
Xe-135	Ci	5.68E-02	2.84E-02	2.83E-03	4.34E-02	**1.32E-01**
Xe-135m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**

D. Iodine Releases

I-131	Ci	*	*	*	*	*
I-132	Ci	*	*	*	*	*
I-133	Ci	*	*	*	*	*
I-134	Ci	*	*	*	*	*
I-135	Ci	*	*	*	*	*

* Value reported as Continuous Mode

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
GAS RELEASES
UNIT 1 (Docket Number 50-456)
CONTINOUS MODE

A. Particulate (> 8 day half-life) Releases

Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Co-57	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Co-60	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
An-65	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ba\La-140	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ce-144	Ci	<LLD	<LLD	1.66E-05	2.05E-06	**1.87E-05**
Ba-139	Ci	<LLD	<LLD	<LLD	3.75E-05	**3.75E-05**

B. Tritium Releases

1. Total Release Activity	Ci	<LLD	1.03E-01	1.73E+00	1.63E+01	**1.81E+01**

C. Fission and Activation Gas Releases

Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-85	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-85m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-131m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-133	Ci	<LLD	4.08E+01	1.39E+01	<LLD	**5.47E+01**
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-135m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**

D. Iodine Releases

I-131	Ci	<LLD	2.73E-05	6.03E-05	6.15E-04	**7.03E-04**
I-132	Ci	<LLD	4.33E-06	<LLD	1.53E-04	**1.57E-04**
I-133	Ci	<LLD	9.20E-06	2.56E-05	1.71E-06	**3.65E-05**
I-134	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
I-135	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
GAS RELEASES
UNIT 2 (Docket Number 50-457)
SUMMATION OF ALL RELEASES

	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
A. Fission and Activation Gas Releases						
1. Total Release Activity	Ci	5.27E-02	7.18E+00	5.89E-01	1.42E+01	**2.20E+01**
2. Average Release Rate	uCi/sec	6.78E-03	2.04E+02	7.41E-02	1.79E+00	**5.12E+01**
B. Iodine Releases						
1. Total I-131 Activity	Ci	<LLD	<LLD	3.83E-06	1.24E-03	**1.24E-03**
2. Average Release Rate	uCi/sec	<LLD	<LLD	**1.21E-07**	**3.93E-05**	**3.94E-05**
C. Particulate (> 8 day half-life) Releases						
1. Gross Activity	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	<LLD	**<LLD**
3. Gross Alpha Activity	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
D. Tritium Releases						
1. Total Release Activity	Ci	4.46E-01	2.34E-01	1.55E+00	1.03E+01	**1.25E+01**
2. Average Release Rate	uCi/sec	5.74E-02	2.98E-02	1.95E-01	1.31E+00	**4.00E-01**
E. Sum of Iodine, Particulate (> 8 day half-life), and Tritium Releases.						
1. Total Release Activity	Ci	4.46E-01	2.34E-01	1.55E+00	1.03E+01	**1.25E+01**

Note: LLD Values are included in Appendix A of this report.

Note: % Limit Values are included in Appendix B of this report.

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
GAS RELEASES
UNIT 2 (Docket Number 50-457)
BATCH MODE

	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total

A. Particulate (> 8 day half-life) Releases

Cr-51	Ci	*	*	*	*	*
Mn-54	Ci	*	*	*	*	*
Co-57	Ci	*	*	*	*	*
Co-58	Ci	*	*	*	*	*
Fe-59	Ci	*	*	*	*	*
Co-60	Ci	*	*	*	*	*
Zn-65	Ci	*	*	*	*	*
Sr-89	Ci	*	*	*	*	*
Sr-90	Ci	*	*	*	*	*
Mo-99	Ci	*	*	*	*	*
Sn-117m	Ci	*	*	*	*	*
Cs-134	Ci	*	*	*	*	*
Cs-137	Ci	*	*	*	*	*
Ba\La-140	Ci	*	*	*	*	*
Ce-141	Ci	*	*	*	*	*
Ce-144	Ci	*	*	*	*	*

* Value reported as Continuous Mode

B. Tritium Releases

1. Total Release Activity	Ci	4.46E-01	1.58E-01	2.42E-01	3.38E-01	**1.18E+00**

C. Fission and Activation Gas Releases

Ar-41	Ci	3.70E-02	5.16E-02	3.20E-01	2.95E-02	**4.38E-01**
Kr-85	Ci	<LLD	<LLD	8.14E-02	7.80E-01	**8.61E-01**
Kr-85m	Ci	7.62E-05	8.02E-04	1.77E-04	1.09E-03	**2.15E-03**
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-88	Ci	<LLD	<LLD	<LLD	1.93E-04	**1.93E-04**
Xe-131m	Ci	<LLD	<LLD	<LLD	5.15E-02	**5.15E-02**
Xe-133	Ci	1.55E-02	7.65E-02	1.83E-01	6.00E+00	**6.28E+00**
Xe-133m	Ci	<LLD	<LLD	<LLD	3.01E-02	**3.01E-02**
Xe-135	Ci	8.50E-05	2.54E-02	9.19E-04	5.25E-02	**7.89E+02**
Xe-135m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**

D. Iodine Releases

I-131	*	*	*	*	*	*
I-132	*	*	*	*	*	*
I-133	*	*	*	*	*	*
I-134	*	*	*	*	*	*
I-135	*	*	*	*	*	*

* Value reported as Continuous Mode

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
GAS RELEASES
UNIT 2 (Docket Number 50-457)
CONTINUOUS USE

	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
A. Particulate (> 8 day half-life) Releases						
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Co-57	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Co-60	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ba\La-140	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
B. Tritium Releases						
1. Total Release Activity	Ci	<LLD	7.57E-02	1.31E+00	1.00E+01	**1.14E+01**
C. Fission and Activation Gas Releases						
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-85	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-85m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-131m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-133	Ci	<LLD	7.03E+00	2.91E-03	7.27E+00	**1.43E+01**
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-135m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
D. Iodine Releases						
I-131	Ci	<LLD	<LLD	3.83E-06	7.65E-04	**7.69E-04**
I-132	Ci	<LLD	<LLD	<LLD	4.39E-04	**4.39E-04**
I-133	Ci	<LLD	<LLD	<LLD	3.47E-05	**3.47E-05**
I-134	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
I-135	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
LIQUID RELEASES
UNIT 1 (Docket Number 50-456)
SUMMATION OF ALL RELEASES

	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	**Total**
A. Fission and Activation Products						
1. Total Activity Released	Ci	8.28E-03	1.81E-02	9.08E-03	2.01E-02	**5.56E-02**
2. Average Concentration Released	uCi/ml	2.62E-09	7.83E-09	2.98E-09	5.01E-09	4.43E-09
B. Tritium						
1. Total Activity Released	Ci	6.11E+02	1.68E+02	3.76E+02	1.68E+02	**1.32E+03**
2. Average Concentration Released	uCi/ml	1.93E-04	7.27E-05	1.23E-04	4.19E-05	1.06E-04
3. % of Limit (1E-3 uCi/ml)	%	1.93E+01	7.27E+00	1.23E+01	4.19E+00	1.06E+01
C. Dissolved Noble Gases						
1. Total Activity Released	Ci	1.39E-03	1.55E-04	8.02E-04	1.87E-02	**2.10E-02**
2. Average Concentration Released	uCi/ml	4.40E-10	6.71E-11	2.63E-10	4.66E-09	1.68E-09
3. % of Limit (2E-4 uCi/ml)	%	2.20E-04	3.35E-05	1.31E-04	2.33E-03	8.39E-04
D. Gross Alpha						
1. Total Activity Released	Ci	<LLD	<LLD	<LLD	<LLD	**0.00E+00**
2. Average Concentration Released	uCi/ml	<LLD	<LLD	<LLD	<LLD	0.00E+00
E. Volume of Releases						
1. Volume of Liquid Waste to Discharge	liters	1.43E+06	1.64E+06	2.03E+06	1.80E+06	**6.90E+06**
2. Volume of Dilution Water	liters	3.16E+09	2.31E+09	3.05E+09	4.01E+09	**1.25E+10**

Note: LLD Values are included in Appendix A of this report.

Note: % Limit Values are included in Appendix B of this report.

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
LIQUID RELEASES
UNIT 1 (Docket Number 50-456)
BATCH MODE

Nuclides From Batch Releases	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
H-3	Ci	4.75E+02	1.59E+02	2.85E+02	1.60E+02	**1.08E+03**
Na-24	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Cr-51	Ci	<LLD	8.12E-04	<LLD	1.24E-03	**2.05E-03**
Mn-54	Ci	2.09E-04	5.38E-04	2.15E-04	3.99E-04	**1.36E-03**
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Co-57	Ci	6.45E-06	0.00E+00	9.68E-06	1.08E-05	**2.69E-05**
Co-58	Ci	2.12E-04	9.59E-03	6.19E-03	1.53E-02	**3.13E-02**
Fe-59	Ci	<LLD	1.10E-04	<LLD	8.04E-05	**1.90E-04**
Co-60	Ci	3.66E-03	3.42E-03	1.02E-03	1.61E-03	**9.70E-03**
Ni-65	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Br-82	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-85	Ci	<LLD	<LLD	<LLD	1.68E-03	**1.68E-03**
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Rb-88	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Nb-95	Ci	<LLD	4.42E-05	4.74E-05	1.69E-04	**2.61E-04**
Zr-95	Ci	<LLD	9.05E-06	1.33E-05	6.17E-05	**8.41E-05**
Nb-97	Ci	9.12E-06	4.98E-06	<LLD	<LLD	**1.41E-05**
Zr-97	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Tc-99m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Mo-99	Ci	<LLD	8.35E-05	<LLD	<LLD	**8.35E-05**
Tc-101	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ag-110	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ag-110m	Ci	1.52E-05	<LLD	<LLD	<LLD	**1.52E-05**
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sb-122	Ci	<LLD	<LLD	<LLD	2.38E-05	**2.38E-05**
Te-123m	Ci	1.45E-04	4.12E-04	1.98E-05	4.84E-04	**1.06E-03**
Sb-124	Ci	1.75E-05	0.00E+00	0.00E+00	9.06E-05	**1.08E-04**
Sb-125	Ci	2.04E-03	7.48E-04	2.87E-05	3.13E-04	**3.12E-03**
Te-125m	Ci	1.94E-03	2.30E-03	1.53E-03	0.00E+00	**5.77E-03**
Xe-131m	Ci	<LLD	<LLD	<LLD	2.72E-04	**2.72E-04**
I-131	Ci	<LLD	<LLD	<LLD	3.84E-04	**3.84E-04**
I-132	Ci	<LLD	<LLD	<LLD	5.80E-06	**5.80E-06**
Te-132	Ci	<LLD	7.90E-06	<LLD	5.85E-06	**1.37E-05**
I-133	Ci	1.97E-06	<LLD	<LLD	9.20E-06	**1.12E-05**
Xe-133	Ci	1.37E-03	1.55E-04	3.92E-04	1.67E-02	**1.86E-02**
Xe-133m	Ci	<LLD	<LLD	<LLD	8.00E-05	**8.00E-05**
Cs-134	Ci	<LLD	<LLD	6.20E-06	<LLD	**6.20E-06**
Xe-135	Ci	3.01E-05	<LLD	<LLD	3.00E-05	**6.00E-05**
I-134	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
I-135	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
LIQUID RELEASES
UNIT 1 (Docket Number 50-456)
BATCH MODE

Nuclides From Batch Releases	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	**Total**
Cs-136	Ci	<LLD	<LLD	<LLD	5.95E-06	**5.95E-06**
Cs-137	Ci	1.49E-05	9.50E-06	8.50E-06	<LLD	**3.29E-05**
Cs-138	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ba-140	Ci	1.62E-05	<LLD	<LLD	<LLD	**1.62E-05**
La-140	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
LIQUID RELEASES
UNIT 1 (Docket Number 50-456)
CONTINUOUS MODE

Nuclides From Continuous Releases	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
H-3	Ci	1.36E+02	8.99E+00	9.06E+01	7.60E+00	2.43E+02
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-57	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ni-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Nb-95	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Zr-95	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Nb-97	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Zr-97	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Tc-99m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sb-122	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Te-123m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sb-124	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Sb-125	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Te-125m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-131m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-131	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-133	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-133	Ci	<LLD	<LLD	4.10E-04	<LLD	4.10E-04
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
I-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-138	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ba\La-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
LIQUID RELEASES
UNIT 2 (Docket Number 50-456)
SUMMATION OF ALL RELEASES

	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	**Total**
A. Fission and Activation Products						
1. Total Activity Released	Ci	8.28E-03	1.81E-02	9.08E-03	2.01E-02	**5.56E-02**
2. Average Concentration Released	uCi/ml	2.62E-09	7.83E-09	2.98E-09	5.01E-09	4.43E-09
B. Tritium						
1. Total Activity Released	Ci	6.11E+02	1.68E+02	3.76E+02	1.68E+02	**1.32E+03**
2. Average Concentration Released	uCi/ml	1.93E-04	7.27E-05	1.23E-04	4.19E-05	1.06E-04
3. % of Limit (1E-3 uCi/ml)	%	1.93E+01	7.27E+00	1.23E+01	4.19E+00	1.06E+01
C. Dissolved Noble Gases						
1. Total Activity Released	Ci	1.39E-03	1.55E-04	8.02E-04	1.87E-02	**2.10E-02**
2. Average Concentration Released	uCi/ml	4.40E-10	6.71E-11	2.63E-10	4.66E-09	1.68E-09
3. % of Limit (2E-4 uCi/ml)	%	2.20E-04	3.35E-05	1.31E-04	2.33E-03	8.39E-04
D. Gross Alpha						
1. Total Activity Released	Ci	<LLD	<LLD	<LLD	<LLD	**0.00E+00**
2. Average Concentration Released	uCi/ml	<LLD	<LLD	<LLD	<LLD	0.00E+00
E. Volume of Releases						
1. Volume of Liquid Waste to Discharge	liters	1.43E+06	1.64E+06	2.03E+06	1.80E+06	**6.90E+06**
2. Volume of Dilution Water	liters	3.16E+09	2.31E+09	3.05E+09	4.01E+09	**1.25E+10**

Note: LLD Values are included in Appendix A of this report.

Note: % Limit Values are included in Appendix B of this report.

