



Commonwealth Edison
Braidwood Nuclear Power Station
Route #1, Box 84
Braceville, Illinois 60407
Telephone 815/458-2801

March 1, 1994
Bw/94-0039

Mr. J. B. Martin
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
801 Warrenville Road
Lisle, IL 60532-4351

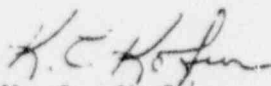
Dear Mr. Martin:

Subject: Radioactive Effluent Report

Enclosed is the Radioactive Effluent Report for July through December, 1993, for Braidwood Nuclear Power Station, Docket Nos. STN 50-456 and STN 50-457.

Two copies of the report are provided for your use. Two copies will be forwarded to the Document Control Desk and one copy to the Resident Inspector.

Yours very truly,


K. L. Koffron
Station Manager
Braidwood Station

KLK/da

Enclosure-2

cc: Document Control Desk
Braidwood Resident Inspector

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BRAIDWOOD NUCLEAR POWER STATION
SEMI ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER 1993
GASEOUS EFFLUENTS - MIXED MODE RELEASES
UNIT 1 (Docket Number 50 456)
SUMMATION OF ALL RELEASES

Units	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr
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A. Fission and Activation Gas Releases

1. Total Release Activity	Ci	8.88E+00	9.71E+00	1.75E+00	2.03E+01	8.54E+01	3.54E+01	5.83E+00	1.27E+02
2. Average Release Rate	uCi/sec	3.38E+00	3.69E+00	6.65E-01	7.73E+00	3.25E+01	1.35E+01	2.22E+00	4.82E+01

B. Iodine Releases

1. Total I-131 Activity	Ci	2.31E-05	4.24E-06	1.52E-06	2.89E-05	3.43E-05	4.01E-05	6.96E-06	8.14E-05
2. Average Release Rate	uCi/sec	8.78E-06	1.61E-06	5.78E-07	1.10E-05	1.30E-05	1.52E-05	2.65E-06	3.09E-05

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

1. Gross Activity	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
3. Gross Alpha Activity	Ci	1.27E-07	7.20E-08	2.46E-07	4.45E-07	3.05E-07	3.64E-07	1.28E-07	7.97E-07

D. Tritium Releases

1. Total Release Activity	Ci	1.08E-02	9.37E-03	5.99E-03	2.62E-02	1.96E-01	1.61E-01	1.02E-02	3.67E-01
2. Average Release Rate	uCi/sec	4.11E-03	3.56E-03	2.28E-03	9.95E-03	7.45E-02	6.12E-02	3.88E-03	1.40E-01

**E. Sum of Iodine, Particulate (> 8 day half-life),
and Tritium Releases.**

1. Total Release Activity	Ci	1.08E-02	9.38E-03	5.99E-03	2.62E-02	1.96E-01	1.61E-01	1.02E-02	3.67E-01
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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
SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER 1993
GASEOUS EFFLUENTS - MIXED MODE RELEASES
UNIT 1 (Docket Number 50-456)
BATCH MODE

		Units	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr
A. Particulate (> 8 day half-life) Releases										
Mn-54		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Co-58		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe-59		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Co-60		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sr-89		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sr-90		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zr-95		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ru-103		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cs-134		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cs-137		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ba/La-140		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ce-144		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others (Specify)										

B. Tritium Releases

1. Total Release Activity	Ci	1.08E-02	9.37E-03	5.99E-03	2.62E-02	1.96E-01	1.61E-01	1.02E-02	3.67E-01
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BRAIDWOOD NUCLEAR POWER STATION

SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER 1993

GASEOUS EFFLUENTS - MIXED MODE RELEASES

UNIT 1 (Docket Number 50-456)

CONTINUOUS MODE

Units	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr
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A. Particulate (> 8 day half-life) Releases

Mn-54	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-58	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Fe-59	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Co-60	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-90	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Zr-95	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ru-103	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ba\La-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Others (Specify)									

B. Tritium Releases

[illegible]

BRAIDWOOD NUCLEAR POWER STATION
SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER 1993
GASEOUS EFFLUENTS - MIXED MODE RELEASES
UNIT 2 (Docket Number 50-457)
SUMMATION OF ALL RELEASES

Units	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr
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A. Fission and Activation Gas Releases

1. Total Release Activity	Ci	1.99E+02	2.84E+02	3.36E+02	8.18E+02	1.90E+02	1.77E+02	1.83E+02	5.49E+02
2. Average Release Rate	uCi/sec	7.57E+01	1.08E+02	1.28E+02	3.11E+02	7.21E+01	6.71E+01	6.97E+01	2.09E+02

B. Iodine Releases

1. Total I-131 Activity	Ci	1.82E-04	7.33E-05	4.88E-06	2.60E-04	9.79E-04	5.86E-04	9.21E-05	1.66E-03
2. Average Release Rate	uCi/sec	6.92E-05	2.79E-05	1.86E-06	9.89E-05	3.72E-04	2.23E-04	3.50E-05	6.30E-04

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

1. Gross Activity	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
3. Gross Alpha Activity	Ci	<LLD	<LLD	<LLD	<LLD	7.13E-07	5.58E-07	<LLD	1.27E-06

D. Tritium Releases

1. Total Release Activity	Ci	4.75E-02	6.17E-02	8.08E-02	1.90E-01	5.98E-02	8.40E-02	1.05E-01	2.49E-01
2. Average Release Rate	uCi/sec	1.81E-02	2.35E-02	3.07E-02	7.22E-02	2.27E-02	3.19E-02	3.99E-02	9.46E-02

**E. Sum of Iodine, Particulate (> 8 day half-life),
and Tritium Releases.**

1. Total Release Activity	Ci	4.77E-02	6.18E-02	8.08E-02	1.90E-01	6.10E-02	8.46E-02	1.05E-01	2.51E-01
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Note: U/D Values are included in Appendix A of this report.

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

BRAIDWOOD NUCLEAR POWER STATION
SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER 1993
GASEOUS EFFLUENTS - MIXED MODE RELEASES
UNIT 2 (Docket Number 50-457)
BATCH MODE

		Units	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr
A. Particulate (> 8 day half-life) Releases										
Mn-54		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Co-58		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe-59		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Co-60		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sr-89		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sr-90		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zr-95		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ru-103		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cs-134		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cs-137		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ba/La-140		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ce-144		Ci	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others (Specify)										

B. Tritium Releases

1. Total Release Activity	Ci	4.75E-02	5.17E-02	8.08E-02	1.90E-01	5.98E-02	8.40E-02	1.05E-01	2.49E-01
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BRAIDWOOD NUCLEAR POWER STATION
SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
LIQUID EFFLUENTS
UNIT 1 (Docket Number 50-456)
SUMMATION OF ALL RELEASES

UNITS	JUL	AUG	SEP	3rd Qtr	OCT	NOV	DEC	4th Qtr
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A. Fission and Activation Products