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
LIQUID RELEASES
UNIT 2 (Docket Number 50-457)
BATCH MODE

Nuclides From Batch Releases	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
H-3	Ci	4.75E+02	1.59E+02	2.85E+02	1.60E+02	**1.08E+03**
Na-24	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Cr-51	Ci	<LLD	8.12E-04	<LLD	1.24E-03	**2.05E-03**
Mn-54	Ci	2.09E-04	5.38E-04	2.15E-04	3.99E-04	**1.36E-03**
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Co-57	Ci	6.45E-06	0.00E+00	9.68E-06	1.08E-05	**2.69E-05**
Co-58	Ci	2.12E-04	9.59E-03	6.19E-03	1.53E-02	**3.13E-02**
Fe-59	Ci	<LLD	1.10E-04	<LLD	8.04E-05	**1.90E-04**
Co-60	Ci	3.66E-03	3.42E-03	1.02E-03	1.61E-03	**9.70E-03**
Ni-65	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Br-82	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-85	Ci	<LLD	<LLD	<LLD	1.68E-03	**1.68E-03**
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Rb-88	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Nb-95	Ci	<LLD	4.42E-05	4.74E-05	1.69E-04	**2.61E-04**
Zr-95	Ci	<LLD	9.05E-06	1.33E-05	6.17E-05	**8.41E-05**
Nb-97	Ci	9.12E-06	4.98E-06	<LLD	<LLD	**1.41E-05**
Zr-97	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Tc-99m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Mo-99	Ci	<LLD	8.35E-05	<LLD	<LLD	**8.35E-05**
Tc-101	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ag-110	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ag-110m	Ci	1.52E-05	<LLD	<LLD	<LLD	**1.52E-05**
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sb-122	Ci	<LLD	<LLD	<LLD	2.38E-05	**2.38E-05**
Te-123m	Ci	1.45E-04	4.12E-04	1.98E-05	4.84E-04	**1.06E-03**
Sb-124	Ci	1.75E-05	0.00E+00	0.00E+00	9.06E-05	**1.08E-04**
Sb-125	Ci	2.04E-03	7.48E-04	2.87E-05	3.13E-04	**3.12E-03**
Te-125m	Ci	1.94E-03	2.30E-03	1.53E-03	0.00E+00	**5.77E-03**
Xe-131m	Ci	<LLD	<LLD	<LLD	2.72E-04	**2.72E-04**
I-131	Ci	<LLD	<LLD	<LLD	3.84E-04	**3.84E-04**
I-132	Ci	<LLD	<LLD	<LLD	5.80E-06	**5.80E-06**
Te-132	Ci	<LLD	7.90E-06	<LLD	5.85E-06	**1.37E-05**
I-133	Ci	1.97E-06	<LLD	<LLD	9.20E-06	**1.12E-05**
Xe-133	Ci	1.37E-03	1.55E-04	3.92E-04	1.67E-02	**1.86E-02**
Xe-133m	Ci	<LLD	<LLD	<LLD	8.00E-05	**8.00E-05**
Cs-134	Ci	<LLD	<LLD	6.20E-06	<LLD	**6.20E-06**
Xe-135	Ci	3.01E-05	<LLD	<LLD	3.00E-05	**6.00E-05**
I-134	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
I-135	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
LIQUID RELEASES
UNIT 2 (Docket Number 50-457)
BATCH MODE

Nuclides From Batch Releases	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	**Total**
Cs-136	Ci	<LLD	<LLD	<LLD	5.95E-06	**5.95E-06**
Cs-137	Ci	1.49E-05	9.50E-06	8.50E-06	<LLD	**3.29E-05**
Cs-138	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ba-140	Ci	1.62E-05	<LLD	<LLD	<LLD	**1.62E-05**
La-140	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2003
LIQUID RELEASES
UNIT 2 (Docket Number 50-457)
CONTINUOUS MODE

Nuclides From Continuous Releases	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
H-3	Ci	1.36E+02	8.99E+00	9.06E+01	7.60E+00	**2.43E+02**
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Cr-51	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Fe-55	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Co-57	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Co-60	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ni-65	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-85	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-87	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Nb-95	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Zr-95	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Nb-97	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Zr-97	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Tc-99m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ag-110m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sb-122	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Te-123m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sb-124	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Sb-125	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Te-125m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-131m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
I-131	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
I-132	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
I-133	Ci	<LLD	<LLD	4.10E-04	<LLD	**4.10E-04**
Xe-133	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-135	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
I-135	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Cs-138	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Xe-138	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ba\La-140	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ce-141	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	**<LLD**

BRAIDWOOD NUCLEAR POWER STATION
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2003
SOLID RADIOACTIVE WASTE
UNIT 1 AND 2 COMBINED (Docket Numbers 50-456 and 50-457)

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

1. Types of Waste

a. Process Waste	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Yr total
Total (m^3) =	0.00E+00	0.00E+00	1.71E+01	3.56E+01	5.27E+01
Total (Ci) =	0.00E+00	0.00E+00	8.40E+01	1.69E+02	2.53E+02
% Error =			2.50E+01	2.50E+01	2.50E+01

b. Dry Active Waste	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Yr total
Total (m^3) =	0.00E+00	0.00E+00	1.87E+02	2.29E+02	4.16E+02
Total (Ci) =	0.00E+00	0.00E+00	2.18E-01	2.34E-01	4.52E-01
% Error =			2.50E+01	2.50E+01	2.50E+01

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

a. Process Waste

Nuclide	1st Qtr Ci	2nd Qtr Ci	3rd Qtr Ci	4th Qtr Ci	Yr total Ci	% Composition
*Ni-63	0.00E+00	0.00E+00	3.68E+01	7.56E+01	1.12E+02	4.45E+01
*Fe-55	0.00E+00	0.00E+00	2.42E+01	4.50E+01	6.92E+01	2.74E+01
Co-60	0.00E+00	0.00E+00	1.63E+01	3.17E+01	4.80E+01	1.90E+01
Co-58	0.00E+00	0.00E+00	1.06E+00	6.24E+00	7.30E+00	2.89E+00
*C-14	0.00E+00	0.00E+00	1.48E+00	3.06E+00	4.54E+00	1.80E+00
Mn-54	0.00E+00	0.00E+00	1.50E+00	2.79E+00	4.29E+00	1.70E+00
Sb-125	0.00E+00	0.00E+00	1.09E+00	1.62E+00	2.71E+00	1.07E+00
Cs-137	0.00E+00	0.00E+00	7.26E-01	1.24E+00	1.97E+00	7.78E-01
Co-57	0.00E+00	0.00E+00	4.92E-01	6.92E-01	1.18E+00	4.68E-01
*Ni-59	0.00E+00	0.00E+00	3.10E-01	6.39E-01	9.49E-01	3.75E-01
H-3	0.00E+00	0.00E+00	1.76E-02	2.43E-01	2.61E-01	1.03E-01

*Activities based on 10CFR61 scaling factors

b. Dry Active Waste

Nuclide	1st Qtr Ci	2nd Qtr Ci	3rd Qtr Ci	4th Qtr Ci	Yr total Ci	% Composition
*Ni-63	0.00E+00	0.00E+00	7.20E-02	6.04E-02	1.32E-01	2.93E+01
*Fe-55	0.00E+00	0.00E+00	6.36E-02	5.38E-02	1.17E-01	2.60E+01
Co-60	0.00E+00	0.00E+00	3.69E-02	3.11E-02	6.80E-02	1.51E+01
H-3	0.00E+00	0.00E+00	1.05E-02	5.68E-02	6.73E-02	1.49E+01
Co-58	0.00E+00	0.00E+00	2.13E-02	1.97E-02	4.10E-02	9.07E+00
Mn-54	0.00E+00	0.00E+00	4.39E-03	3.77E-03	8.16E-03	1.81E+00
*C-14	0.00E+00	0.00E+00	2.89E-03	2.42E-03	5.31E-03	1.18E+00
Nb-95	0.00E+00	0.00E+00	2.48E-03	2.55E-03	5.03E-03	1.11E+00
Zr-95	0.00E+00	0.00E+00	1.64E-03	1.55E-03	3.19E-03	7.07E-01
Sb-125	0.00E+00	0.00E+00	9.92E-04	8.38E-04	1.83E-03	4.05E-01
*Ni-59	0.00E+00	0.00E+00	6.01E-04	5.05E-04	1.11E-03	2.45E-01
Co-57	0.00E+00	0.00E+00	3.38E-04	2.92E-04	6.30E-04	1.40E-01

*Activities based on 10CFR61 scaling factors

Number of Shipments: 20

Mode of Transportation: Exclusive Use

Destination: Alaron, Wampum, PA (3)
Barnwell Waste Management Facility, Barnwell, South Carolina (9)
Envirocare, Clive, Utah (2)
GTS Duratek, Kingston, Tennessee (2)
GTS Duratek, Oak Ridge, Tennessee (4)

B. IRRADIATED FUEL SHIPMENTS

No irradiated fuel shipments for January through December, 2003

BRAIDWOOD NUCLEAR POWER STATION
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2003
SOLID RADIOACTIVE WASTE
UNIT 1 AND 2 COMBINED (Docket Numbers 50-456 and 50-457)

Shipment Number	Waste Class	Type of Container	Solidification Agent
RWS03-001	B	DOT 7A Type A	None
RWS03-002	AS	Cask STC	None
RWS03-003	AS	Cask STC	None
RWS03-004	AU	STC	None
RWS03-005	AU	STC	None
RWS03-006	AU	STC	None
RWS03-007	B	DOT 7A Type A	None
RWS03-008	AU	STC	None
RWS03-009	B	DOT 7A Type A	None
RWS03-010	B	DOT 7A Type A	None
RWS03-011	B	DOT 7A Type A	None
RWS03-012	C	Cask STC	None
RWS03-013	AU	Cask STC	None
RWS03-014	AU	STC	None
RWS03-015	AU	STC	None
RWS03-016	C	Cask STC	None
RWS03-017	AU	Cask STC	None
RWS03-018	AU	STC	None
RWS03-019	B	Cask STC	None
RWS03-020	B	Cask STC	None

1. There were no changes to the Braidwood Station Process Control Program in 2003.

2. There were no changes to the installed liquid, gaseous, or solid radwaste treatment systems in 2003. There were changes to the vendor supplied, non-plant equipment used to process liquid radwaste. Those changes include the use of new demineralizer vessels and associated equipment.

3. There were no liquid release tanks or gas decay tanks which exceeded the limits addressed in the ODCM-RETS.

4. Pursuant to ODCM-RETS Section 12.6.2, the following is an explanation as to why the inoperability of liquid or gaseous effluent monitoring instrumentation was not corrected within the time specified in ODCM-RETS:

   There were no liquid or gaseous effluent monitoring instruments that exceeded their specified inoperability time in 2003.

5. Error in Measurement -

   The following is an estimate of the errors associated with effluent monitoring and analysis. The estimate is calculated using the square root of the sum of the squares methodology.

A.	Gaseous Effluents	Est. Total Error %
1.	Fission and Activation Gas Releases	7.59
2.	Iodine Releases	33.2
3.	Particulates (>8 day half life)Releases	19.8
4.	Tritium Releases	8.07

B.	Liquid Effluents	Est. Total Error %
1.	Fission and Activation Products	2.64
2.	Tritium	5.85
3.	Dissolved Noble Gases	2.64
4.	Gross Alpha	14.7
5.	Volume of Liquid Waste to Discharge	2.0
6.	Volume of Dilution Water	1.5

6. There were no changes to the Offsite Dose Calculation Manual (ODCM) during 2003.

7. NUREG-0543, Methods for Demonstrating LWR Compliance with the EPA Uranium Fuel Cycle Standard (40 CFR Part 190) states in section IV, "As long as a nuclear plant site operates at a level below the Appendix I reporting requirements, no extra analysis is required to demonstrate compliance with the 40 CFR Part 190." The organ and whole body doses reported on pages 29 through 57 are determined using 10 CFR 50 Appendix I methodology. The doses are well below the limits of Appendix I.

APPENDIX A

LLD Tables

BRAIDWOOD NUCLEAR POWER STATION
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2003
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)
LLD VALUES FOR GASEOUS RELEASES

Isotope	LLD (Ci/ml)
Alpha	2.74E-21
H-3	4.98E-14
Ar-41	1.35E-13
Mn-54	1.57E-18
Co-57	1.05E-18
Co-58	5.67E-19
Fe-59	3.64E-18
Co-60	2.43E-18
Zn-65	4.08E-18
Kr-85	2.60E-12
Kr-85m	4.24E-14
Kr-87	1.89E-13
Kr-88	2.08E-13
Sr-89	1.94E-20
Sr-90	1.11E-21
Mo-99	1.26E-18
I-131	7.29E-19
I-132	2.70E-17
I-133	1.36E-18
Xe-131m	1.33E-12
Xe-133	1.15E-13
Xe-133m	2.14E-13
Cs-134	4.41E-19
I-135	1.28E-17
Xe-135	4.11E-14
Xe-135m	4.60E-12
Cs-137	1.69E-18
Xe-138	2.29E-11
Ba-139	6.70E-16
Ba-140	4.45E-18
La-140	1.34E-18
Ce-141	1.90E-18
Ce-144	8.07E-18

NOTE: LLD Value for total activity released is based on LLD values for individual isotopes used in the calculation.

BRAIDWOOD NUCLEAR POWER STATION
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2003
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)
LLD VALUES FOR LIQUID RELEASES

Isotope	LLD (Ci/ml)
Alpha	3.67E-14
H-3	5.77E-14
Cr-51	3.56E-13
Mn-54	5.12E-14
Fe-55	3.46E-13
Co-57	3.13E-14
Co-58	6.09E-14
Fe-59	7.76E-14
Co-60	6.14E-14
Zn-65	1.05E-13
Sr-89	1.65E-14
Sr-90	1.12E-14
Nb-95	5.29E-14
Zr-95	7.15E-14
Nb-97	8.63E-14
Mo-99	2.72E-13
Tc-99m	2.77E-13
Ag-110m	4.41E-14
Sb-124	5.94E-14
Sb-125	1.42E-13
Te-125m	1.43E-11
I-131	9.58E-14
Xe-133	1.58E-13
Cs-134	4.47E-14
Xe-135	4.74E-14
Cs-137	6.80E-14
Ba-140	2.29E-13
La-140	5.63E-13
Ce-141	9.40E-14
Ce-144	3.10E-13
Kr-85	1.10E-11
Nb-95	5.29E-14
Sb-122	4.11E-13
Te-123m	5.19E-14
Te-132	2.06E-14
I-132	4.74E-14
I-133	1.77E-11
Cs-136	7.23E-14
Xe-133m	3.98E-13
Xe-131m	2.12E-12

NOTE: LLD Value for Total Activity Released is based on LLD Values for individual isotopes used in the calculation.

APPENDIX B

Supplemental Information

BRAIDWOOD NUCLEAR POWER STATION
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2003
UNIT 1 (Docket Number 50-456)

GASEOUS EFFLUENTS
SUPPLEMENTAL RELEASE INFORMATION

A. Batch Release	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	**Total**
1. Total Number of Batch Releases	29	27	27	28	**111**
2. Total Time Period for Batch Releases (minutes)	1,380	10,600	1,180	1,190	**14,350**
3. Maximum Time Period for a Batch Release (minutes)	61	5,200	83	67	**5,200**
4. Average Time Period for a Batch Release (minutes)	44.5	394	43.6	42.5	**129.0**
5. Minimum Time Period for a Batch Release (minutes)	22	320	14	14	**14**
B. Abnormal Releases					
1. Number of Releases	0	0	0	0	**0**
2. Total Activity Released	0.00	0.00	0.000	0.00	**0.00**

BRAIDWOOD NUCLEAR POWER STATION
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2003
UNIT 2 (Docket Number 50-457)

GASEOUS EFFLUENTS
SUPPLEMENTAL RELEASE INFORMATION

A. Batch Release	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	**Total**
1. Total Number of Batch Releases	26	31	36	34	**127**
2. Total Time Period for Batch Releases (minutes)	1,060	1,160	9,980	11,400	**23,600**
3. Maximum Time Period for a Batch Release (minutes)	51	60	1,940	1,460	**1,940**
4. Average Time Period for a Batch Release (minutes)	40.6	37.4	277	335	**185**
5. Minimum Time Period for a Batch Release (minutes)	17	13	16	21	**13**
B. Abnormal Releases					
1. Number of Releases	0	0	0	0	**0**
2. Total Activity Released	0.00	0.00	0.00	0.00	**0.00**

BRAIDWOOD NUCLEAR POWER STATION
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2003
UNIT 1 AND 2 COMBINED (Docket Numbers 50-456 and 50-457)
BRAIDWOOD NUCLEAR POWER STATION

LIQUID EFFLUENTS
SUPPLEMENTAL RELEASE INFORMATION

		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	**Total**
A.	Batch Release					
1.	Total Number of Batch Releases	32	39	46	42	**159**
2.	Total Time Period for Batch Releases (minutes)	7,950	9,910	5,280	8,030	**31,170**
3.	Maximum Time Period for a Batch Release (minutes)	615	485	268	390	**615**
4.	Average Time Period for a Batch Release	248	254	115	191	**196**
5.	Minimum Time Period for a Batch Release (minutes)	48	45	34	58	**34**
6.	Average Stream Flow During Periods of Release of Effluent into a Flowing Stream (liters/min)	3.95E+06	3.33E+07	4.11E+07	2.65E+07	**N/A**
B.	Abnormal Releases					
1.	Number of Releases	0	0	0	0	**0**
2.	Total Activity Released (Ci)	0.00	0.00	0.00	0.00	**0.00**
3.	Description					

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

=== RELEASE DATA ==========

Total Release Duration (minutes)..... 3.548E+05
Total Release Volume (cf)..... 5.429E+10
Average Release Flowrate (cfm)..... 1.530E+05

Average Period Flowrate (cfm)..... 1.033E+05

=== NUCLIDE DATA ==========

Nuclide	uCi	Average uCi/cc	EC Ratio	EC
AR-41	2.28E+05	1.48E-10	1.48E-02	1.00E-08
KR-85M	1.90E+03	1.23E-12	1.23E-05	1.00E-07
KR-85	4.50E+05	2.93E-10	4.18E-04	7.00E-07
XE-133M	3.09E+04	2.01E-11	3.35E-05	6.00E-07
XE-131M	7.02E+04	4.57E-11	2.28E-05	2.00E-06
XE-135	7.57E+04	4.93E-11	7.04E-04	7.00E-08
XE-133	5.96E+07	3.87E-08	7.75E-02	5.00E-07
F&AG	6.04E+07	3.93E-08	9.35E-02	
I-131	7.02E+02	4.57E-13	2.28E-03	2.00E-10
I-132	1.57E+02	1.02E-13	5.10E-06	2.00E-08
I-133	3.65E+01	2.37E-14	2.37E-05	1.00E-09
Iodine	8.96E+02	5.83E-13	2.31E-03	
H-3	2.04E+07	1.33E-08	1.33E-01	1.00E-07
H-3	2.04E+07	1.33E-08	1.33E-01	
BA-139	3.75E+01	2.44E-14	6.10E-07	4.00E-08
P<8	3.75E+01	2.44E-14	6.10E-07	
CE-141	2.05E+00	1.33E-15	1.66E-06	8.00E-10
CE-144	1.66E+01	1.08E-14	5.38E-04	2.00E-11
P>=8	1.86E+01	1.21E-14	5.40E-04	
Total	8.08E+07	5.26E-08	2.29E-01	

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

```
Release ID...........: 1  All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date......: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit................:  1
```

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

=== MAXIMUM I&P DOSE FOR PERIOD ==========

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
Admin	Any Organ	INFANT	THYROID	8.51E-01	31-day	2.25E-01	3.78E+02
					Quarter	5.63E+00	1.51E+01
					Annual	1.13E+01	7.57E+00
T.Spec	Any Organ	INFANT	THYROID	8.51E-01	31-day	3.00E-01	2.84E+02
					Quarter	7.50E+00	1.13E+01
					Annual	1.50E+01	5.67E+00

Receptor.....: 5 Composite Crit. Receptor - IP
Distance (meters).....: 0.0
Compass Point.....: 0.0
Critical Pathway.....: 3 Grs/Goat/Milk (GMILK)
Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	3.98E-01
I-131	9.96E+01
I-132	1.27E-04
I-133	4.78E-02
BA-139	2.43E-07
CE-141	1.71E-06
CE-144	7.05E-05

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

=== PERIOD ORGAN DOSE BY AGE GROUP AND PATHWAY (mrem) ==========

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
AGPD	7.06E-06	7.06E-06	7.06E-06	7.06E-06	7.06E-06	7.06E-06	0.00E+00	7.06E-06
AINHL	2.76E-06	5.42E-04	8.52E-04	5.42E-04	5.45E-04	5.41E-04	0.00E+00	5.41E-04
AVEG	2.98E-05	1.01E-03	1.48E-02	1.04E-03	9.69E-04	1.08E-03	0.00E+00	9.93E-04
AGMILK	1.30E-04	8.54E-04	6.16E-02	9.86E-04	6.68E-04	7.17E-04	0.00E+00	7.74E-04
ACMEAT	3.94E-06	1.45E-04	1.98E-03	1.49E-04	1.39E-04	1.45E-04	0.00E+00	1.43E-04
ACMILK	1.08E-04	4.82E-04	5.11E-02	5.93E-04	3.27E-04	3.69E-04	0.00E+00	4.16E-04
TGPD	7.06E-06	7.06E-06	7.06E-06	7.06E-06	7.06E-06	7.06E-06	0.00E+00	7.06E-06
TINHL	3.92E-06	5.48E-04	9.28E-04	5.48E-04	5.53E-04	5.46E-04	0.00E+00	5.46E-04
TVEG	2.86E-05	1.15E-03	1.26E-02	1.18E-03	1.11E-03	1.23E-03	0.00E+00	1.13E-03
TGMILK	2.36E-04	1.20E-03	9.72E-02	1.44E-03	8.68E-04	9.34E-04	0.00E+00	1.05E-03
TCMEAT	3.27E-06	8.76E-05	1.42E-03	9.09E-05	8.30E-05	8.66E-05	0.00E+00	8.55E-05
TCMILK	1.97E-04	7.01E-04	8.07E-02	9.00E-04	4.26E-04	4.82E-04	0.00E+00	5.74E-04
CGPD	7.06E-06	7.06E-06	7.06E-06	7.06E-06	7.06E-06	7.06E-06	0.00E+00	7.06E-06
CINHL	5.41E-06	4.84E-04	9.07E-04	4.84E-04	4.89E-04	4.82E-04	0.00E+00	4.82E-04
CVEG	5.34E-05	1.77E-03	1.91E-02	1.81E-03	1.72E-03	1.82E-03	0.00E+00	1.75E-03
CGMILK	5.72E-04	1.95E-03	1.92E-01	2.32E-03	1.38E-03	1.43E-03	0.00E+00	1.70E-03
CCMEAT	6.07E-06	1.07E-04	2.11E-03	1.11E-04	1.01E-04	1.03E-04	0.00E+00	1.04E-04
CCMILK	4.77E-04	1.15E-03	1.59E-01	1.46E-03	6.75E-04	7.19E-04	0.00E+00	9.47E-04
IGPD	7.06E-06	7.06E-06	7.06E-06	7.06E-06	7.06E-06	7.06E-06	0.00E+00	7.06E-06
IINHL	2.95E-06	2.79E-04	6.66E-04	2.79E-04	2.83E-04	2.77E-04	0.00E+00	2.77E-04
IGMILK	1.19E-03	3.50E-03	4.64E-01	3.73E-03	2.09E-03	2.14E-03	0.00E+00	2.71E-03
ICMILK	9.95E-04	2.20E-03	3.86E-01	2.39E-03	1.02E-03	1.07E-03	0.00E+00	1.54E-03
TOTALS								
ADULT	2.82E-04	3.04E-03	1.30E-01	3.32E-03	2.66E-03	2.86E-03	0.00E+00	2.87E-03
TEEN	4.75E-04	3.69E-03	1.93E-01	4.16E-03	3.05E-03	3.29E-03	0.00E+00	3.39E-03
CHILD	1.12E-03	5.48E-03	3.73E-01	6.19E-03	4.37E-03	4.55E-03	0.00E+00	5.00E-03
INFANT	2.20E-03	5.98E-03	8.51E-01	6.41E-03	3.40E-03	3.49E-03	0.00E+00	4.53E-03

=== AGE GROUP / PATHWAY DESCRIPTIONS ==========

Abbreviation	Age Group	Pathway
AGPD	ADULT	Ground Plane Deposition (GPD)
AINHL	ADULT	Inhalation (INHL)
AVEG	ADULT	Vegetation (VEG)
AGMILK	ADULT	Grs/Goat/Milk (GMILK)
ACMEAT	ADULT	Grs/Cow/Meat (CMEAT)
ACMILK	ADULT	Grs/Cow/Milk (CMILK)
TGPD	TEEN	Ground Plane Deposition (GPD)
TINHL	TEEN	Inhalation (INHL)

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

=== AGE GROUP / PATHWAY DESCRIPTIONS ==========

Abbreviation	Age Group	Pathway
TVEG	TEEN	Vegetation (VEG)
TGMILK	TEEN	Grs/Goat/Milk (GMILK)
TCMEAT	TEEN	Grs/Cow/Meat (CMEAT)
TCMILK	TEEN	Grs/Cow/Milk (CMILK)
CGPD	CHILD	Ground Plane Deposition (GPD)
CINHL	CHILD	Inhalation (INHL)
CVEG	CHILD	Vegetation (VEG)
CGMILK	CHILD	Grs/Goat/Milk (GMILK)
CCMEAT	CHILD	Grs/Cow/Meat (CMEAT)
CCMILK	CHILD	Grs/Cow/Milk (CMILK)
IGPD	INFANT	Ground Plane Deposition (GPD)
IINHL	INFANT	Inhalation (INHL)
IGMILK	INFANT	Grs/Goat/Milk (GMILK)
ICMILK	INFANT	Grs/Cow/Milk (CMILK)

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

=== MAXIMUM NG DOSE FOR PERIOD ==========

Limit Type	Dose Type	Dose (mrad)	Limit Period	Limit (mrad)	Percent of Limit
Admin	Gamma	5.26E-04	31-day	1.50E-01	3.51E-01
			Quarter	3.75E+00	1.40E-02
			Annual	7.50E+00	7.02E-03
Admin	Beta	2.37E-03	31-day	3.00E-01	7.91E-01
			Quarter	7.50E+00	3.16E-02
			Annual	1.50E+01	1.58E-02
T.Spec	Gamma	5.26E-04	31-day	2.00E-01	2.63E-01
			Quarter	5.00E+00	1.05E-02
			Annual	1.00E+01	5.26E-03

Receptor.....: 4 Composite Crit. Receptor - NG
Distance (meters).....: 0.0
Compass Point.....: 0.0
Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
AR-41	9.09E+00
KR-85M	1.00E-02
KR-85	3.32E-02
XE-133M	4.34E-02
XE-131M	4.70E-02
XE-135	6.24E-01
XE-133	9.02E+01

T.Spec	Beta	2.37E-03	31-day	4.00E-01	5.93E-01
			Quarter	1.00E+01	2.37E-02
			Annual	2.00E+01	1.19E-02

Receptor.....: 4 Composite Crit. Receptor - NG
Distance (meters).....: 0.0
Compass Point.....: 0.0
Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
AR-41	1.16E+00
KR-85M	5.79E-03

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
KR-85	1.36E+00
XE-133M	7.10E-02
XE-131M	1.21E-01
XE-135	2.89E-01
XE-133	9.70E+01

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(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

=== RELEASE DATA ==========

Total Release Duration (minutes)..... 1.485E+05
Total Release Volume (cf)..... 1.732E+10
Average Release Flowrate (cfm)..... 1.167E+05

Average Period Flowrate (cfm)..... 3.296E+04

=== NUCLIDE DATA ==========

Nuclide	uCi	Average uCi/cc	EC Ratio	EC
AR-41	4.38E+05	8.94E-10	8.94E-02	1.00E-08
KR-85M	2.15E+03	4.38E-12	4.38E-05	1.00E-07
KR-85	8.61E+05	1.76E-09	2.51E-03	7.00E-07
XE-133M	3.01E+04	6.13E-11	1.02E-04	6.00E-07
KR-88	1.93E+02	3.94E-13	4.37E-05	9.00E-09
XE-131M	5.15E+04	1.05E-10	5.25E-05	2.00E-06
XE-135	7.89E+04	1.61E-10	2.30E-03	7.00E-08
XE-133	2.06E+07	4.20E-08	8.39E-02	5.00E-07
F&AG	2.20E+07	4.49E-08	1.78E-01	
I-131	7.69E+02	1.57E-12	7.84E-03	2.00E-10
I-132	4.39E+02	8.94E-13	4.47E-05	2.00E-08
I-133	3.47E+01	7.08E-14	7.08E-05	1.00E-09
Iodine	1.24E+03	2.53E-12	7.96E-03	
H-3	1.26E+07	2.57E-08	2.57E-01	1.00E-07
H-3	1.26E+07	2.57E-08	2.57E-01	
Total	3.46E+07	7.06E-08	4.43E-01	

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Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

=== MAXIMUM I&P DOSE FOR PERIOD ==========

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
Admin	Any Organ	INFANT	THYROID	9.31E-01	31-day	2.25E-01	4.14E+02
					Quarter	5.63E+00	1.65E+01
					Annual	1.13E+01	8.27E+00
T.Spec	Any Organ	INFANT	THYROID	9.31E-01	31-day	3.00E-01	3.10E+02
					Quarter	7.50E+00	1.24E+01
					Annual	1.50E+01	6.21E+00

Receptor.....: 5 Composite Crit. Receptor - IP
Distance (meters).....: 0.0
Compass Point.....: 0.0
Critical Pathway.....: 3 Grs/Goat/Milk (GMILK)
Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	2.24E-01
I-131	9.97E+01
I-132	3.24E-04
I-133	4.16E-02

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

=== PERIOD ORGAN DOSE BY AGE GROUP AND PATHWAY (mrem) ==========

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
AGPD	7.22E-06	7.22E-06	7.22E-06	7.22E-06	7.22E-06	7.22E-06	0.00E+00	7.22E-06
AINHL	7.43E-07	3.34E-04	6.75E-04	3.35E-04	3.33E-04	3.33E-04	0.00E+00	3.34E-04
AVEG	3.24E-05	6.44E-04	1.58E-02	6.77E-04	5.98E-04	6.10E-04	0.00E+00	6.24E-04
AGMILK	1.42E-04	6.15E-04	6.71E-02	7.61E-04	4.12E-04	4.65E-04	0.00E+00	5.28E-04
ACMEAT	4.30E-06	9.21E-05	2.10E-03	9.65E-05	8.59E-05	8.75E-05	0.00E+00	8.94E-05
ACMILK	1.19E-04	3.72E-04	5.58E-02	4.93E-04	2.02E-04	2.47E-04	0.00E+00	2.99E-04
TGPD	7.22E-06	7.22E-06	7.22E-06	7.22E-06	7.22E-06	7.22E-06	0.00E+00	7.22E-06
TINHL	1.04E-06	3.38E-04	7.57E-04	3.39E-04	3.36E-04	3.36E-04	0.00E+00	3.37E-04
TVEG	3.08E-05	7.27E-04	1.33E-02	7.58E-04	6.84E-04	6.92E-04	0.00E+00	7.07E-04
TGMILK	2.58E-04	8.97E-04	1.06E-01	1.16E-03	5.35E-04	6.07E-04	0.00E+00	7.30E-04
TCMEAT	3.57E-06	5.62E-05	1.51E-03	5.98E-05	5.12E-05	5.22E-05	0.00E+00	5.39E-05
TCMILK	2.15E-04	5.64E-04	8.82E-02	7.82E-04	2.63E-04	3.22E-04	0.00E+00	4.24E-04
CGPD	7.22E-06	7.22E-06	7.22E-06	7.22E-06	7.22E-06	7.22E-06	0.00E+00	7.22E-06
CINHL	1.42E-06	2.98E-04	7.65E-04	2.99E-04	2.97E-04	2.97E-04	0.00E+00	2.98E-04
CVEG	5.73E-05	1.12E-03	2.01E-02	1.16E-03	1.06E-03	1.07E-03	0.00E+00	1.09E-03
CGMILK	6.27E-04	1.48E-03	2.09E-01	1.88E-03	8.48E-04	9.05E-04	0.00E+00	1.21E-03
CCMEAT	6.63E-06	6.87E-05	2.27E-03	7.30E-05	6.20E-05	6.26E-05	0.00E+00	6.58E-05
CCMILK	5.22E-04	9.41E-04	1.74E-01	1.28E-03	4.16E-04	4.63E-04	0.00E+00	7.14E-04
IGPD	7.22E-06	7.22E-06	7.22E-06	7.22E-06	7.22E-06	7.22E-06	0.00E+00	7.22E-06
IINHL	1.12E-06	1.72E-04	5.98E-04	1.72E-04	1.71E-04	1.71E-04	0.00E+00	1.71E-04
IGMILK	1.31E-03	2.83E-03	5.08E-01	3.09E-03	1.29E-03	1.34E-03	0.00E+00	1.97E-03
ICMILK	1.09E-03	1.92E-03	4.23E-01	2.13E-03	6.31E-04	6.77E-04	0.00E+00	1.20E-03
TOTALS								
ADULT	3.06E-04	2.06E-03	1.42E-01	2.37E-03	1.64E-03	1.75E-03	0.00E+00	1.88E-03
TEEN	5.16E-04	2.59E-03	2.10E-01	3.10E-03	1.88E-03	2.02E-03	0.00E+00	2.26E-03
CHILD	1.22E-03	3.91E-03	4.06E-01	4.70E-03	2.69E-03	2.80E-03	0.00E+00	3.39E-03
INFANT	2.41E-03	4.92E-03	9.31E-01	5.40E-03	2.10E-03	2.20E-03	0.00E+00	3.34E-03