1. Total Activity Released	Ci	8.87E-03	1.80E-02	8.96E-03	4.98E-02	1.26E-02	5.00E-02	1.00E-02	7.27E-02
2. Average Concentration Released	uCi/ml	1.11E-08	2.04E-08	1.14E-08	4.29E-08	1.64E-08	6.57E-08	1.41E-08	9.63E-08
3. % of 10CFR50 Limits									
a. Quarterly Whole Body (1.5 mrem)	%	0.21	0.18	0.18	0.57	0.38	0.34	0.25	0.97
b. Quarterly Any Organ (5.0 mrem)	%	0.09	0.06	0.06	0.21	0.18	0.22	0.08	0.48
c. Annual Whole Body (3.0 mrem)	%	0.11	0.09	0.09	0.29	0.19	0.17	0.13	0.49
d. Annual Any Organ (10.0 mrem)	%	0.05	0.03	0.03	0.11	0.09	0.11	0.04	0.24

B. Tritium

1. Total Activity Released	Ci	5.15E+01	4.40E+01	4.67E+02	5.63E+02	5.99E+01	7.23E+01	5.14E+01	2.14E+02
2. Average Concentration Released	uCi/ml	6.45E-05	4.98E-05	5.95E-04	7.09E-04	1.17E-04	9.49E-05	7.24E-05	2.84E-04
3. % of Limit (3E-3 uCi/ml)	%	2.15E+00	1.66E+00	1.98E+01	2.36E+01	3.89E+00	3.16E+00	2.41E+00	9.47E+00

C. Dissolved Noble Gases

1. Total Activity Released	Ci	1.67E-03	2.50E-03	3.79E-03	7.97E-03	5.05E-04	4.67E-03	8.95E-03	1.41E-02
2. Average Concentration Released	uCi/ml	2.10E-09	2.83E-09	4.82E-09	9.75E-09	6.56E-10	6.12E-09	1.26E-08	1.94E-08
3. % of Limit (2E-4 uCi/ml)	%	1.05E-03	1.42E-03	2.41E-03	4.88E-03	3.28E-04	3.06E-03	6.30E-03	9.69E-03

D. Gross Alpha

1. Total Activity Released	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
2. Average Concentration Released	uCi/ml	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD

E. Volume of Releases

1. Volume of Liquid Waste to Discharge	liters	1.59E+06	1.59E+06	1.44E+06	4.62E+06	1.38E+06	1.48E+06	1.44E+06	4.29E+06
2. Volume of Dilution Water	liters	7.97E+08	8.82E+08	7.84E+08	2.46E+09	7.68E+08	7.60E+08	7.08E+08	2.24E+09

BRAIDWOOD NUCLEAR POWER STATION
SEMI ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER 1993
LIQUID RELEASES
UNIT 1 (Docket Number 50-456)
BATCH MODE

A. Liquid Effluents	Units	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr
Na-24	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	4.90E-06	4.90E-06
Cr-51	Ci	3.00E-05	3.40E-04	<LLD	3.70E-04	<LLD	5.90E-04	<LLD	5.90E-04
Mn-54	Ci	9.75E-05	8.34E-04	2.81E-04	1.21E-03	1.38E-04	1.91E-04	1.15E-04	4.44E-04
Fe-55	Ci	-	-	-	1.30E-02	Not Avail	Not Avail	Not Avail	Not Avail
Co-57	Ci	<LLD	5.43E-05	1.75E-05	7.18E-05	6.59E-06	9.55E-06	<LLD	1.61E-05
Co-58	Ci	2.80E-03	8.85E-03	3.56E-03	1.52E-02	5.75E-03	2.09E-02	6.30E-03	3.30E-02
Fe-59	Ci	<LLD	2.38E-04	<LLD	2.38E-04	1.50E-04	7.49E-04	1.99E-04	1.10E-03
Co-60	Ci	7.71E-04	4.34E-03	2.28E-03	7.39E-03	1.16E-03	1.20E-03	8.23E-04	3.18E-03
Ni-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Br-82	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85	Ci	<LLD	<LLD	6.74E-04	6.74E-04	<LLD	<LLD	4.96E-03	4.96E-03
Kr-85m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	-	-	-	<LLD	Not Avail	Not Avail	Not Avail	Not Avail
Sr-90	Ci	-	-	-	<LLD	Not Avail	Not Avail	Not Avail	Not Avail
Sr-92	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Nb-95	Ci	5.62E-05	5.27E-04	5.46E-05	6.38E-04	3.88E-05	3.80E-05	2.40E-06	7.92E-05
Zr-95	Ci	<LLD	2.17E-04	6.65E-06	2.24E-04	<LLD	4.18E-05	1.53E-05	5.71E-05
Zr-97	Ci	<LLD	<LLD	5.00E-06	5.00E-06	<LLD	<LLD	<LLD	<LLD
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Tc-99m	Ci	<LLD	<LLD	<LLD	<LLD	6.75E-05	<LLD	<LLD	6.75E-05
Ru-105	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	4.34E-06	<LLD	4.34E-06	<LLD	<LLD	<LLD	<LLD
Sn-113	Ci	<LLD	4.83E-05	<LLD	4.83E-05	<LLD	<LLD	<LLD	<LLD

BRAIDWOOD NUCLEAR POWER STATION
SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER 1993
LIQUID RELEASES
UNIT 1 (Docket Number 50-456)
BATCH MODE

A. Liquid Effluents	Units	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sb-124	Ci	6.18E-06	1.27E-04	3.68E-05	1.70E-04	6.23E-05	1.13E-04	5.34E-05	2.29E-04
Sb-125	Ci	3.98E-03	2.34E-03	2.52E-03	8.84E-03	1.67E-03	1.02E-03	5.81E-04	3.27E-03
Sb-126	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-131	Ci	1.13E-03	9.75E-05	1.89E-04	1.42E-03	3.01E-03	5.27E-03	8.94E-04	9.17E-03
I-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-133	Ci	<LLD	<LLD	<LLD	<LLD	1.24E-04	9.16E-06	5.50E-05	1.88E-04
Xe-133	Ci	1.60E-03	2.49E-03	3.09E-03	7.18E-03	5.05E-04	4.66E-03	3.98E-03	9.15E-03
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	1.35E-05	<LLD	1.35E-05	1.27E-04	1.93E-04	2.91E-04	6.11E-04
Xe-135	Ci	7.38E-05	1.38E-05	2.54E-05	1.13E-04	<LLD	5.05E-06	2.82E-06	7.87E-06
I-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	9.34E-06	9.34E-06	3.39E-04	6.23E-04	7.07E-04	1.67E-03
Ba/La-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Hf-181	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
W-187	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD

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

Note: Data not available for the writing of this report will be included in an errata.