=== AGE GROUP / PATHWAY DESCRIPTIONS ==========

Abbreviation	Age Group	Pathway
AGPD	ADULT	Ground Plane Deposition (GPD)
AINHL	ADULT	Inhalation (INHL)
AVEG	ADULT	Vegetation (VEG)
AGMILK	ADULT	Grs/Goat/Milk (GMILK)
ACMEAT	ADULT	Grs/Cow/Meat (CMEAT)
ACMILK	ADULT	Grs/Cow/Milk (CMILK)
TGPD	TEEN	Ground Plane Deposition (GPD)
TINHL	TEEN	Inhalation (INHL)

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Release ID.....: 1 All Gas Release Types
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Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

=== AGE GROUP / PATHWAY DESCRIPTIONS ==========

Abbreviation	Age Group	Pathway
TVEG	TEEN	Vegetation (VEG)
TGMILK	TEEN	Grs/Goat/Milk (GMILK)
TCMEAT	TEEN	Grs/Cow/Meat (CMEAT)
TCMILK	TEEN	Grs/Cow/Milk (CMILK)
CGPD	CHILD	Ground Plane Deposition (GPD)
CINHL	CHILD	Inhalation (INHL)
CVEG	CHILD	Vegetation (VEG)
CGMILK	CHILD	Grs/Goat/Milk (GMILK)
CCMEAT	CHILD	Grs/Cow/Meat (CMEAT)
CCMILK	CHILD	Grs/Cow/Milk (CMILK)
IGPD	INFANT	Ground Plane Deposition (GPD)
IINHL	INFANT	Inhalation (INHL)
IGMILK	INFANT	Grs/Goat/Milk (GMILK)
ICMILK	INFANT	Grs/Cow/Milk (CMILK)

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

=== MAXIMUM NG DOSE FOR PERIOD ===

Limit Type	Dose Type	Dose (mrad)	Limit Period	Limit (mrad)	Percent of Limit
Admin	Gamma	2.60E-04	31-day	1.50E-01	1.74E-01
			Quarter	3.75E+00	6.94E-03
			Annual	7.50E+00	3.47E-03
Admin	Beta	9.21E-04	31-day	3.00E-01	3.07E-01
			Quarter	7.50E+00	1.23E-02
			Annual	1.50E+01	6.14E-03
T.Spec	Gamma	2.60E-04	31-day	2.00E-01	1.30E-01
			Quarter	5.00E+00	5.21E-03
			Annual	1.00E+01	2.60E-03

Receptor.....: 4 Composite Crit. Receptor - NG
Distance (meters).....: 0.0
Compass Point.....: 0.0
Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
AR-41	3.54E+01
KR-85M	2.29E-02
KR-85	1.28E-01
XE-133M	8.53E-02
KR-88	2.55E-02
XE-131M	6.97E-02
XE-135	1.31E+00
XE-133	6.30E+01

T.Spec	Beta	9.21E-04	31-day	4.00E-01	2.30E-01
			Quarter	1.00E+01	9.21E-03
			Annual	2.00E+01	4.61E-03

Receptor.....: 4 Composite Crit. Receptor - NG
Distance (meters).....: 0.0
Compass Point.....: 0.0
Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
AR-41	5.75E+00

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
KR-85M	1.69E-02
KR-85	6.71E+00
XE-133M	1.78E-01
KR-88	2.26E-03
XE-131M	2.28E-01
XE-135	7.75E-01
XE-133	8.63E+01

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05
Unit.....: 1

=== MULTIPLE RELEASE POINT MESSAGE ==========
Undiluted and Diluted Flowrate(s) and Concentration(s) cannot be combined.

=== RELEASE DATA ==========
Total Release Duration (minutes)..... 1.456E+06
Total Undiluted Volume Released (gallons)..... NA
Average Undiluted Flowrate (gpm)..... NA

Total Dilution Volume (gallons)..... NA
Average Dilution Flowrate (gpm)..... NA

=== NUCLIDE DATA ==========

Nuclide	uCi
CO-57	2.69E+01
NB-97	1.41E+01
SB-122	2.38E+01
SB-124	1.08E+02
SB-125	3.12E+03
TE-123M	1.06E+03
CR-51	2.05E+03
MN-54	1.36E+03
FE-59	1.90E+02
CO-58	3.13E+04
CO-60	9.70E+03
ZR-95	8.40E+01
NB-95	2.60E+02
MO-99	8.36E+01
AG-110M	1.52E+01
TE-125M	5.77E+03
TE-132	1.37E+01
I-131	3.84E+02
I-132	5.81E+00
I-133	1.12E+01
CS-134	6.18E+00
CS-136	5.93E+00
CS-137	3.28E+01
BA-140	1.62E+01
Gamma	5.56E+04
KR-85	1.68E+03
XE-133M	8.01E+01
XE-131M	2.72E+02

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05

=== NUCLIDE DATA ==========

Nuclide	uCi
XE-135	6.00E+01
XE-133	1.90E+04
D&EG	2.11E+04
H-3	1.32E+09
Beta	1.32E+09
Total	1.32E+09

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05
Unit.....: 1
Receptor.....: 0 Liquid Receptor

=== PERMIT ORGAN DOSE BY AGE GROUP AND PATHWAY (mrem) ==========

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
APWtr	3.44E-06	2.54E-02	2.55E-02	2.54E-02	2.54E-02	2.55E-02	0.00E+00	2.54E-02
AFWFSp	9.22E-04	1.17E-02	1.15E-02	1.27E-02	1.06E-02	2.84E-02	0.00E+00	1.15E-02
TPWtr	3.41E-06	1.79E-02	1.80E-02	1.79E-02	1.79E-02	1.80E-02	0.00E+00	1.79E-02
TFWFSp	9.92E-04	9.33E-03	9.00E-03	8.39E-03	8.17E-03	2.08E-02	0.00E+00	8.83E-03
CPWtr	1.01E-05	3.43E-02	3.46E-02	3.43E-02	3.43E-02	3.44E-02	0.00E+00	3.44E-02
CFWFSp	1.26E-03	7.79E-03	7.68E-03	6.95E-03	6.76E-03	1.13E-02	0.00E+00	7.32E-03
IPWtr	1.29E-05	3.37E-02	3.41E-02	3.37E-02	3.37E-02	3.37E-02	0.00E+00	3.37E-02
TOTALS								
ADULT	9.26E-04	3.71E-02	3.70E-02	3.81E-02	3.60E-02	5.39E-02	0.00E+00	3.68E-02
TEEN	9.96E-04	2.72E-02	2.70E-02	2.63E-02	2.60E-02	3.88E-02	0.00E+00	2.67E-02
CHILD	1.27E-03	4.21E-02	4.22E-02	4.13E-02	4.11E-02	4.57E-02	0.00E+00	4.17E-02
INFANT	1.29E-05	3.37E-02	3.41E-02	3.37E-02	3.37E-02	3.37E-02	0.00E+00	3.37E-02

=== AGE GROUP / PATHWAY DESCRIPTIONS ==========

Abbreviation	Age Group	Pathway
APWtr	ADULT	Potable Water (PWtr)
AFWFSp	ADULT	Fresh Water Fish - Sport (FFSP)
TPWtr	TEEN	Potable Water (PWtr)
TFWFSp	TEEN	Fresh Water Fish - Sport (FFSP)
CPWtr	CHILD	Potable Water (PWtr)
CFWFSp	CHILD	Fresh Water Fish - Sport (FFSP)
IPWtr	INFANT	Potable Water (PWtr)

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05
Unit.....: 1
Receptor.....: 0 Liquid Receptor

=== PERMIT ORGAN DOSE BY AGE GROUP AND NUCLIDE (mrem) ==========

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
ADULT								
H-3	0.00E+00	3.59E-02	3.59E-02	3.59E-02	3.59E-02	3.59E-02	0.00E+00	3.59E-02
CR-51	0.00E+00	0.00E+00	4.89E-08	1.80E-08	1.09E-07	2.06E-05	0.00E+00	8.19E-08
MN-54	0.00E+00	1.86E-04	0.00E+00	5.52E-05	0.00E+00	5.68E-04	0.00E+00	3.54E-05
FE-59	6.26E-06	1.47E-05	0.00E+00	0.00E+00	4.11E-06	4.91E-05	0.00E+00	5.64E-06
CO-58	0.00E+00	9.01E-05	0.00E+00	0.00E+00	0.00E+00	1.83E-03	0.00E+00	2.02E-04
CO-60	0.00E+00	8.04E-05	0.00E+00	0.00E+00	0.00E+00	1.51E-03	0.00E+00	1.77E-04
ZR-95	1.04E-09	3.33E-10	0.00E+00	5.22E-10	0.00E+00	1.05E-06	0.00E+00	2.25E-10
NB-95	3.61E-06	2.01E-06	0.00E+00	1.98E-06	0.00E+00	1.22E-02	0.00E+00	1.08E-06
MO-99	0.00E+00	3.26E-07	0.00E+00	7.37E-07	0.00E+00	7.55E-07	0.00E+00	6.19E-08
AG-110M	8.09E-10	7.48E-10	0.00E+00	1.47E-09	0.00E+00	3.05E-07	0.00E+00	4.44E-10
TE-125M	4.61E-04	1.67E-04	1.39E-04	1.88E-03	0.00E+00	1.84E-03	0.00E+00	6.18E-05
TE-132	1.03E-06	6.68E-07	7.38E-07	6.43E-06	0.00E+00	3.16E-05	0.00E+00	6.27E-07
I-131	2.03E-06	2.91E-06	9.53E-04	4.99E-06	0.00E+00	7.68E-07	0.00E+00	1.67E-06
I-132	1.50E-09	4.02E-09	1.41E-07	6.41E-09	0.00E+00	7.56E-10	0.00E+00	1.41E-09
I-133	2.02E-08	3.51E-08	5.16E-06	6.13E-08	0.00E+00	3.16E-08	0.00E+00	1.07E-08
CS-134	5.71E-05	1.36E-04	0.00E+00	4.40E-05	1.46E-05	2.38E-06	0.00E+00	1.11E-04
CS-136	5.73E-06	2.26E-05	0.00E+00	1.26E-05	1.73E-06	2.57E-06	0.00E+00	1.63E-05
CS-137	3.88E-04	5.31E-04	0.00E+00	1.80E-04	5.99E-05	1.03E-05	0.00E+00	3.48E-04
BA-140	1.50E-07	1.89E-10	0.00E+00	6.42E-11	1.08E-10	3.10E-07	0.00E+00	9.86E-09
TEEN								
H-3	0.00E+00	2.59E-02	2.59E-02	2.59E-02	2.59E-02	2.59E-02	0.00E+00	2.59E-02
CR-51	0.00E+00	0.00E+00	4.68E-08	1.85E-08	1.20E-07	1.42E-05	0.00E+00	8.43E-08
MN-54	0.00E+00	1.82E-04	0.00E+00	5.44E-05	0.00E+00	3.74E-04	0.00E+00	3.62E-05
FE-59	6.44E-06	1.50E-05	0.00E+00	0.00E+00	4.74E-06	3.56E-05	0.00E+00	5.81E-06
CO-58	0.00E+00	8.93E-05	0.00E+00	0.00E+00	0.00E+00	1.23E-03	0.00E+00	2.06E-04
CO-60	0.00E+00	8.01E-05	0.00E+00	0.00E+00	0.00E+00	1.04E-03	0.00E+00	1.80E-04
ZR-95	1.04E-09	3.27E-10	0.00E+00	4.80E-10	0.00E+00	7.54E-07	0.00E+00	2.25E-10
NB-95	3.63E-06	2.01E-06	0.00E+00	1.95E-06	0.00E+00	8.61E-03	0.00E+00	1.11E-06
MO-99	0.00E+00	3.42E-07	0.00E+00	7.82E-07	0.00E+00	6.12E-07	0.00E+00	6.52E-08
AG-110M	7.58E-10	7.17E-10	0.00E+00	1.37E-09	0.00E+00	2.01E-07	0.00E+00	4.36E-10
TE-125M	5.02E-04	1.81E-04	1.40E-04	0.00E+00	0.00E+00	1.48E-03	0.00E+00	6.71E-05
TE-132	1.09E-06	6.90E-07	7.27E-07	6.62E-06	0.00E+00	2.18E-05	0.00E+00	6.49E-07
I-131	2.16E-06	3.02E-06	8.81E-04	5.20E-06	0.00E+00	5.97E-07	0.00E+00	1.62E-06
I-132	1.56E-09	4.08E-09	1.37E-07	6.42E-09	0.00E+00	1.78E-09	0.00E+00	1.46E-09
I-133	2.15E-08	3.65E-08	5.10E-06	6.41E-08	0.00E+00	2.77E-08	0.00E+00	1.11E-08
CS-134	5.85E-05	1.38E-04	0.00E+00	4.38E-05	1.67E-05	1.71E-06	0.00E+00	6.39E-05
CS-136	5.76E-06	2.27E-05	0.00E+00	1.23E-05	1.95E-06	1.82E-06	0.00E+00	1.52E-05
CS-137	4.16E-04	5.53E-04	0.00E+00	1.88E-04	7.31E-05	7.87E-06	0.00E+00	1.93E-04