BRAIDWOOD NUCLEAR POWER STATION
SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
LIQUID EFFLUENTS
UNIT 1 (Dock # Number 50-456)
CONTINUOUS MODE

[illegible]

BPAIDWOOD NUCLEAR POWER STATION

SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993

LIQUID EFFLUENTS

UNIT 1 (Docket Number 50-456)

CONTINUOUS MODE

A. Liquid Effluents	UNITS	JUL	AUG	SEP	3rd Qtr	OCT	NOV	DEC	4th Qtr
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[illegible]

BRAIDWOOD NUCLEAR POWER STATION
SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
LIQUID EFFLUENTS
UNIT 2 (Docket Number 50-457)
SUMMATION OF ALL RELEASES

UNITS	JUL	AUG	SEP	3rd Qtr	OCT	NOV	DEC	4th Qtr
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A. Fission and Activation Products

1. Total Activity Released	Ci	8.87E-03	1.80E-02	8.90E-03	4.98E-02	1.26E-02	5.00E-02	1.00E-02	7.27E-02
2. Average Concentration Released	uCi/ml	1.11E-08	2.01E-08	1.14E-08	4.29E-08	1.64E-08	6.57E-08	1.41E-08	9.63E-08
3. % of 10CFR50 Limits									
a. Quarterly Whole Body (1.5 mrem)	%	0.21	0.18	0.18	0.57	0.38	0.34	0.25	0.97
b. Quarterly Any Organ (5.0 mrem)	%	0.09	0.06	0.06	0.21	0.18	0.22	0.08	0.48
c. Annual Whole Body (3.0 mrem)	%	0.11	0.09	0.09	0.29	0.19	0.17	0.13	0.49
d. Annual Any Organ (10.0 mrem)	%	0.05	0.03	0.03	0.11	0.09	0.11	0.04	0.24

B. Tritium

1. Total Activity Released	Ci	5.15E+01	4.40E+01	4.67E+02	5.63E+02	8.98E+01	7.23E+01	5.14E+01	2.14E+02
2. Average Concentration Released	uCi/ml	6.45E-05	4.98E-05	5.95E-04	7.09E-04	1.17E-04	9.49E-05	7.24E-05	2.34E-04
3. % of Limit (3E-3 uCi/ml)	%	2.15E+00	1.66E+00	1.98E+01	2.36E+01	3.89E+00	3.16E+00	2.41E+00	9.47E+00

C. Dissolved Noble Gases

1. Total Activity Released	Ci	1.67E-03	2.50E-03	3.79E-03	7.97E-03	5.05E-04	4.67E-03	8.95E-03	1.41E-02
2. Average Concentration Released	uCi/ml	2.10E-09	2.83E-09	4.82E-09	9.75E-09	6.56E-10	6.12E-09	1.26E-08	1.94E-08
3. % of Limit (2e-4 uCi/ml)	%	1.05E-03	1.42E-03	2.41E-03	4.88E-03	3.28E-04	3.06E-03	6.30E-03	9.69E-03

D. Gross Alpha

1. Total Activity Released	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
2. Average Concentration Released	uCi/ml	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD

E. Volume of Releases

1. Volume of Liquid Waste to Discharge	liters	1.59E+06	1.59E+06	1.44E+06	4.62E+06	1.38E+06	1.48E+06	1.44E+06	4.29E+06
2. Volume of Dilution Water	liters	7.97E+08	8.82E+08	7.84E+08	2.46E+09	7.68E+08	7.60E+08	7.08E+08	2.24E+09

BRAIDWOOD NUCLEAR POWER STATION
SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER 1993
LIQUID RELEASES
UNIT 2 (Docket Number 50-457)
BATCH MODE

A. Liquid Effluents	Units	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr
Na-24	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ar-41	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	4.90E-06	4.90E-06
Cr-51	Ci	3.00E-05	3.40E-04	<LLD	3.70E-04	<LLD	5.90E-04	<LLD	5.90E-04
Mn-54	Ci	9.75E-05	8.34E-04	2.81E-04	1.21E-03	1.38E-04	1.91E-04	1.15E-04	4.44E-04
Fe-55	Ci	-	-	-	1.30E-02	Not Avail	Not Avail	Not Avail	Not Avail
Co-57	Ci	<LLD	5.43E-05	1.75E-05	7.18E-05	6.59E-06	9.55E-06	<LLD	1.61E-05
Co-58	Ci	2.80E-03	8.86E-03	3.56E-03	1.52E-02	5.75E-03	2.09E-02	6.30E-03	3.30E-02
Fe-59	Ci	<LLD	2.38E-04	<LLD	2.38E-04	1.50E-04	7.49E-04	1.99E-04	1.10E-03
Co-60	Ci	7.71E-04	4.34E-03	2.28E-03	7.39E-03	1.16E-03	1.20E-03	8.23E-04	3.18E-03
Ni-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Zn-65	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Br-82	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-85	Ci	<LLD	<LLD	6.74E-04	6.74E-04	<LLD	<LLD	4.96E-03	4.96E-03
Kr-85m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Kr-88	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sr-89	Ci	-	-	-	<LLD	Not Avail	Not Avail	Not Avail	Not Avail
Sr-90	Ci	-	-	-	<LLD	Not Avail	Not Avail	Not Avail	Not Avail
Sr-92	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Nb-95	Ci	5.62E-05	5.27E-04	5.46E-05	6.38E-04	3.88E-05	3.80E-05	2.40E-06	7.92E-05
Zr-95	Ci	<LLD	2.17E-04	6.65E-06	2.24E-04	<LLD	4.18E-05	1.53E-05	5.71E-05
Zr-97	Ci	<LLD	<LLD	5.00E-06	5.00E-06	<LLD	<LLD	<LLD	<LLD
Mo-99	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Tc-99m	Ci	<LLD	<LLD	<LLD	<LLD	6.75E-05	<LLD	<LLD	6.75E-05
Ru-105	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ag-110m	Ci	<LLD	4.34E-06	<LLD	4.34E-06	<LLD	<LLD	<LLD	<LLD
Sn-113	Ci	<LLD	4.83E-05	<LLD	4.83E-05	<LLD	<LLD	<LLD	<LLD

BRAIDWOOD NUCLEAR POWER STATION
SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER 1993
LIQUID RELEASES
UNIT 2 (Docket Number 50-457)
BATCH MODE

A. Liquid Effluents	Units	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr
Sn-117m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Sb-124	Ci	6.18E-06	1.27E-04	3.68E-05	1.70E-04	6.23E-05	1.13E-04	5.34E-05	2.29E-04
Sb-125	Ci	3.98E-03	2.34E-03	2.52E-03	8.84E-03	1.67E-03	1.02E-03	5.81E-04	3.27E-03
Sb-126	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-131	Ci	1.13E-03	9.75E-05	1.89E-04	1.42E-03	3.01E-03	5.27E-03	8.94E-04	9.17E-03
I-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Te-132	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
I-133	Ci	<LLD	<LLD	<LLD	<LLD	1.24E-04	9.16E-06	5.50E-05	1.88E-04
Xe-133	Ci	1.60E-03	2.49E-03	3.09E-03	7.18E-03	5.05E-04	4.66E-03	3.98E-03	9.15E-03
Xe-133m	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-134	Ci	<LLD	1.35E-05	<LLD	1.35E-05	1.27E-04	1.93E-04	2.91E-04	6.1E-04
Xe-135	Ci	7.38E-05	1.38E-05	2.54E-05	1.13E-04	<LLD	5.05E-06	2.82E-06	7.87E-06
I-135	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Cs-137	Ci	<LLD	<LLD	9.34E-06	9.34E-06	3.39E-04	6.23E-04	7.07E-04	1.67E-03
Ba/La-140	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Ce-144	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
Hf-181	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD
W-187	Ci	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD	<LLD

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

Note: Data not available for the writing of this report will be included in an errata.