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05

=== PERMIT ORGAN DOSE BY AGE GROUP AND NUCLIDE (mrem) ==========

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
BA-140	1.56E-07	1.91E-10	0.00E+00	6.47E-11	1.28E-10	2.40E-07	0.00E+00	1.00E-08
CHILD								
H-3	0.00E+00	4.10E-02	4.10E-02	4.10E-02	4.10E-02	4.10E-02	0.00E+00	4.10E-02
CR-51	0.00E+00	0.00E+00	5.05E-08	1.38E-08	9.23E-08	4.83E-06	0.00E+00	9.10E-08
MN-54	0.00E+00	1.44E-04	0.00E+00	4.03E-05	0.00E+00	1.20E-04	0.00E+00	3.82E-05
FE-59	8.01E-06	1.30E-05	0.00E+00	0.00E+00	3.76E-06	1.35E-05	0.00E+00	6.46E-06
CO-58	0.00E+00	7.49E-05	0.00E+00	0.00E+00	0.00E+00	4.37E-04	0.00E+00	2.29E-04
CO-60	0.00E+00	6.83E-05	0.00E+00	0.00E+00	0.00E+00	3.78E-04	0.00E+00	2.01E-04
ZR-95	1.88E-09	4.14E-10	0.00E+00	5.92E-10	0.00E+00	4.32E-07	0.00E+00	3.68E-10
NB-95	4.29E-06	1.67E-06	0.00E+00	1.57E-06	0.00E+00	3.09E-03	0.00E+00	1.19E-06
MO-99	0.00E+00	3.96E-07	0.00E+00	8.47E-07	0.00E+00	3.28E-07	0.00E+00	9.81E-08
AG-110M	1.39E-09	9.36E-10	0.00E+00	1.74E-09	0.00E+00	1.11E-07	0.00E+00	7.48E-10
TE-125M	6.49E-04	1.76E-04	1.82E-04	0.00E+00	0.00E+00	6.26E-04	0.00E+00	8.65E-05
TE-132	1.37E-06	6.05E-07	8.82E-07	5.62E-06	0.00E+00	6.10E-06	0.00E+00	7.32E-07
I-131	3.16E-06	3.18E-06	1.05E-03	5.21E-06	0.00E+00	2.83E-07	0.00E+00	1.80E-06
I-132	2.22E-09	4.09E-09	1.90E-07	6.26E-09	0.00E+00	4.81E-09	0.00E+00	1.88E-09
I-133	3.16E-08	3.91E-08	7.26E-06	6.51E-08	0.00E+00	1.57E-08	0.00E+00	1.48E-08
CS-134	7.07E-05	1.16E-04	0.00E+00	3.59E-05	1.29E-05	6.25E-07	0.00E+00	2.45E-05
CS-136	6.81E-06	1.87E-05	0.00E+00	9.96E-06	1.49E-06	6.57E-07	0.00E+00	1.21E-05
CS-137	5.24E-04	5.02E-04	0.00E+00	1.64E-04	5.88E-05	3.14E-06	0.00E+00	7.41E-05
BA-140	2.83E-07	2.47E-10	0.00E+00	8.06E-11	1.48E-10	1.43E-07	0.00E+00	1.65E-08
INFANT								
H-3	0.00E+00	3.37E-02	3.37E-02	3.37E-02	3.37E-02	3.37E-02	0.00E+00	3.37E-02
CR-51	0.00E+00	0.00E+00	1.37E-09	3.00E-10	2.67E-09	6.14E-08	0.00E+00	2.11E-09
MN-54	0.00E+00	1.97E-06	0.00E+00	4.37E-07	0.00E+00	7.25E-07	0.00E+00	4.47E-07
FE-59	4.27E-07	7.46E-07	0.00E+00	0.00E+00	2.20E-07	3.56E-07	0.00E+00	2.94E-07
CO-58	0.00E+00	8.20E-06	0.00E+00	0.00E+00	0.00E+00	2.04E-05	0.00E+00	2.05E-05
CO-60	0.00E+00	7.64E-06	0.00E+00	0.00E+00	0.00E+00	1.82E-05	0.00E+00	1.80E-05
ZR-95	1.26E-09	3.07E-10	0.00E+00	3.31E-10	0.00E+00	1.53E-07	0.00E+00	2.18E-10
NB-95	7.97E-10	3.28E-10	0.00E+00	2.35E-10	0.00E+00	2.77E-07	0.00E+00	1.90E-10
MO-99	0.00E+00	2.07E-07	0.00E+00	3.10E-07	0.00E+00	6.82E-08	0.00E+00	4.04E-08
AG-110M	1.11E-09	8.07E-10	0.00E+00	1.15E-09	0.00E+00	4.19E-08	0.00E+00	5.34E-10
TE-125M	9.80E-06	3.28E-06	3.30E-06	0.00E+00	0.00E+00	4.67E-06	0.00E+00	1.32E-06
TE-132	2.08E-08	1.03E-08	1.52E-08	6.45E-08	0.00E+00	3.81E-08	0.00E+00	9.62E-09
I-131	1.00E-06	1.18E-06	3.89E-04	1.38E-06	0.00E+00	4.22E-08	0.00E+00	5.20E-07
I-132	7.03E-10	1.43E-09	6.69E-08	1.59E-09	0.00E+00	1.16E-09	0.00E+00	5.09E-10
I-133	1.02E-08	1.48E-08	2.69E-06	1.74E-08	0.00E+00	2.50E-09	0.00E+00	4.33E-09
CS-134	1.70E-07	3.17E-07	0.00E+00	8.15E-08	3.34E-08	8.60E-10	0.00E+00	3.20E-08
CS-136	1.98E-08	5.83E-08	0.00E+00	2.32E-08	4.75E-09	8.85E-10	0.00E+00	2.18E-08

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05

=== PERMIT ORGAN DOSE BY AGE GROUP AND NUCLIDE (mrem) ==========

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
CS-137	1.25E-06	1.46E-06	0.00E+00	3.92E-07	1.59E-07	4.56E-09	0.00E+00	1.04E-07
BA-140	2.02E-07	2.02E-10	0.00E+00	4.79E-11	1.24E-10	4.95E-08	0.00E+00	1.04E-08

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05
Unit.....: 1
Receptor.....: 0 Liquid Receptor

=== MAXIMUM DOSE FOR PERIOD ==========

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
Admin	Any Organ	ADULT	GILLI	5.39E-02	31-day	1.50E-01	3.59E+01
					Quarter	3.75E+00	1.44E+00
					Annual	7.50E+00	7.19E-01
Admin	Tot Body	CHILD	TBODY	4.17E-02	31-day	4.50E-02	9.26E+01
					Quarter	1.13E+00	3.71E+00
					Annual	2.25E+00	1.85E+00
T.Spec	Any Organ	ADULT	GILLI	5.39E-02	31-day	2.00E-01	2.70E+01
					Quarter	5.00E+00	1.08E+00
					Annual	1.00E+01	5.39E-01

Critical Pathway.....: 1 Fresh Water Fish - Sport (FFSP
Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	6.65E+01
CR-51	3.82E-02
MN-54	1.05E+00
FE-59	9.10E-02
CO-58	3.39E+00
CO-60	2.80E+00
ZR-95	1.96E-03
NB-95	2.26E+01
MO-99	1.40E-03
AG-110M	5.67E-04
TE-125M	3.42E+00
TE-132	5.86E-02
I-131	1.42E-03
I-132	1.40E-06
I-133	5.85E-05
CS-134	4.41E-03
CS-136	4.77E-03
CS-137	1.91E-02
BA-140	5.74E-04

T.Spec	Tot Body	CHILD	TBODY	4.17E-02	31-day	6.00E-02	6.95E+01
					Quarter	1.50E+00	2.78E+00

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05

=== MAXIMUM DOSE FOR PERIOD ==========

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
					Annual	3.00E+00	1.39E+00

Critical Pathway.....: 0 Potable Water (PWtr)
Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	9.84E+01
CR-51	2.18E-04
MN-54	9.17E-02
FE-59	1.55E-02
CO-58	5.50E-01
CO-60	4.83E-01
ZR-95	8.83E-07
NB-95	2.86E-03
MO-99	2.35E-04
AG-110M	1.79E-06
TE-125M	2.08E-01
TE-132	1.75E-03
I-131	4.33E-03
I-132	4.51E-06
I-133	3.55E-05
CS-134	5.87E-02
CS-136	2.90E-02
CS-137	1.78E-01
BA-140	3.96E-05

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05
Unit.....: 2

=== MULTIPLE RELEASE POINT MESSAGE ==========
Undiluted and Diluted Flowrate(s) and Concentration(s) cannot be combined.

=== RELEASE DATA ==========
Total Release Duration (minutes)..... 1.456E+06
Total Undiluted Volume Released (gallons)..... NA
Average Undiluted Flowrate (gpm)..... NA

Total Dilution Volume (gallons)..... NA
Average Dilution Flowrate (gpm)..... NA

=== NUCLIDE DATA ==========

Nuclide	uCi
CO-57	2.69E+01
NB-97	1.41E+01
SB-122	2.38E+01
SB-124	1.08E+02
SB-125	3.12E+03
TE-123M	1.06E+03
CR-51	2.05E+03
MN-54	1.36E+03
FE-59	1.90E+02
CO-58	3.13E+04
CO-60	9.70E+03
ZR-95	8.40E+01
NB-95	2.60E+02
MO-99	8.36E+01
AG-110M	1.52E+01
TE-125M	5.77E+03
TE-132	1.37E+01
I-131	3.84E+02
I-132	5.81E+00
I-133	1.12E+01
CS-134	6.18E+00
CS-136	5.93E+00
CS-137	3.28E+01
BA-140	1.62E+01
Gamma	5.56E+04
KR-85	1.68E+03
XE-133M	8.01E+01
XE-131M	2.72E+02

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05

=== NUCLIDE DATA ==========

Nuclide	uCi
XE-135	6.00E+01
XE-133	1.90E+04
D&EG	2.11E+04
H-3	1.32E+09
Beta	1.32E+09
Total	1.32E+09

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05
Unit.....: 2
Receptor.....: 0 Liquid Receptor

=== PERMIT ORGAN DOSE BY AGE GROUP AND PATHWAY (mrem) ==========

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
APWtr	3.44E-06	2.54E-02	2.55E-02	2.54E-02	2.54E-02	2.55E-02	0.00E+00	2.54E-02
AFWFSp	9.22E-04	1.17E-02	1.15E-02	1.27E-02	1.06E-02	2.84E-02	0.00E+00	1.15E-02
TPWtr	3.41E-06	1.79E-02	1.80E-02	1.79E-02	1.79E-02	1.80E-02	0.00E+00	1.79E-02
TFWFSp	9.92E-04	9.33E-03	9.00E-03	8.39E-03	8.17E-03	2.08E-02	0.00E+00	8.83E-03
CPWtr	1.01E-05	3.43E-02	3.46E-02	3.43E-02	3.43E-02	3.44E-02	0.00E+00	3.44E-02
CFWFSp	1.26E-03	7.79E-03	7.68E-03	6.95E-03	6.76E-03	1.13E-02	0.00E+00	7.32E-03
IPWtr	1.29E-05	3.37E-02	3.41E-02	3.37E-02	3.37E-02	3.37E-02	0.00E+00	3.37E-02
TOTALS								
ADULT	9.26E-04	3.71E-02	3.70E-02	3.81E-02	3.60E-02	5.39E-02	0.00E+00	3.68E-02
TEEN	9.96E-04	2.72E-02	2.70E-02	2.63E-02	2.60E-02	3.88E-02	0.00E+00	2.67E-02
CHILD	1.27E-03	4.21E-02	4.22E-02	4.13E-02	4.11E-02	4.57E-02	0.00E+00	4.17E-02
INFANT	1.29E-05	3.37E-02	3.41E-02	3.37E-02	3.37E-02	3.37E-02	0.00E+00	3.37E-02

=== AGE GROUP / PATHWAY DESCRIPTIONS ==========

Abbreviation	Age Group	Pathway
APWtr	ADULT	Potable Water (PWtr)
AFWFSp	ADULT	Fresh Water Fish - Sport (FFSP)
TPWtr	TEEN	Potable Water (PWtr)
TFWFSp	TEEN	Fresh Water Fish - Sport (FFSP)
CPWtr	CHILD	Potable Water (PWtr)
CFWFSp	CHILD	Fresh Water Fish - Sport (FFSP)
IPWtr	INFANT	Potable Water (PWtr)

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05
Unit.....: 2
Receptor.....: 0 Liquid Receptor

=== PERMIT ORGAN DOSE BY AGE GROUP AND NUCLIDE (mrem) ==========

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
ADULT								
H-3	0.00E+00	3.59E-02	3.59E-02	3.59E-02	3.59E-02	3.59E-02	0.00E+00	3.59E-02
CR-51	0.00E+00	0.00E+00	4.89E-08	1.80E-08	1.09E-07	2.06E-05	0.00E+00	8.19E-08
MN-54	0.00E+00	1.86E-04	0.00E+00	5.52E-05	0.00E+00	5.68E-04	0.00E+00	3.54E-05
FE-59	6.26E-06	1.47E-05	0.00E+00	0.00E+00	4.11E-06	4.91E-05	0.00E+00	5.64E-06
CO-58	0.00E+00	9.01E-05	0.00E+00	0.00E+00	0.00E+00	1.83E-03	0.00E+00	2.02E-04
CO-60	0.00E+00	8.04E-05	0.00E+00	0.00E+00	0.00E+00	1.51E-03	0.00E+00	1.77E-04
ZR-95	1.04E-09	3.33E-10	0.00E+00	5.22E-10	0.00E+00	1.05E-06	0.00E+00	2.25E-10
NB-95	3.61E-06	2.01E-06	0.00E+00	1.98E-06	0.00E+00	1.22E-02	0.00E+00	1.08E-06
MO-99	0.00E+00	3.26E-07	0.00E+00	7.37E-07	0.00E+00	7.55E-07	0.00E+00	6.19E-08
AG-110M	8.09E-10	7.48E-10	0.00E+00	1.47E-09	0.00E+00	3.05E-07	0.00E+00	4.44E-10
TE-125M	4.61E-04	1.67E-04	1.39E-04	1.88E-03	0.00E+00	1.84E-03	0.00E+00	6.18E-05
TE-132	1.03E-06	6.68E-07	7.38E-07	6.43E-06	0.00E+00	3.16E-05	0.00E+00	6.27E-07
I-131	2.03E-06	2.91E-06	9.53E-04	4.99E-06	0.00E+00	7.68E-07	0.00E+00	1.67E-06
I-132	1.50E-09	4.02E-09	1.41E-07	6.41E-09	0.00E+00	7.56E-10	0.00E+00	1.41E-09
I-133	2.02E-08	3.51E-08	5.16E-06	6.13E-08	0.00E+00	3.16E-08	0.00E+00	1.07E-08
CS-134	5.71E-05	1.36E-04	0.00E+00	4.40E-05	1.46E-05	2.38E-06	0.00E+00	1.11E-04
CS-136	5.73E-06	2.26E-05	0.00E+00	1.26E-05	1.73E-06	2.57E-06	0.00E+00	1.63E-05
CS-137	3.88E-04	5.31E-04	0.00E+00	1.80E-04	5.99E-05	1.03E-05	0.00E+00	3.48E-04
BA-140	1.50E-07	1.89E-10	0.00E+00	6.42E-11	1.08E-10	3.10E-07	0.00E+00	9.86E-09
TEEN								
H-3	0.00E+00	2.59E-02	2.59E-02	2.59E-02	2.59E-02	2.59E-02	0.00E+00	2.59E-02
CR-51	0.00E+00	0.00E+00	4.68E-08	1.85E-08	1.20E-07	1.42E-05	0.00E+00	8.43E-08
MN-54	0.00E+00	1.82E-04	0.00E+00	5.44E-05	0.00E+00	3.74E-04	0.00E+00	3.62E-05
FE-59	6.44E-06	1.50E-05	0.00E+00	0.00E+00	4.74E-06	3.56E-05	0.00E+00	5.81E-06
CO-58	0.00E+00	8.93E-05	0.00E+00	0.00E+00	0.00E+00	1.23E-03	0.00E+00	2.06E-04
CO-60	0.00E+00	8.01E-05	0.00E+00	0.00E+00	0.00E+00	1.04E-03	0.00E+00	1.80E-04
ZR-95	1.04E-09	3.27E-10	0.00E+00	4.80E-10	0.00E+00	7.54E-07	0.00E+00	2.25E-10
NB-95	3.63E-06	2.01E-06	0.00E+00	1.95E-06	0.00E+00	8.61E-03	0.00E+00	1.11E-06
MO-99	0.00E+00	3.42E-07	0.00E+00	7.82E-07	0.00E+00	6.12E-07	0.00E+00	6.52E-08
AG-110M	7.58E-10	7.17E-10	0.00E+00	1.37E-09	0.00E+00	2.01E-07	0.00E+00	4.36E-10
TE-125M	5.02E-04	1.81E-04	1.40E-04	0.00E+00	0.00E+00	1.48E-03	0.00E+00	6.71E-05
TE-132	1.09E-06	6.90E-07	7.27E-07	6.62E-06	0.00E+00	2.18E-05	0.00E+00	6.49E-07
I-131	2.16E-06	3.02E-06	8.81E-04	5.20E-06	0.00E+00	5.97E-07	0.00E+00	1.62E-06
I-132	1.56E-09	4.08E-09	1.37E-07	6.42E-09	0.00E+00	1.78E-09	0.00E+00	1.46E-09
I-133	2.15E-08	3.65E-08	5.10E-06	6.41E-08	0.00E+00	2.77E-08	0.00E+00	1.11E-08
CS-134	5.85E-05	1.38E-04	0.00E+00	4.38E-05	1.67E-05	1.71E-06	0.00E+00	6.39E-05
CS-136	5.76E-06	2.27E-05	0.00E+00	1.23E-05	1.95E-06	1.82E-06	0.00E+00	1.52E-05
CS-137	4.16E-04	5.53E-04	0.00E+00	1.88E-04	7.31E-05	7.87E-06	0.00E+00	1.93E-04