BRAIDWOOD NUCLEAR POWER STATION
SEMI-ANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
LIQUID EFFLUENTS
UNIT 2 (Docket Number 50-457)
CONTINUOUS MODE

[illegible]

[illegible]

BRAIDWOOD NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
SOLID RADIOACTIVE WASTE
UNIT 1 AND 2 COMBINED (Docket Number 50-456 and 50-457)

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

DESCRIPTION	VOLUME (m ³)	CURIES	MAJOR NUCLIDES/CURIES	
Process Waste	4.90E+01	1.43E+03 Error = 2.32E0%	FE55 43.4%	Curies = 6.18E+2 +/- 4.20E00%
			CO58 30.6%	Curies = 4.35E+2 +/- 4.47E00%
			CO60 9.3%	Curies = 1.33E+2 +/- 4.20E00%
			NI63 5.9%	Curies = 8.38E+1 +/- 4.19E00%
			MN54 4.2%	Curies = 5.99E+1 +/- 4.06E00%
			NB95 1.8%	Curies = 2.51E+1 +/- 4.67E00%
			SB125 1.2%	Curies = 1.74E+1 +/- 4.88E00%
			CR51 1.0%	Curies = 1.39E+1 +/- 4.48E00%
			ZR95 0.9%	Curies = 1.31E+1 +/- 4.64E00%
			CS137 0.5%	Curies = 6.59E+0 +/- 3.93E00%
			Cl4 0.4%	Curies = 5.82E+0 +/- 4.19E00%
			CO57 0.3%	Curies = 4.08E+0 +/- 4.30E00%
			FE59 0.2%	Curies = 3.17E+0 +/- 4.21E00%
			CS134 0.2%	Curies = 2.82E+0 +/- 3.95E00%
			CD144 0.2%	Curies = 2.67E+0 +/- 4.91E00%
Dry Active Waste	5.65E+00	2.69E+00 Error = 3.50E0%	FE55 52.5%	Curies = 1.41E00 +/- 5.39E00%
			CO60 38.2%	Curies = 1.03E00 +/- 5.39E00%
			MN54 3.7%	Curies = 9.86E-2 +/- 5.39E00%
			FE59 2.0%	Curies = 5.42E-2 +/- 5.39E00%
			CO58 1.7%	Curies = 4.69E-2 +/- 5.39E00%
			NI63 1.7%	Curies = 4.63E-2 +/- 5.39E00%
			Cl4 0.1%	Curies = 2.88E-3 +/- 5.39E00%
			NI59 0.0%	Curies = 1.33E-3 +/- 5.39E00%
			SR90 0.0%	Curies = 6.53E-4 +/- 5.39E00%
			PU241 0.0%	Curies = 2.52E-4 +/- 5.39E00%
			TC99 0.0%	Curies = 1.02E-4 +/- 5.39E00%
			CM242 0.0%	Curies = 3.16E-5 +/- 5.39E00%
			CM244 0.0%	Curies = 7.00E-6 +/- 5.39E00%
			Il29 0.0%	Curies = 5.58E-6 +/- 5.39E00%
			PU238 0.0%	Curies = 4.48E-6 +/- 5.39E00%
Irradiated Components			0.00E-1	0.00E-1
Other:				

Number of Shipments: 10
Mode of Transportation: Exclusive Use Vehicle
Destination: Barnwell, South Carolina

B. IRRADIATED FUEL SHIPMENTS

No irradiated fuel shipments for July through December, 1993

NOTE: Actual burial volume of process and dry active waste 4.418 m³ after further vendor volume reduction.

BRAIDWOOD NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
SOLID RADIOACTIVE WASTE
UNIT 1 AND 2 COMBINED (Docket Number 50-456 and 50-457)

Shipment Number	Waste Class	Type of Container	Solidification Agent or Absorbent
RWS-93-014	A	TYPE A	NONE
RWS-93-015	C	TYPE B	NONE
RWS-93-016	A	TYPE A	NONE
RWS-93-017	A	TYPE A	NONE
RWS-93-018	A	TYPE A	NONE
RWS-93-019	A	TYPE A	NONE
RWS-93-020	A	TYPE A	NONE
RWS-93-021	A	TYPE A	NONE
RWS-93-022	C	TYPE A	NONE
RWS-93-023	A	TYPE A	NONE

BRAIDWOOD NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)
APPENDIX A

LLD Tables

BRAIDWOOD NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)
LLD VALUES FOR GASEOUS RELEASES

<u>Isotope</u>	<u>LLD (Ci/ml)</u>
Alpha	8.22E-19
H-3	2.31E-18
Ar-41	4.40E-14
Mn-54	3.57E-19
Co-58	5.29E-19
Fe-59	8.51E-19
Co-60	7.52E-19
Kr-85	3.06E-12
Kr-85m	1.31E-14
Kr-87	7.78E-14
Kr-88	5.52E-14
Sr-89	2.00E-11
Sr-90	8.70E-12
Zr-95	7.57E-19
Ru-103	3.17E-19
I-131	4.43E-19
Xe-131m	4.20E-13
I-132	1.82E-17
I-133	7.12E-19
Xe-133	2.96E-14
Xe-133m	7.01E-14
Cs-134	4.24E-19
I-134	1.72E-15
I-135	7.41E-18
Xe-135	1.09E-14
Xe-135m	7.80E-12
Cs-137	4.44E-19
Xe-138	1.92E-11
Ba-140	1.60E-18
La-140	7.28E-19
Ce-144	1.57E-18

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

BRAIDWOOD NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)
LLD VALUES FOR LIQUID RELEASES

<u>Isotope</u>	<u>LLD (Ci/ml)</u>
Alpha	6.43E-14
H-3	3.82E-13
Na-24	6.12E-14
Ar-41	1.61E-13
Cr-51	2.97E-13
Mn-54	5.02E-14
Fe-55	4.90E-14
Co-57	3.05E-14
Co-58	6.82E-14
Fe-59	8.33E-14
Co-60	7.52E-14
Ni-65	4.88E-13
Zn-65	9.30E-14
Br-82	4.80E-14
Kr-85	7.16E-12
Kr-85m	4.98E-14
Kr-88	1.99E-13
Sr-89	1.60E-14
Sr-90	6.10E-15
Sr-92	1.21E-13
Nb-95	4.33E-14
Zr-95	7.38E-14
Zr-97	5.76E-14
Mo-99	2.82E-14
Tc-99m	2.87E-14
Ru-105	1.26E-13
Ag-110m	4.98E-14
Sn-113	5.13E-14
Sn-117m	3.11E-14
Sb-124	3.73E-14
Sb-125	9.71E-14
Sb-126	3.67E-14
I-131	3.57E-14
I-132	7.99E-14
I-133	4.68E-14
Xe-133	1.02E-13
Xe-133m	2.55E-13
Cs-134	3.19E-14
Xe-135	3.69E-14
I-135	2.77E-13
Cs-137	4.94E-14
Ba-140	1.70E-13
La-140	8.04E-14
Ce-141	5.33E-14
Ce-144	2.43E-13
Hf-181	3.98E-14
W-187	1.70E-13

NOTE:

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

BRAIDWOOD NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

APPENDIX B

Supplemental Information

BRAIDWOOD NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
UNIT 1 AND 2 COMBINED (Docket Number 50-456 and 50-457)

1. There were no revisions to the Braidwood Station Process Control Program.
2. There were no major changes to the installed liquid, gaseous, or solid radwaste treatment systems.
3. There were no liquid holdup 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:
 - a. No liquid or gaseous effluent monitoring instrumentation was inoperable longer than the time specified in ODCM-RETS.
5. Error in Measurement

A. <u>Gaseous Effluents</u>		<u>Est. Total Error %</u>
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. <u>Liquid Effluents</u>		<u>Est. Total Error %</u>
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

BRAIDWOOD NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT REPORT JULY THROUGH DECEMBER, 1993
UNIT 1 NRC DOCKET STN 50-456

GASEOUS EFFLUENTS
SUPPLEMENTAL RELEASE INFORMATION

A.	BATCH RELEASE	(QUARTER 3)	(QUARTER 4)	TOTAL
1.	Total Number of Batch Releases	22	18	40
2.	Total Time Period for Batch Releases (minutes)	1.08E+03	8.70E+02	1.95E+03
3.	Maximum Time Period for a Batch Release (minutes)	58	60	N/A
4.	Average Time Period for a Batch Release (minutes)	49.2	48.3	N/A
5.	Minimum Time Period for a Batch Release (minutes)	27	5.4	N/A
B.	ABNORMAL RELEASES			
1.	Number of Releases	0	0	0
2.	Total Activity Released	0.00	0.00	0.00 (Curies)

BRAIDWOOD NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT REPORT JULY THROUGH DECEMBER, 1993
UNIT 2 NRC DOCKET STN 50-457

GASEOUS EFFLUENTS
SUPPLEMENTAL RELEASE INFORMATION

A.	BATCH RELEASE	(QUARTER 3)	(QUARTER 4)	TOTAL
1.	Total Number of Batch Releases	63	27	90
2.	Total Time Period for Batch Releases (minutes)	3.26E+03	1.38E+03	4.64E+03
3.	Maximum Time Period for a Batch Release (minutes)	141	61	N/A
4.	Average Time Period for a Batch Release (minutes)	51.8	51.1	N/A
5.	Minimum Time Period for a Batch Release (minutes)	12	33	N/A
B.	ABNORMAL RELEASES			
1.	Number of Releases	0	0	0
2.	Total Activity Released	0.00	0.00	0.00 (Curies)

BRAIDWOOD NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT REPORT JULY THROUGH DECEMBER, 1993
UNIT 1 AND 2 COMBINED (DOCKET NUMBERS 50-456 and 50-457)

LIQUID EFFLUENTS
SUPPLEMENTAL RELEASE INFORMATION

A.	BATCH RELEASE	(QUARTER 3)	(QUARTER 4)	TOTAL
1.	Total Number of Batch Releases	97	91	188
2.	Total Time Period for Batch Releases (minutes)	9.05E+03	1.51E+04	2.41E+04
3.	Maximum Time Period for a Batch Release (minutes)	541	796	N/A
4.	Average Time Period for a Batch Release (minutes)	93.3	165.9	N/A
5.	Minimum Time Period for a Batch Release (minutes)	41	54	N/A
6.	Average Stream Flow During Periods of Release of Effluent into a Flowing Stream (liters/min)	2.11E+07	1.85E+07	N/A

BRAIDWOOD NUCLEAR POWER STATION
SEMIANNUAL EFFLUENT REPORT FOR JULY THROUGH DECEMBER, 1993
UNIT 1 AND 2 (Docket Numbers 50-456 and 50-457)

APPENDIX C

"Response to NRC Inspection Report No. 50-456 and 50-457/93019"

- I. Introduction - In response to NRC Inspection Report No. 50-456(457)/93019 which identified Inspection Follow-up Item No. 50-456(457)/93019-01, this addendum is being added to the Semiannual Radioactive Effluent Release Report. As discussed in the Inspection Report, the quantity of radioactive noble gases and tritium released in gaseous effluents has fluctuated since 1990. This addendum is to explain the various reasons for the fluctuations.
- II. Attachments - There are two attachments to this report: Attachment A shows the total Curies of noble gas and tritium released since 1989, broken down by Unit. Attachment B includes two graphs, one of the tritium effluent and one of the noble gas, also broken down by Unit.
- III. Explanations - Noble Gas -

1990 -

2450 Ci of Noble Gas were released in 1990. During 1990, with the Off-Site Dose extremely low, there was little concern for the reduction of effluents. One contributor to the gaseous effluents in 1990 was the Waste Gas (GW) system. During this time the leaks in the GW system were pursued by the effluent Health Physicist and a Radwaste Supervisor, but the leaks continued. Several leaking diaphragms on the GW system, including a leaking OGW14 release isolation valve were found, making GW one of the contributors to the Curies released. In all, 11 Nuclear Work Requests (NWRs) were processed in late 1990 for the GW system alone. Three of the valves repaired were the OGW9298 WG tank relief valves, which leak directly to the vent stacks. It is unknown exactly how much the GW system leaks contributed to the 1990 effluents; however, with the above valves leaking directly into the stack, GW was a factor.

1991 -

During 1991, 10,500 Curies of Noble Gas were released from Braidwood Station. From April, 1991 through August, 1991 the gaseous Curies released from Braidwood were greater than the design basis gaseous effluents as indicated in the Final Safety Analysis Report. Several things occurred during this time frame which may have contributed to the high Curies being released. (Source of information: Semiannual Radioactive Effluent Release Report).

1. A Unit 2 containment release was performed almost daily due to an increase in the containment pressure. 1 psi is the pressure limit in containment per tech specs, and during this time the pressure went up to 0.8 psi in less than a day. The increase in pressure was caused by a leak in an instrument air line. Normally containment is only released once every three to four days. More frequent releases resulted in higher activity released during this time frame. This excursion in releases occurred from the summer up until the refuel outage in the fall.
(Source of information: Containment Release logs).
2. On May 12, Unit 2 shutdown after a record run of 339 days. The ensuing crud burst raised dose rates in all of the Unit 2 areas by a factor of 2-3. An Iodine spike occurred in the Reactor Coolant System (RCS) exceeding 1 $\mu\text{Ci/g}$ Dose Equivalent Iodine. Also shortly after the crud burst, the 2CV03F Reactor Coolant filter was changed out while reading 1280 R/hr at 4 inches. It would be reasonable to assume that some of the high Curies could have been due to the crud burst; however, no direct correlation could be made except that the crud burst happened just prior to the major excursion in July.
(Source of information: Chemistry daily sheets, and Radiation Protection Surveys and job file on the hot filter).

3. On July 2, the 2CV202 valve (a 3/4 inch Chemical Volume Control system ball valve) was discovered leaking and an NWR was written. It was believed to have been leaking for about 3 months prior to this discovery. During this time, the area around the valve in the Unit 2 Curved Wall Area had elevated concentrations of Noble Gas (April, 1991). To alleviate this problem until the valve could be fixed during the Unit 2 refuel outage, a glove bag was built around the valve and the noble gas that was leaking from the bag was vented directly into the vent system. The concentrations of noble gas in the general area before the glove bag was built were as high as $1E-5$ $\mu\text{Ci/cc}$. This concentration was going directly to the vent stack during the time that the glove bag was on the valve through the time it was fixed during the Unit 2 refuel outage in November, 1991. Once again it would be reasonable to assume that the leak from this valve was directly contributing to the high concentrations in the vent stack daily samples used for continuous effluent calculations; however no air samples were taken in the vent system leading to the vent stack or the glove bag itself. Assuming this is true, based on the length of time the leak occurred, we estimate that 3000-5000 Curies of activity came from this source.
(Source of information: sample results around the glove bag, ALARA log for 1991.)