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05

=== PERMIT ORGAN DOSE BY AGE GROUP AND NUCLIDE (mrem) ==========

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
BA-140	1.56E-07	1.91E-10	0.00E+00	6.47E-11	1.28E-10	2.40E-07	0.00E+00	1.00E-08
CHILD								
H-3	0.00E+00	4.10E-02	4.10E-02	4.10E-02	4.10E-02	4.10E-02	0.00E+00	4.10E-02
CR-51	0.00E+00	0.00E+00	5.05E-08	1.38E-08	9.23E-08	4.83E-06	0.00E+00	9.10E-08
MN-54	0.00E+00	1.44E-04	0.00E+00	4.03E-05	0.00E+00	1.20E-04	0.00E+00	3.82E-05
FE-59	8.01E-06	1.30E-05	0.00E+00	0.00E+00	3.76E-06	1.35E-05	0.00E+00	6.46E-06
CO-58	0.00E+00	7.49E-05	0.00E+00	0.00E+00	0.00E+00	4.37E-04	0.00E+00	2.29E-04
CO-60	0.00E+00	6.83E-05	0.00E+00	0.00E+00	0.00E+00	3.78E-04	0.00E+00	2.01E-04
ZR-95	1.88E-09	4.14E-10	0.00E+00	5.92E-10	0.00E+00	4.32E-07	0.00E+00	3.68E-10
NB-95	4.29E-06	1.67E-06	0.00E+00	1.57E-06	0.00E+00	3.09E-03	0.00E+00	1.19E-06
MO-99	0.00E+00	3.96E-07	0.00E+00	8.47E-07	0.00E+00	3.28E-07	0.00E+00	9.81E-08
AG-110M	1.39E-09	9.36E-10	0.00E+00	1.74E-09	0.00E+00	1.11E-07	0.00E+00	7.48E-10
TE-125M	6.49E-04	1.76E-04	1.82E-04	0.00E+00	0.00E+00	6.26E-04	0.00E+00	8.65E-05
TE-132	1.37E-06	6.05E-07	8.82E-07	5.62E-06	0.00E+00	6.10E-06	0.00E+00	7.32E-07
I-131	3.16E-06	3.18E-06	1.05E-03	5.21E-06	0.00E+00	2.83E-07	0.00E+00	1.80E-06
I-132	2.22E-09	4.09E-09	1.90E-07	6.26E-09	0.00E+00	4.81E-09	0.00E+00	1.88E-09
I-133	3.16E-08	3.91E-08	7.26E-06	6.51E-08	0.00E+00	1.57E-08	0.00E+00	1.48E-08
CS-134	7.07E-05	1.16E-04	0.00E+00	3.59E-05	1.29E-05	6.25E-07	0.00E+00	2.45E-05
CS-136	6.81E-06	1.87E-05	0.00E+00	9.96E-06	1.49E-06	6.57E-07	0.00E+00	1.21E-05
CS-137	5.24E-04	5.02E-04	0.00E+00	1.64E-04	5.88E-05	3.14E-06	0.00E+00	7.41E-05
BA-140	2.83E-07	2.47E-10	0.00E+00	8.06E-11	1.48E-10	1.43E-07	0.00E+00	1.65E-08
INFANT								
H-3	0.00E+00	3.37E-02	3.37E-02	3.37E-02	3.37E-02	3.37E-02	0.00E+00	3.37E-02
CR-51	0.00E+00	0.00E+00	1.37E-09	3.00E-10	2.67E-09	6.14E-08	0.00E+00	2.11E-09
MN-54	0.00E+00	1.97E-06	0.00E+00	4.37E-07	0.00E+00	7.25E-07	0.00E+00	4.47E-07
FE-59	4.27E-07	7.46E-07	0.00E+00	0.00E+00	2.20E-07	3.56E-07	0.00E+00	2.94E-07
CO-58	0.00E+00	8.20E-06	0.00E+00	0.00E+00	0.00E+00	2.04E-05	0.00E+00	2.05E-05
CO-60	0.00E+00	7.64E-06	0.00E+00	0.00E+00	0.00E+00	1.82E-05	0.00E+00	1.80E-05
ZR-95	1.26E-09	3.07E-10	0.00E+00	3.31E-10	0.00E+00	1.53E-07	0.00E+00	2.18E-10
NB-95	7.97E-10	3.28E-10	0.00E+00	2.35E-10	0.00E+00	2.77E-07	0.00E+00	1.90E-10
MO-99	0.00E+00	2.07E-07	0.00E+00	3.10E-07	0.00E+00	6.82E-08	0.00E+00	4.04E-08
AG-110M	1.11E-09	8.07E-10	0.00E+00	1.15E-09	0.00E+00	4.19E-08	0.00E+00	5.34E-10
TE-125M	9.80E-06	3.28E-06	3.30E-06	0.00E+00	0.00E+00	4.67E-06	0.00E+00	1.32E-06
TE-132	2.08E-08	1.03E-08	1.52E-08	6.45E-08	0.00E+00	3.81E-08	0.00E+00	9.62E-09
I-131	1.00E-06	1.18E-06	3.89E-04	1.38E-06	0.00E+00	4.22E-08	0.00E+00	5.20E-07
I-132	7.03E-10	1.43E-09	6.69E-08	1.59E-09	0.00E+00	1.16E-09	0.00E+00	5.09E-10
I-133	1.02E-08	1.48E-08	2.69E-06	1.74E-08	0.00E+00	2.50E-09	0.00E+00	4.33E-09
CS-134	1.70E-07	3.17E-07	0.00E+00	8.15E-08	3.34E-08	8.60E-10	0.00E+00	3.20E-08
CS-136	1.98E-08	5.83E-08	0.00E+00	2.32E-08	4.75E-09	8.85E-10	0.00E+00	2.18E-08

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05

=== PERMIT ORGAN DOSE BY AGE GROUP AND NUCLIDE (mrem) ==========

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
CS-137	1.25E-06	1.46E-06	0.00E+00	3.92E-07	1.59E-07	4.56E-09	0.00E+00	1.04E-07
BA-140	2.02E-07	2.02E-10	0.00E+00	4.79E-11	1.24E-10	4.95E-08	0.00E+00	1.04E-08

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05
Unit.....: 2
Receptor.....: 0 Liquid Receptor

=== MAXIMUM DOSE FOR PERIOD ==========

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
Admin	Any Organ	ADULT	GILLI	5.39E-02	31-day	1.50E-01	3.59E+01
					Quarter	3.75E+00	1.44E+00
					Annual	7.50E+00	7.19E-01
Admin	Tot Body	CHILD	TBODY	4.17E-02	31-day	4.50E-02	9.26E+01
					Quarter	1.13E+00	3.71E+00
					Annual	2.25E+00	1.85E+00
T.Spec	Any Organ	ADULT	GILLI	5.39E-02	31-day	2.00E-01	2.70E+01
					Quarter	5.00E+00	1.08E+00
					Annual	1.00E+01	5.39E-01

Critical Pathway.....: 1 Fresh Water Fish - Sport (FFSP
Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	6.65E+01
CR-51	3.82E-02
MN-54	1.05E+00
FE-59	9.10E-02
CO-58	3.39E+00
CO-60	2.80E+00
ZR-95	1.96E-03
NB-95	2.26E+01
MO-99	1.40E-03
AG-110M	5.67E-04
TE-125M	3.42E+00
TE-132	5.86E-02
I-131	1.42E-03
I-132	1.40E-06
I-133	5.85E-05
CS-134	4.41E-03
CS-136	4.77E-03
CS-137	1.91E-02
BA-140	5.74E-04

T.Spec	Tot Body	CHILD	TBODY	4.17E-02	31-day	6.00E-02	6.95E+01
					Quarter	1.50E+00	2.78E+00

LIQUID RELEASE AND DOSE SUMMARY REPORT
------ (PERIOD BASIS - BY UNIT) ------

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2003 00:00
Period End Date.....: 01/01/2004 00:00
Period Duration (mins): 5.256E+05

=== MAXIMUM DOSE FOR PERIOD ==========

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
					Annual	3.00E+00	1.39E+00

Critical Pathway.....: 0 Potable Water (PWtr)
Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	9.84E+01
CR-51	2.18E-04
MN-54	9.17E-02
FE-59	1.55E-02
CO-58	5.50E-01
CO-60	4.83E-01
ZR-95	8.83E-07
NB-95	2.86E-03
MO-99	2.35E-04
AG-110M	1.79E-06
TE-125M	2.08E-01
TE-132	1.75E-03
I-131	4.33E-03
I-132	4.51E-06
I-133	3.55E-05
CS-134	5.87E-02
CS-136	2.90E-02
CS-137	1.78E-01
BA-140	3.96E-05

BRAIDWOOD NUCLEAR POWER STATION
RADIOACTIVE EFFLUENT RELEASE REPORT FOR 2003
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

ATTACHMENT

Wind Direction and Stability Classes

Braidwood Nuclear Station
34 ft. Wind Speed and Direction

January-March, 2003
199Ft-30Ft Delta-T (F)

Number of Observations = 2154
Values are Percent Occurrence

SPEED CLASS		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	STABILITY CLASSES EU	MU	SU	N	SS	MS	ES	TOTAL
	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
C	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
A	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
L	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
M	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										0.00
	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.09	0.09							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.09		0.09						
1	SU	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19			0.19					
-	N	0.09	0.09	0.32	0.14	0.28	0.19	0.05	0.05	0.05	0.14	0.09	0.09	0.19	0.32	0.28	0.23	2.60				2.60				
3	SS	0.09	0.28	0.23	0.46	0.88	0.42	0.32	0.00	0.00	0.05	0.00	0.09	0.46	0.56	0.42	0.19	4.46					4.46			
	MS	0.00	0.19	0.09	0.60	0.46	0.09	0.09	0.05	0.00	0.05	0.05	0.19	0.46	0.84	0.09	0.05	3.30						3.30		
	ES	0.00	0.00	0.00	0.09	0.05	0.05	0.00	0.00	0.00	0.00	0.14	0.05	0.19	0.19	0.00	0.00	0.74							0.74	
																										11.47
	EU	0.05	0.00	0.00	0.19	0.09	0.14	0.14	0.05	0.14	0.00	0.19	0.00	0.37	0.28	0.70	0.05	2.37	2.37							
	MU	0.00	0.00	0.00	0.14	0.05	0.05	0.05	0.09	0.19	0.05	0.00	0.14	0.14	0.09	0.37	0.46	1.81		1.81						
4	SU	0.05	0.05	0.00	0.05	0.09	0.00	0.09	0.19	0.09	0.14	0.05	0.00	0.23	0.14	0.14	0.19	1.49			1.49					
-	N	1.02	0.88	1.02	0.65	0.84	0.09	0.56	1.07	0.60	0.19	0.93	0.79	1.02	1.44	2.18	1.16	14.44				14.44				
7	SS	0.19	0.23	0.42	0.37	0.37	1.07	0.60	1.21	0.65	0.05	0.46	0.84	1.16	1.67	0.79	0.65	10.72					10.72			
	MS	0.00	0.00	0.00	0.00	0.05	0.19	0.32	0.56	0.65	0.23	0.19	0.79	0.56	0.56	0.00	0.05	4.13						4.13		
	ES	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.05	0.00	0.00	0.00	0.09	0.19	0.00	0.00	0.00	0.42							0.42	
																										35.38
	EU	0.00	0.14	0.05	0.00	0.00	0.00	0.00	0.14	0.23	0.23	0.56	0.28	0.37	1.21	0.97	0.42	4.60	4.60							
	MU	0.14	0.14	0.14	0.00	0.00	0.00	0.05	0.14	0.37	0.00	0.32	0.23	0.14	0.51	0.42	0.05	2.65		2.65						
8	SU	0.14	0.05	0.28	0.00	0.00	0.00	0.00	0.09	0.23	0.14	0.32	0.09	0.09	0.32	0.09	0.23	2.09			2.09					
-	N	0.88	0.88	2.18	0.97	0.00	0.00	0.37	1.02	1.58	1.16	2.69	1.49	0.88	3.25	1.07	3.16	21.59				21.59				
1	SS	0.19	0.05	0.00	0.00	0.14	0.09	0.42	0.37	0.88	0.65	0.84	0.74	0.79	1.11	0.28	0.56	7.10					7.10			
2	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.23	0.05	0.00	0.00	0.46						0.46		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										38.49
	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.23	0.46	0.19	0.32	0.70	0.14	0.19	2.41	2.41							
1	MU	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.46	0.19	0.14	0.28	0.00	0.19	1.49		1.49						
3	SU	0.00	0.23	0.14	0.00	0.00	0.00	0.00	0.00	0.09	0.05	0.42	0.19	0.14	0.23	0.00	0.05	1.53			1.53					
-	N	0.56	0.70	1.76	0.00	0.00	0.00	0.05	0.14	0.70	0.65	0.93	0.60	0.42	1.07	0.00	0.70	8.26				8.26				
1	SS	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.14	0.14	0.05	0.05	0.14	0.00	0.00	0.00	0.74					0.74			
8	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										14.44

Braidwood Nuclear Station
34 ft. Wind Speed and Direction

January-March. 2003
199Ft-30Ft Delta-T (F)