4. Also believed to be a contributor to the high Curies during this excursion were leaks in the GW system. No GW releases were performed during June and July of 1991. The documentation indicating that the tanks were leaking by are kept for six months; therefore, the sheets for 1991 no longer exist (the Radwaste Operator round sheets contain daily gas inventories). In further support of the GW valves leaking, is a listing of GW valve work histories, and valves repaired during August and September of 1991 (Unit 2 refuel start). Many air samples were taken around the compressor and the valves leaking to atmosphere. The concentrations were as high as $1.6E-3$ $\mu\text{Ci/cc}$ in these areas. Once into the Auxiliary building atmosphere, the gas goes into both vent stacks by way of a common plenum. Many discussions have been held with system engineers and operating engineers regarding the possibility of leaks internal to the GW system contributing to the high concentrations of Curies in the vent stacks. Although it has been concluded that most of the valve leaks could not cause gas to leak to the stacks, the 0GW9298 valves on the waste gas tanks leak directly to the vent stacks. Three of these valves were leaking during this time frame.
(Source of information: System Engineering, Operating; Air Samples taken around many GW valves during this time frame; NWR history for all valves with a GW in their name).
We strongly believe that GW was a contributor to the elevated effluent releases, but lack of detailed information prevents quantifying the activity.

In June, 1991, a Curie Reduction Coordinator was assigned to address the high amount of liquid and gaseous Curies being released. In August, 1991, the magnitude of the contribution of the 2CV202 leak to the Curies released was recognized, and the focus of the Curie Reduction Coordinator was directed toward the gaseous problem. During the Unit 2 refuel outage which began in September, 1991, many gaseous leaks were found and repaired throughout the plant. Upon starting back up, it was believed the effluent problem has been solved.

1992 -

233 Curies were released during 1992, making 1992 a very good year for Noble Gas effluents. At the end of the Unit 2 refuel outage, there was a "false sense of security" because the effluents were so good. However, it is now known that there were still small leaks that contributed to effluents.

In early 1992, a leak seeking instrument was purchased by the Operating Department. It is made by Ion Track Instruments and it detects gases based on their thermoconductivities which are different than that of air (i.e. the hydrogen in the GW system). The instrument is extremely sensitive, and determined to be a much better way of finding the small leaks than "snoop". When a leak is detected, it is further investigated by isotopic sampling.

July 1992 LLD Change - The LLD change for noble gas in July of 1992 affected the effluent totals very little. Raising the LLD from $1\text{E}-8$ $\mu\text{Ci}/\text{ml}$ to $5\text{E}-7$ $\mu\text{Ci}/\text{ml}$ eliminated some peaks from being reported; however, the bulk of the effluents were greater than both LLDs to begin with. The relative contribution of the LLD change to effluents was a lowering of the successive month's effluents by 5%.

1993 -

2640 Curies of Noble Gas were released in 1993. During January 1993, Unit 1 experienced failed fuel problems. The increase in the gaseous effluents directly corresponded to the increase in the dose equivalent iodine. The excursion only lasted during the month of January; however, it subsequently affected the February and March effluent totals through the residual contamination left in the marinellis used for gas sampling. The marinellis used for vent stack sampling are made of plastic which retained the noble gas left in the container for a few days. Also, the marinellis used for containment air sampling and effluent sampling were not differentiated, subjecting the effluent marinellis to a very high concentration of gas left from the containment atmosphere sampling. This in turn left the effluent marinellis with residual contamination. Due to this problem, a rigorous program of counting each marinelli to verify it is clean prior to use for an effluent related sample was instituted, as well as clearly marking the marinellis for containment or effluent sampling. This new program has corrected the marinelli contamination problem. Based on the LLD values and the various uses of the marinellis, the relative contribution of the contamination in the marinellis is estimated at approximately 30% of the total effluents in February and March, or about 100 Curies.

Another problem discovered during this time frame was that of potentially performing the daily sampling during containment and GW releases, thereby over reporting the Curies released continuously. The most convenient time for performing GW and containment releases was usually on the midnight shift, which is the time that vent stack samples were obtained. This problem was solved by instituting a placard system in the control room. When vent stack sampling is in progress, Radiation Protection calls the control room and has the placard displayed to inform control room personnel not to perform any gaseous releases which could affect vent stack sampling. When sampling is finished the placard is taken down. The relative contribution of this problem to the effluents releases is estimated at less than 5%.

On May 19, 1993, Unit 2 experienced a failed fuel problem. Through the end of 1993, Unit 2 dose equivalent iodine continued to be elevated and has affected effluents through many different means.

Compounding the problem during this time frame were increased containment releases due to new instrument air leaks increasing the pressure inside containment. Containment releases were being performed every 4 shifts. Since the concentration of noble gas in containment was increased due to the failed fuel, containment releases made up about 30% of the Curies being released from Unit 2. When Unit 2 tripped on Oct. 3, containment was searched for the leaking instrument air valves. They were found and repaired, thus correcting the frequency of the release problem which resulted in releasing at the normal frequency of every 3-4 days. When Unit 2 started back up, containment air noble gas concentration increased steadily for the rest of the year which resulted in increased Curies per release as compared to prior to this shutdown. During the second half of 1993, Unit 2 containment releases made up approximately 70% of the Curies released for Braidwood Station.

In addition to increased containment releases, another problem that contributed to the effluents was two valves on top of the Unit 2 Volume Control Tank (VCT), the 2CV8156 and 2CV8157 that were faulty. The 2CV8156 valve is a pressure regulating valve and the 2CV8157 valve is the actual vent valve. With the pressure regulating valve (2CV8156) defective, the VCT needed to be manually vented 2-3 times per day. When the VCT is "vented", the normal path is into the CVCS system; however, the leaking 2CV8157 vent valve allowed the gas to escape into the Auxiliary Building and into the vent stack. These two valves were repaired in September, 1993. The relative contribution of this problem to continuous effluents released during this time frame was estimated at approximately 40% or 200 Curies.

On October 23, 1993, Unit 1 experienced a steam generator tube rupture, thus shutting down the unit. This contributed to the Curies released during the end of October and the beginning of November mainly due to the need to degas the unit, creating many Waste Gas releases. Waste Gas releases made up 60% of the Curies released in this time frame, or about 100 Curies.

Tritium - General

In 1989 Braidwood Station released 12.62 Curies of Tritium. With the error that was found in the May, 1990 calculation (as attached in the errata to that report), the total Curies released in 1990 were 25.9. In February, 1991, tritium was included in batch releases for the first time. The batch releases did not contribute significantly to the total Curies released, and continue to be a minor factor in effluents. In September, 1991 through September, 1992, the total tritium Curies released increased greatly. Except for this time frame, gaseous tritium monthly concentrations are very similar. During the increased tritium excursion, System Engineering Nuclear group, Chemistry Services, and Nuclear Fuel Services investigated the cause for the increased tritium, and no correlation could be made for the H-3 increase. Like plants that operate in a similar manner have also had unexplainable H-3 spikes with no correlation. Our investigation on H-3 does not indicate that further investigation would yield significantly more information; however, if desired further investigation is possible.

GASEOUS EFFLUENT - NOBLE GAS

1989			1990			1991		
	U-1	U-2		U-1	U-2		U-1	U-2
Jan	4.70E+00	3.14E+00	Jan	4.90E+00	3.48E+01	Jan	6.62E+02	7.87E+01
Feb	1.20E-01	9.10E+01	Feb	3.58E+00	3.95E+01	Feb	2.79E+02	6.81E+01
Mar	2.49E-01	1.47E-02	Mar	5.67E+01	1.03E+01	Mar	3.66E+02	8.11E+02
Apr	2.70E+00	4.29E+00	Apr	5.32E+00	5.34E+00	Apr	1.68E+03	2.28E+02
May	2.16E+00	6.81E+00	May	1.38E+02	3.43E+01	May	2.25E+02	6.98E+02
Jun	8.47E-01	3.77E+00	Jun	1.25E+02	1.05E+01	Jun	7.25E+02	3.63E+02
Jul	1.55E+01	7.31E+01	Jul	1.15E+02	7.36E+01	Jul	8.05E+02	2.42E+03
Aug	5.87E+02	1.38E+01	Aug	1.51E+02	1.98E+02	Aug	1.02E+02	3.72E+02
Sept	4.65E+02	8.41E+00	Sept	1.67E+02	3.77E+02	Sept	2.81E+02	2.15E+02
Oct	2.11E+01	6.07E+01	Oct	1.99E+02	7.13E+01	Oct	8.48E+01	2.98E+01
Nov	2.73E+01	4.05E+01	Nov	3.09E+02	5.34E+01	Nov	1.54E+01	2.61E+00
Dec	3.23E+01	2.02E+02	Dec	1.49E+02	1.15E+02	Dec	1.01E+01	8.67E-01
Unit Total	1.16E+03	5.08E+02	Unit Total	1.42E+03	1.02E+03	Unit Total	5.24E+03	5.29E+03
Grand Total	1.67E+03		Grand Total	2.45E+03		Grand Total	1.05E+04	

1992			1993		
	U-1	U-2		U-1	U-2
Jan	1.56E+01	7.91E+00	Jan	3.39E+01	2.55E+02
Feb	2.02E+00	3.63E+01	Feb	1.39E+01	1.29E+02
Mar	1.40E+01	7.53E+00	Mar	8.18E+01	1.31E+02
Apr	1.83E+00	1.77E+01	Apr	1.67E+00	6.30E-01
May	2.82E+00	2.61E+01	May	3.00E+01	8.74E+01
Jun	8.24E+00	2.45E+01	Jun	4.11E+01	3.17E+02
Jul	9.98E+00	3.82E+00	Jul	8.88E+00	1.99E+02
Aug	6.16E+00	1.66E+01	Aug	9.71E+00	2.83E+02
Sept	6.36E+00	8.53E+00	Sept	1.75E+00	3.36E+02
Oct	6.67E+00	1.87E+00	Oct	8.58E+01	1.90E+02
Nov	2.02E+00	4.46E+00	Nov	3.54E+01	1.77E+02
Dec	1.42E+00	2.84E-01	Dec	5.83E+00	1.83E+02
Unit Total	7.71E+01	1.56E+02	Unit Total	3.50E+02	2.29E+03
Grand Total	2.33E+02		Grand Total	2.64E+03	