SPEED CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
	WIND DIRECTION CLASSES																	STABILITY CLASSES							
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05							
1 MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
9 SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
- N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.09	0.00	0.00	0.00	0.14				0.14				
2 SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05					0.05			
4 MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									0.23
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
G MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
T SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
2 SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
4 MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									0.00
TOT	3.39	3.95	6.92	3.67	3.39	2.41	3.11	5.48	6.87	4.27	9.19	7.24	8.73	14.90	7.94	8.54	100.00	9.52	6.04	5.29	47.03	23.07	7.89	1.16	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.05	0.14	0.05	0.19	0.09	0.14	0.14	0.42	0.42	0.46	1.21	0.46	1.07	2.23	1.81	0.65	9.52	Extremely Unstable
0.14	0.19	0.14	0.14	0.05	0.05	0.09	0.23	0.74	0.09	0.79	0.60	0.42	0.88	0.79	0.70	6.04	Moderately Unstable
0.19	0.32	0.46	0.05	0.09	0.05	0.09	0.32	0.46	0.32	0.79	0.28	0.46	0.70	0.23	0.46	5.29	Slightly Unstable
2.55	2.55	5.29	1.76	1.11	0.28	1.02	2.27	2.92	2.14	4.69	2.97	2.60	6.08	3.53	5.25	47.03	Neutral
0.46	0.56	0.88	0.84	1.39	1.58	1.35	1.58	1.67	0.88	1.35	1.72	2.55	3.39	1.49	1.39	23.07	Slightly Stable
0.00	0.19	0.09	0.60	0.51	0.28	0.42	0.60	0.65	0.37	0.23	1.07	1.25	1.44	0.09	0.09	7.89	Moderately Stable
0.00	0.00	0.00	0.09	0.14	0.05	0.00	0.05	0.00	0.00	0.14	0.14	0.37	0.19	0.00	0.00	1.16	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C A L M
0.19	0.56	0.70	1.30	1.67	0.79	0.46	0.14	0.14	0.28	0.28	0.46	1.30	1.95	0.79	0.46	11.47	< 3.5 mph
1.30	1.16	1.44	1.39	1.58	1.53	1.76	3.20	2.32	0.65	1.81	2.65	3.67	4.18	4.18	2.55	35.38	3.6 - 7.5 mph
1.35	1.25	2.65	0.97	0.14	0.09	0.84	1.76	3.30	2.27	4.74	2.92	2.51	6.45	2.83	4.41	38.49	7.6 - 12.5 mph
0.56	0.97	2.14	0.00	0.00	0.00	0.05	0.32	1.11	1.07	2.32	1.21	1.16	2.27	0.14	1.11	14.44	12.6 - 18.5 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.09	0.05	0.00	0.00	0.23	18.6 - 24.5 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	> 24.5 mph

Braidwood Nuclear Station
34 ft. Wind Speed and Direction

April-June, 2003
199Ft-30Ft Delta-T (F)

Number of Observations = 2158
Values are Percent Occurrence

SPEED CLASS		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
C	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
A	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
1	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
4	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										0.00
	EU	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.09	0.05	0.00	0.05	0.00	0.00	0.05	0.00	0.00	0.32	0.32							
	MU	0.00	0.05	0.00	0.05	0.05	0.00	0.09	0.05	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.05	0.37		0.37						
1	SU	0.09	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23			0.23					
-	N	0.28	0.23	0.19	0.46	0.23	0.05	0.05	0.09	0.09	0.05	0.00	0.05	0.14	0.09	0.09	0.00	2.09				2.09				
3	SS	0.42	0.46	0.70	0.93	0.70	0.46	0.19	0.05	0.05	0.00	0.09	0.00	0.28	0.32	0.14	0.05	4.82					4.82			
	MS	0.32	0.14	0.46	0.42	0.37	0.79	0.23	0.09	0.05	0.14	0.14	0.19	0.28	0.32	0.32	0.23	4.49						4.49		
	ES	0.23	0.19	0.09	0.28	0.19	0.23	0.23	0.00	0.05	0.14	0.00	0.05	0.19	0.28	0.32	0.28	2.73							2.73	
																										15.06
	EU	0.42	0.32	1.58	0.56	0.28	0.14	0.00	0.19	0.23	0.23	0.14	0.23	0.51	0.37	0.56	0.19	5.93	5.93							
	MU	0.09	0.23	0.46	0.23	0.19	0.14	0.05	0.05	0.00	0.05	0.05	0.05	0.19	0.09	0.14	0.14	2.13		2.13						
4	SU	0.28	0.23	0.70	0.19	0.19	0.00	0.19	0.05	0.09	0.00	0.09	0.00	0.23	0.09	0.05	0.00	2.36			2.36					
-	N	1.34	2.27	3.34	1.95	1.44	0.32	0.42	0.65	0.14	0.19	0.23	0.51	0.74	0.46	0.19	0.65	14.83				14.83				
7	SS	1.44	2.22	2.09	2.13	1.20	1.07	0.37	0.70	1.62	0.28	0.83	0.74	0.37	0.14	0.65	0.37	16.22					16.22			
	MS	0.14	0.37	0.05	0.05	0.19	0.32	0.19	0.37	0.14	0.14	0.23	0.51	0.37	0.09	0.00	0.00	3.15						3.15		
	ES	0.00	0.00	0.05	0.05	0.14	0.05	0.09	0.00	0.00	0.00	0.00	0.05	0.09	0.00	0.00	0.05	0.56							0.56	
																										45.18
	EU	0.32	1.25	1.53	0.09	0.37	0.05	0.14	0.42	0.37	1.20	0.37	0.23	0.28	0.19	0.51	0.42	7.74	7.74							
	MU	0.05	0.23	0.28	0.14	0.00	0.05	0.09	0.14	0.14	0.09	0.19	0.19	0.00	0.05	0.09	0.14	1.85		1.85						
8	SU	0.09	0.32	0.28	0.09	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.05	0.05	0.05	0.00	0.37	1.39			1.39					
-	N	0.46	2.64	2.04	1.95	0.23	0.28	0.42	0.19	0.46	0.28	0.74	0.23	0.32	1.07	0.56	0.60	12.47				12.47				
1	SS	0.14	0.46	0.23	0.19	0.14	0.37	0.42	0.88	0.88	1.07	1.02	0.19	0.14	0.09	0.00	0.14	6.35					6.35			
2	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05						0.05		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										29.84
	EU	0.05	0.28	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.37	0.42	0.42	0.23	0.32	0.05	0.23	2.46	2.46							
1	MU	0.05	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.09	0.14	0.00	0.09	0.00	0.00	0.60		0.60						
3	SU	0.00	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.14	0.19	0.09	0.05	0.05	0.00	0.00	0.65			0.65					
-	N	0.14	0.09	0.00	0.00	0.00	0.00	0.05	0.09	0.23	0.32	0.79	0.42	0.46	0.19	0.00	0.19	2.97				2.97				
1	SS	0.00	0.05	0.00	0.00	0.00	0.05	0.05	0.00	0.51	1.07	0.23	0.05	0.00	0.00	0.00	0.00	1.99					1.99			
8	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										8.67

Braidwood Nuclear Station
34 ft. Wind Speed and Direction

April-June, 2003
199Ft-30Ft Delta-T (F)

SPEED CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
	WIND DIRECTION CLASSES																	STABILITY CLASSES							
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09							
MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05			0.05					
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.28	0.32	0.00	0.00	0.00	0.70				0.70				
SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.05	0.00	0.00	0.00	0.19					0.19			
MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									1.02
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.14	0.00	0.00	0.00	0.19				0.19				
SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05					0.05			
MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									0.23
TOT	6.35	12.19	14.13	9.82	5.89	4.40	3.29	4.08	5.38	6.26	5.93	4.68	5.47	4.40	3.66	4.08	100.00	16.54	4.96	4.68	33.23	29.61	7.69	3.29	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.79	1.85	3.20	0.65	0.65	0.23	0.14	0.70	0.70	1.90	0.97	0.88	1.02	0.93	1.11	0.83	16.54	Extremely Unstable
0.19	0.60	0.74	0.42	0.23	0.19	0.23	0.23	0.19	0.23	0.37	0.37	0.19	0.23	0.23	0.32	4.96	Moderately Unstable
0.46	0.60	0.97	0.37	0.19	0.00	0.23	0.05	0.28	0.19	0.28	0.14	0.32	0.19	0.05	0.37	4.68	Slightly Unstable
2.22	5.24	5.56	4.36	1.90	0.65	0.93	1.02	0.93	0.93	1.76	1.53	2.13	1.81	0.83	1.44	33.23	Neutral
1.99	3.20	3.01	3.24	2.04	1.95	1.02	1.62	3.06	2.55	2.18	0.97	0.88	0.56	0.79	0.56	29.61	Slightly Stable
0.46	0.51	0.51	0.46	0.56	1.11	0.42	0.46	0.19	0.32	0.37	0.70	0.65	0.42	0.32	0.23	7.69	Moderately Stable
0.23	0.19	0.14	0.32	0.32	0.28	0.32	0.00	0.05	0.14	0.00	0.09	0.28	0.28	0.32	0.32	3.29	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CALM
1.34	1.07	1.48	2.22	1.53	1.58	0.79	0.37	0.32	0.32	0.32	0.28	0.88	1.07	0.88	0.60	15.06	< 3.5 mph
3.71	5.65	8.25	5.14	3.61	2.04	1.30	1.99	2.22	0.88	1.58	2.09	2.50	1.25	1.58	1.39	45.18	3.6 - 7.5 mph
1.07	4.91	4.36	2.46	0.74	0.74	1.07	1.62	1.95	2.69	2.32	0.88	0.79	1.44	1.16	1.67	29.84	7.6 - 12.5 mph
0.23	0.56	0.05	0.00	0.00	0.05	0.14	0.09	0.88	1.99	1.71	1.11	0.74	0.65	0.05	0.42	8.67	12.6 - 18.5 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.28	0.37	0.00	0.00	0.00	1.02	18.6 - 24.5 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.19	0.00	0.00	0.00	0.23	> 24.5 mph

Braidwood Nuclear Station
34 ft. Wind Speed and Direction

July-September. 2003
199Ft-30Ft Delta-T (F)

Number of Observations = 2156
Values are Percent Occurrence

SPEED CLASS		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0:00						
C	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
A	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
L	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
M	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										0.00
	EU	0.05	0.05	0.05	0.09	0.05	0.23	0.19	0.28	0.05	0.05	0.05	0.09	0.14	0.09	0.09	0.05	1.58	1.58							
	MU	0.05	0.00	0.14	0.00	0.05	0.14	0.00	0.09	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.05	0.60		0.60						
1	SU	0.00	0.00	0.09	0.09	0.09	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.19	0.05	0.09	0.00	0.70			0.70					
-	N	0.37	0.14	0.42	0.42	0.65	0.23	0.05	0.09	0.09	0.05	0.05	0.23	0.23	0.28	0.14	0.37	3.80				3.80				
3	SS	0.14	0.32	0.83	1.25	0.97	0.56	0.23	0.42	0.23	0.14	0.09	0.46	0.51	0.65	0.74	0.19	7.75					7.75			
	MS	0.32	0.23	0.46	0.51	1.02	1.16	0.79	0.83	0.28	0.28	0.28	0.37	1.02	0.97	0.28	0.32	9.14						9.14		
	ES	0.28	0.37	0.09	0.32	0.60	0.32	0.09	0.05	0.05	0.09	0.09	0.23	0.70	0.46	0.42	0.05	4.22							4.22	
																										27.78
	EU	0.32	0.14	0.51	0.70	0.93	0.51	0.93	0.97	0.37	0.46	0.37	0.79	0.97	1.53	0.88	0.60	10.99	10.99							
	MU	0.37	0.37	0.23	0.19	0.00	0.05	0.37	0.14	0.09	0.00	0.14	0.19	0.09	0.09	0.09	0.19	2.60		2.60						
4	SU	0.19	0.19	0.37	0.09	0.09	0.05	0.23	0.19	0.00	0.09	0.09	0.09	0.14	0.28	0.14	0.09	2.32			2.32					
-	N	0.51	1.53	1.53	1.81	0.37	0.51	0.56	0.46	0.51	0.14	0.46	0.46	0.46	0.70	0.19	0.51	10.71				10.71				
7	SS	0.97	1.35	1.11	0.65	0.09	1.02	1.76	2.09	1.95	0.93	0.93	1.76	1.35	0.60	0.37	0.83	17.76					17.76			
	MS	0.05	0.14	0.00	0.00	0.00	1.02	0.97	0.42	0.42	0.09	0.23	0.74	0.60	0.14	0.00	0.05	4.87						4.87		
	ES	0.00	0.00	0.00	0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.05	0.14	0.05	0.00	0.00	0.00	0.37							0.37	
																										49.63
	EU	0.37	0.28	0.56	0.00	0.00	0.00	0.14	0.65	0.70	1.07	0.97	0.79	0.93	0.97	0.46	0.09	7.98	7.98							
	MU	0.28	0.14	0.09	0.00	0.00	0.00	0.05	0.00	0.19	0.14	0.32	0.05	0.28	0.00	0.00	0.05	1.58		1.58						
8	SU	0.09	0.09	0.19	0.00	0.00	0.00	0.00	0.00	0.05	0.14	0.19	0.23	0.32	0.19	0.09	0.05	1.62			1.62					
-	N	0.05	0.51	0.42	0.05	0.00	0.05	0.09	0.32	0.65	0.60	1.02	0.51	0.70	0.51	0.09	0.09	5.66				5.66				
1	SS	0.00	0.00	0.05	0.05	0.00	0.05	0.37	0.51	0.97	0.83	1.25	0.23	0.28	0.00	0.09	0.14	4.82					4.82			
2	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										21.66
	EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.23	0.19	0.00	0.09	0.00	0.00	0.00	0.56	0.56							
1	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05		0.05						
3	SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
-	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05	0.00	0.05	0.05	0.00	0.00	0.23				0.23				
1	SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09					0.09			
8	MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
	ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																										0.93

Braidwood Nuclear Station
34 ft. Wind Speed and Direction

July-September, 2003
199Ft-30Ft Delta-T (F)

SPEED CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
	WIND DIRECTION CLASSES																	STABILITY CLASSES							
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
1 MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
9 SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
- N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
2 SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
4 MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									0.00
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
6 MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
T SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
2 SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
4 MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									0.00
TOT	4.41	5.84	7.14	6.22	5.01	5.94	6.82	7.61	6.73	5.47	6.82	7.47	9.09	7.56	4.17	3.71	100.00	21.10	4.82	4.64	20.41	30.43	14.01	4.59	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.74	0.46	1.11	0.79	0.97	0.74	1.25	1.95	1.11	1.81	1.58	1.67	2.13	2.60	1.44	0.74	21.10	Extremely Unstable
0.70	0.51	0.46	0.19	0.05	0.19	0.42	0.23	0.28	0.19	0.46	0.32	0.37	0.09	0.09	0.28	4.82	Moderately Unstable
0.28	0.28	0.65	0.19	0.19	0.05	0.23	0.23	0.09	0.23	0.28	0.32	0.65	0.51	0.32	0.14	4.64	Slightly Unstable
0.93	2.18	2.37	2.27	1.02	0.79	0.70	0.88	1.25	0.88	1.58	1.21	1.44	1.53	0.42	0.97	20.41	Neutral
1.11	1.67	1.99	1.95	1.07	1.62	2.37	3.01	3.25	1.90	2.27	2.46	2.13	1.25	1.21	1.16	30.43	Slightly Stable
0.37	0.37	0.46	0.51	1.02	2.18	1.76	1.25	0.70	0.37	0.51	1.11	1.62	1.11	0.28	0.37	14.01	Moderately Stable
0.28	0.37	0.09	0.32	0.70	0.37	0.09	0.05	0.05	0.09	0.14	0.37	0.74	0.46	0.42	0.05	4.59	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CALM
1.21	1.11	2.09	2.69	3.43	2.64	1.35	1.81	0.74	0.60	0.56	1.48	2.78	2.50	1.76	1.02	27.78	< 3.5 mph
2.41	3.71	3.76	3.43	1.58	3.20	4.82	4.27	3.34	1.72	2.27	4.17	3.66	3.34	1.67	2.27	49.63	3.6 - 7.5 mph
0.79	1.02	1.30	0.09	0.00	0.09	0.65	1.48	2.55	2.78	3.76	1.81	2.50	1.67	0.74	0.42	21.66	7.6 - 12.5 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.37	0.23	0.00	0.14	0.05	0.00	0.00	0.93	12.6 - 18.5 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.6 - 24.5 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	> 24.5 mph

Braidwood Nuclear Station
34 ft. Wind Speed and Direction

October-December, 2003
199Ft-30Ft Delta-T (F)

Number of Observations = 2146
Values are Percent Occurrence

SPEED CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
	WIND DIRECTION CLASSES																	STABILITY CLASSES							
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
C SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
A N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
L SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
M MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									0.00
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.09	0.09							
MU	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.09		0.09						
1 SU	0.00	0.00	0.00	0.05	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.19			0.19					
- N	0.09	0.09	0.19	0.51	0.37	0.23	0.09	0.00	0.14	0.00	0.05	0.14	0.23	0.23	0.51	0.28	3.17				3.17				
3 SS	0.05	0.09	0.09	0.79	1.12	0.70	0.19	0.09	0.05	0.05	0.09	0.33	0.23	0.98	0.61	0.19	5.64					5.64			
MS	0.09	0.14	0.05	0.37	0.42	0.65	0.28	0.23	0.09	0.09	0.05	0.19	0.70	0.70	0.42	0.19	4.66						4.66		
ES	0.14	0.05	0.05	0.19	0.19	0.19	0.05	0.05	0.05	0.28	0.00	0.00	0.23	0.05	0.14	0.09	1.72							1.72	
																									15.56
EU	0.09	0.00	0.14	0.09	0.37	0.23	0.14	0.00	0.05	0.00	0.23	0.14	0.19	0.51	0.09	0.37	2.66	2.66							
MU	0.05	0.05	0.23	0.00	0.05	0.09	0.28	0.19	0.00	0.14	0.00	0.00	0.09	0.23	0.05	0.14	1.58		1.58						
4 SU	0.23	0.14	0.09	0.00	0.05	0.09	0.23	0.14	0.00	0.00	0.00	0.05	0.23	0.09	0.19	0.14	1.68			1.68					
- N	0.56	0.47	0.47	0.89	1.77	0.79	0.70	0.93	0.42	0.28	0.84	0.61	1.12	1.40	1.82	1.54	14.59				14.59				
7 SS	0.65	0.23	0.47	0.47	0.65	1.16	1.77	1.35	0.42	0.33	0.61	1.12	1.03	1.91	1.68	0.79	14.63					14.63			
MS	0.19	0.05	0.05	0.00	0.00	0.19	0.37	0.09	0.19	0.61	0.37	1.12	0.61	0.33	0.09	0.09	4.33						4.33		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.19	0.00	0.33	0.23	0.00	0.00	0.00	0.79							0.79	
																									40.26
EU	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.42	0.37	0.37	0.51	0.23	0.98	0.42	0.09	3.54	3.54							
MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.37	0.00	0.05	0.09	0.23	0.14	0.14	0.14	1.26		1.26						
8 SU	0.00	0.00	0.05	0.05	0.00	0.05	0.00	0.23	0.19	0.05	0.14	0.14	0.28	0.09	0.28	0.09	1.63			1.63					
- N	0.19	0.37	0.56	0.14	0.09	0.19	1.03	1.72	1.54	1.40	1.96	0.65	1.26	2.19	2.14	1.12	16.54				16.54				
1 SS	0.28	0.09	0.09	0.00	0.00	0.19	0.98	1.03	2.00	1.30	1.12	0.42	0.23	1.12	0.19	0.19	9.23					9.23			
2 MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.09						0.09		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									32.29
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.09	0.09	0.00	0.05	0.09	0.23	0.00	0.75	0.75							
1 MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.14	0.05	0.00	0.33	0.05	0.00	0.05	0.65		0.65						
3 SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.09	0.05	0.05	0.05	0.00	0.05	0.05	0.47			0.47					
- N	0.00	0.09	0.00	0.00	0.00	0.00	0.05	0.61	1.40	1.86	0.37	0.09	1.16	0.47	0.14	0.42	6.66				6.66				
1 SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.79	0.89	0.00	0.05	0.05	0.14	0.00	0.00	2.10					2.10			
8 MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									10.62

Braidwood Nuclear Station
34 ft. Wind Speed and Direction

October-December, 2003
199Ft-30Ft Delta-T (F)

SPEED CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
	WIND DIRECTION CLASSES																	STABILITY CLASSES							
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.09	0.09							
1 MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.09		0.09						
9 SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.05	0.05	0.00	0.00	0.00	0.28			0.28					
- N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.33	0.05	0.09	0.14	0.05	0.00	0.00	0.75				0.75				
2 SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
4 MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									1.21
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
G MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
T SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05				0.05				
2 SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
4 MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									0.05
TOT	2.66	1.86	2.52	3.54	5.08	4.75	6.29	7.13	8.57	8.62	6.66	6.15	9.09	11.93	9.18	5.96	100.00	7.13	3.68	4.24	41.75	31.59	9.09	2.52	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.14	0.00	0.14	0.09	0.37	0.23	0.14	0.14	0.70	0.47	0.70	0.65	0.51	1.63	0.75	0.47	7.13	Extremely Unstable
0.05	0.05	0.23	0.00	0.05	0.09	0.33	0.28	0.42	0.28	0.14	0.09	0.70	0.47	0.19	0.33	3.68	Moderately Unstable
0.23	0.14	0.14	0.09	0.05	0.14	0.28	0.37	0.33	0.23	0.28	0.28	0.61	0.28	0.51	0.28	4.24	Slightly Unstable
0.84	1.03	1.21	1.54	2.24	1.21	1.86	3.31	3.54	3.87	3.26	1.58	3.96	4.33	4.61	3.36	41.75	Neutral
0.98	0.42	0.65	1.26	1.77	2.05	2.94	2.66	3.26	2.56	1.82	1.91	1.54	4.15	2.47	1.16	31.59	Slightly Stable
0.28	0.19	0.09	0.37	0.42	0.84	0.65	0.33	0.28	0.75	0.47	1.30	1.30	1.03	0.51	0.28	9.09	Moderately Stable
0.14	0.05	0.05	0.19	0.19	0.19	0.09	0.05	0.05	0.47	0.00	0.33	0.47	0.05	0.14	0.09	2.52	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C A L M
0.37	0.37	0.37	1.91	2.10	1.77	0.70	0.42	0.33	0.42	0.19	0.65	1.40	2.14	1.68	0.75	15.56	< 3.5 mph
1.77	0.93	1.44	1.44	2.89	2.56	3.54	2.70	1.07	1.54	2.05	3.36	3.49	4.47	3.91	3.08	40.26	3.6 - 7.5 mph
0.51	0.47	0.70	0.19	0.09	0.42	2.00	3.17	4.52	3.17	3.68	1.82	2.24	4.52	3.17	1.63	32.29	7.6 - 12.5 mph
0.00	0.09	0.00	0.00	0.00	0.00	0.05	0.79	2.56	3.08	0.56	0.19	1.63	0.75	0.42	0.51	10.62	12.6 - 18.5 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.09	0.42	0.19	0.14	0.28	0.05	0.00	0.00	1.21	18.6 - 24.5 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.05	> 24.5 mph

Braidwood Nuclear Station
34 ft. Wind Speed and Direction

January-December, 2003
199Ft-30Ft Delta-T (F)

Number of Observations = 8614
Values are Percent Occurrence

SPEED CLASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	STABILITY CLASSES EU	MU	SU	N	SS	MS	ES	TOTAL
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				
SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00			
MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									0.00
EU	0.01	0.01	0.02	0.02	0.01	0.07	0.05	0.10	0.03	0.01	0.02	0.02	0.03	0.06	0.02	0.01	0.52	0.52							
MU	0.01	0.01	0.03	0.01	0.02	0.03	0.03	0.03	0.00	0.01	0.01	0.03	0.00	0.01	0.00	0.02	0.29		0.29						
SU	0.02	0.00	0.03	0.06	0.02	0.01	0.01	0.02	0.03	0.00	0.00	0.00	0.05	0.03	0.02	0.00	0.33			0.33					
N	0.21	0.14	0.28	0.38	0.38	0.17	0.06	0.06	0.09	0.06	0.05	0.13	0.20	0.23	0.26	0.22	2.91				2.91				
SS	0.17	0.29	0.46	0.86	0.92	0.53	0.23	0.14	0.08	0.06	0.07	0.22	0.37	0.63	0.48	0.15	5.67					5.67			
MS	0.19	0.17	0.27	0.48	0.57	0.67	0.35	0.30	0.10	0.14	0.13	0.23	0.62	0.71	0.28	0.20	5.40						5.40		
ES	0.16	0.15	0.06	0.22	0.26	0.20	0.09	0.02	0.03	0.13	0.06	0.08	0.33	0.24	0.22	0.10	2.36							2.36	
																									17.47
EU	0.22	0.12	0.56	0.38	0.42	0.26	0.30	0.30	0.20	0.17	0.23	0.29	0.51	0.67	0.56	0.30	5.49	5.49							
MU	0.13	0.16	0.23	0.14	0.07	0.08	0.19	0.12	0.07	0.06	0.05	0.09	0.13	0.13	0.16	0.23	2.03		2.03						
SU	0.19	0.15	0.29	0.08	0.10	0.03	0.19	0.14	0.05	0.06	0.06	0.03	0.21	0.15	0.13	0.10	1.96			1.96					
N	0.86	1.29	1.59	1.32	1.10	0.43	0.56	0.78	0.42	0.20	0.62	0.59	0.84	1.00	1.09	0.96	13.64				13.64				
SS	0.81	1.01	1.02	0.91	0.58	1.08	1.13	1.34	1.16	0.39	0.71	1.11	0.98	1.08	0.87	0.66	14.84					14.84			
MS	0.09	0.14	0.02	0.01	0.06	0.43	0.46	0.36	0.35	0.27	0.26	0.79	0.53	0.28	0.02	0.05	4.12						4.12		
ES	0.00	0.00	0.01	0.01	0.08	0.02	0.03	0.01	0.00	0.05	0.01	0.15	0.14	0.00	0.00	0.01	0.53							0.53	
																									42.62
EU	0.19	0.42	0.53	0.02	0.09	0.01	0.07	0.33	0.43	0.72	0.57	0.45	0.45	0.84	0.59	0.26	5.97	5.97							
MU	0.12	0.13	0.13	0.03	0.00	0.01	0.05	0.09	0.27	0.06	0.22	0.14	0.16	0.17	0.16	0.09	1.83		1.83						
SU	0.08	0.12	0.20	0.03	0.00	0.01	0.00	0.08	0.14	0.08	0.16	0.13	0.19	0.16	0.12	0.19	1.68			1.68					
N	0.39	1.10	1.30	0.78	0.08	0.13	0.48	0.81	1.06	0.86	1.60	0.72	0.79	1.75	0.96	1.24	14.06				14.06				
SS	0.15	0.15	0.09	0.06	0.07	0.17	0.55	0.70	1.18	0.96	1.06	0.39	0.36	0.58	0.14	0.26	6.87					6.87			
MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.02	0.06	0.01	0.00	0.00	0.15						0.15		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									30.57
EU	0.01	0.07	0.01	0.00	0.00	0.00	0.00	0.06	0.06	0.23	0.29	0.15	0.17	0.28	0.10	0.10	1.54	1.54							
MU	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.15	0.08	0.12	0.10	0.00	0.06	0.70		0.70						
SU	0.00	0.07	0.03	0.00	0.00	0.00	0.01	0.00	0.07	0.07	0.16	0.08	0.06	0.07	0.01	0.02	0.66			0.66					
N	0.17	0.22	0.44	0.00	0.00	0.00	0.03	0.21	0.58	0.73	0.53	0.28	0.52	0.44	0.03	0.33	4.53				4.53				
SS	0.00	0.01	0.06	0.00	0.00	0.01	0.01	0.05	0.38	0.52	0.07	0.03	0.05	0.03	0.00	0.00	1.23					1.23			
MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									8.66

Braidwood Nuclear Station
34 ft. Wind Speed and Direction

January-December, 2003
199Ft-30Ft Delta-T (F)

PEED LASS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	TOTAL
	WIND DIRECTION CLASSES																	STABILITY CLASSES							
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.06	0.06							
MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.02		0.02						
SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.08			0.08					
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.10	0.02	0.09	0.14	0.01	0.00	0.00	0.39				0.39				
SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.01	0.00	0.00	0.06					0.06			
MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									0.62
EU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00						
SU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00					
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.00	0.00	0.00	0.06				0.06				
SS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01					0.01			
MS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00		
ES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	
																									0.07
TOT	4.20	5.97	7.69	5.82	4.84	4.38	4.88	6.07	6.88	6.15	7.15	6.38	8.09	9.69	6.23	5.57	100.00	13.58	4.88	4.71	35.59	28.67	9.67	2.89	100.00

Wind Direction by Stability

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-STABILITY CLASSES-
0.43	0.62	1.13	0.43	0.52	0.34	0.42	0.80	0.73	1.16	1.11	0.92	1.18	1.85	1.28	0.67	13.58	Extremely Unstable
0.27	0.34	0.39	0.19	0.09	0.13	0.27	0.24	0.41	0.20	0.44	0.35	0.42	0.42	0.33	0.41	4.88	Moderately Unstable
0.29	0.34	0.56	0.17	0.13	0.06	0.21	0.24	0.29	0.24	0.41	0.26	0.51	0.42	0.28	0.31	4.71	Slightly Unstable
1.64	2.75	3.61	2.48	1.57	0.73	1.13	1.87	2.16	1.95	2.82	1.82	2.53	3.44	2.35	2.75	35.59	Neutral
1.14	1.46	1.64	1.82	1.57	1.80	1.92	2.22	2.81	1.97	1.90	1.76	1.78	2.33	1.49	1.07	28.67	Slightly Stable
0.28	0.31	0.29	0.49	0.63	1.10	0.81	0.66	0.45	0.45	0.39	1.04	1.21	1.00	0.30	0.24	9.67	Moderately Stable
0.16	0.15	0.07	0.23	0.34	0.22	0.13	0.03	0.03	0.17	0.07	0.23	0.46	0.24	0.22	0.12	2.89	Extremely Stable

Wind Direction by Wind Speed

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	-WIND SPEED CLASSES-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C A L M
0.78	0.78	1.16	2.03	2.18	1.69	0.82	0.68	0.38	0.41	0.34	0.72	1.59	1.92	1.28	0.71	17.47	< 3.5 mph
2.30	2.87	3.73	2.86	2.41	2.33	2.86	3.04	2.24	1.20	1.93	3.06	3.33	3.31	2.83	2.32	42.62	3.6 - 7.5 mph
0.93	1.92	2.25	0.93	0.24	0.34	1.14	2.01	3.08	2.73	3.62	1.86	2.01	3.52	1.97	2.03	30.57	7.6 - 12.5 mph
0.20	0.41	0.55	0.00	0.00	0.01	0.06	0.31	1.16	1.63	1.21	0.63	0.92	0.93	0.15	0.51	8.66	12.6 - 18.5 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.20	0.06	0.10	0.19	0.02	0.00	0.00	0.62	18.6 - 24.5 mph
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.00	0.00	0.00	0.07	> 24.5 mph