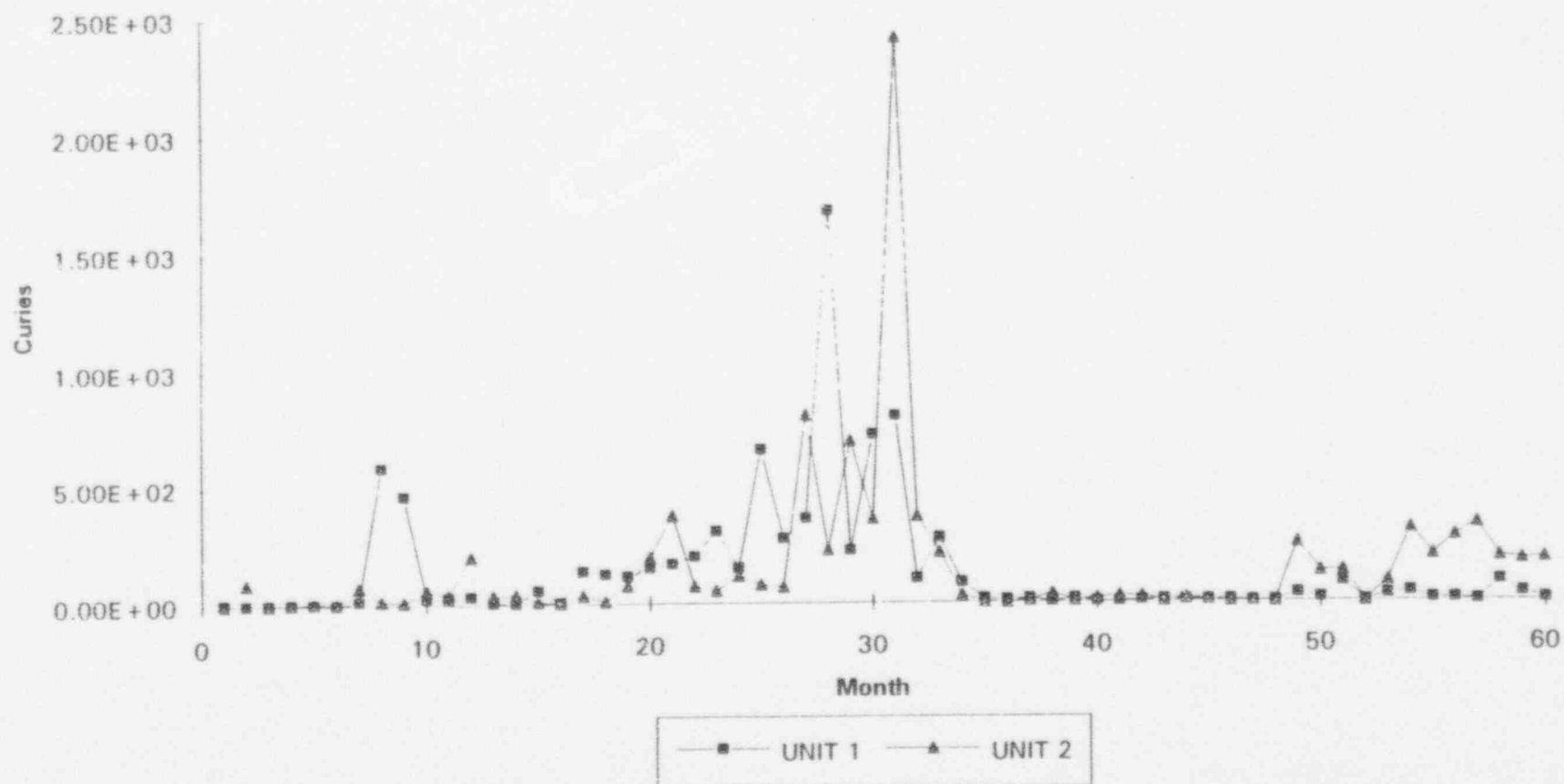
GASEOUS EFFLUENT - TRITIUM

1989			1990			1991		
	U-1	U-2		U-1	U-2		U-1	U-2
Jan	7.32E-02	5.73E-03	Jan	1.59E-02	9.77E-02	Jan	5.81E+00	6.25E-01
Feb	4.73E-02	8.50E-01	Feb	3.22E-03	1.25E-01	Feb	3.56E+00	1.56E-01
Mar	3.73E+00	8.31E-02	Mar	1.54E-01	5.99E-02	Mar	4.15E+00	7.01E-01
Apr	2.50E+00	1.03E-01	Apr	4.77E-01	3.02E+00	Apr	1.52E+00	1.29E-01
May	2.64E-01	4.25E-02	May *	2.77E+00	2.63E-02	May	4.93E-01	3.75E-01
Jun	5.61E-01	6.15E-01	Jun	9.35E-01	1.77E-01	Jun	4.77E-01	8.64E-02
Jul	1.66E-01	7.93E-01	Jul	4.79E-01	2.86E+00	Jul	7.99E-01	4.42E-01
Aug	2.24E-01	9.49E-01	Aug	2.40E-01	6.96E-01	Aug	3.60E-02	3.63E-01
Sept	1.11E+00	2.52E-01	Sept	6.65E-01	1.69E+00	Sept	2.20E+00	2.83E-01
Oct	3.98E-03	6.42E-03	Oct	9.73E-01	1.28E-01	Oct	2.46E+01	9.66E-01
Nov	1.42E-02	9.23E-02	Nov	6.53E+00	3.24E-01	Nov	2.81E+01	4.39E-01
Dec	2.00E-02	1.14E-01	Dec	3.31E+00	1.78E-01	Dec	2.01E+01	9.99E-01
Unit Total	8.71E+00	3.91E+00	Unit Total	1.66E+01	9.38E+00	Unit Total	9.18E+01	5.56E+00
Grand Total	1.26E+01		Grand Total	2.59E+01		Grand Total	9.74E+01	

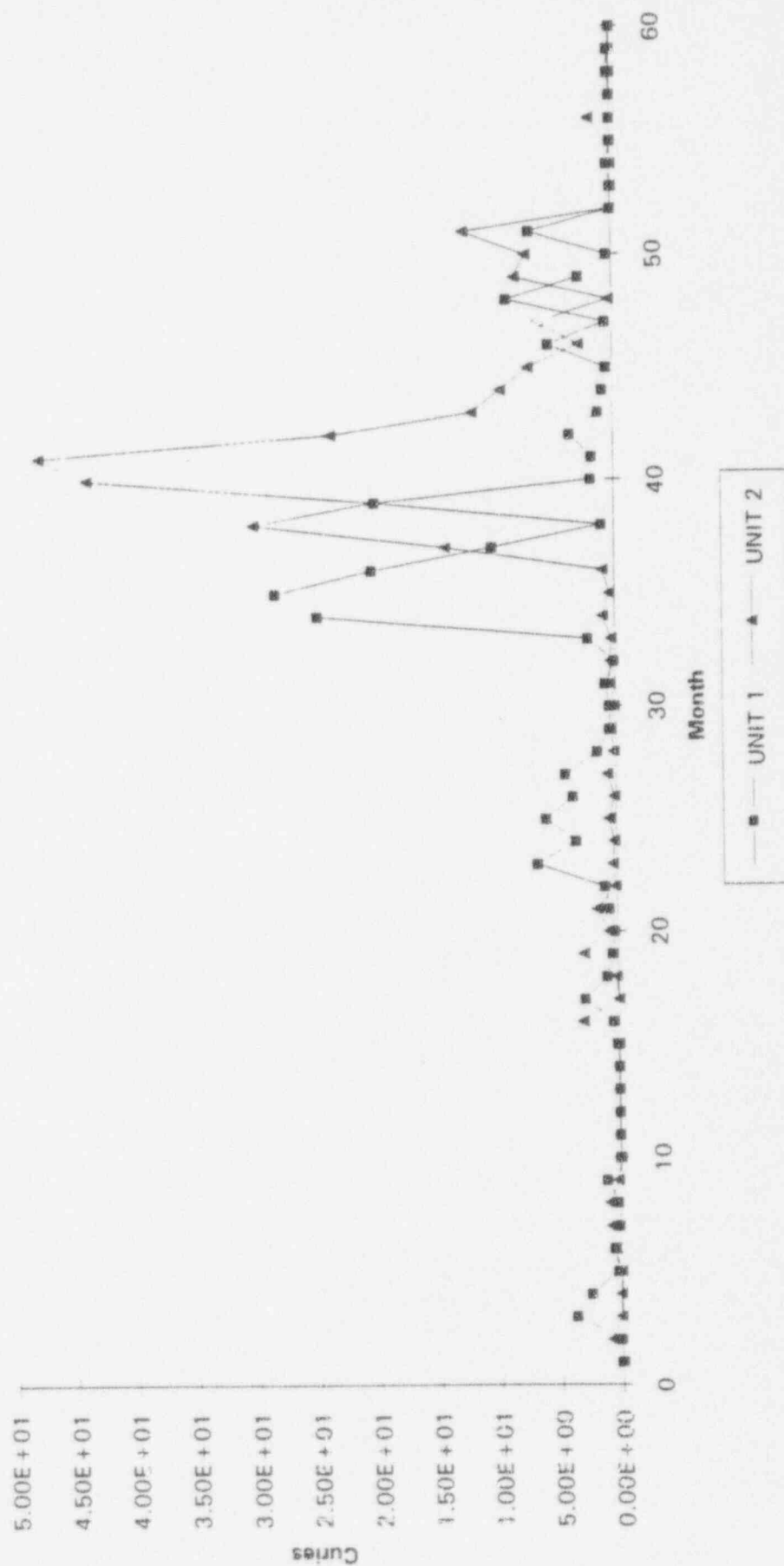
* reflects corrected value (U-1)

1992			1993		
	U-1	U-2		U-1	U-2
Jan	1.01E+01	1.40E+01	Jan	2.78E+00	8.11E+00
Feb	1.06E+00	2.99E+01	Feb	3.93E-01	7.13E+00
Mar	1.98E+01	2.00E+01	Mar	6.83E+00	1.23E+01
Apr	1.87E+00	4.36E+01	Apr	3.20E-02	9.98E-02
May	1.77E+00	4.76E+01	May	1.76E-02	1.02E-02
Jun	3.59E+00	2.34E+01	Jun	3.00E-01	1.38E-02
Jul	1.22E+00	1.17E+01	Jul	1.35E-02	6.63E-02
Aug	8.64E-01	9.30E+00	Aug	1.08E-02	1.83E+00
Sept	5.21E-01	7.02E+00	Sept	5.99E-03	8.08E-02
Oct	5.30E+00	2.80E+00	Oct	1.96E-01	6.18E-02
Nov	5.49E-01	6.15E+00	Nov	2.02E-01	8.12E-02
Dec	8.74E+00	2.94E-01	Dec	1.02E-02	1.04E-01
Unit Total	5.54E+01	2.16E+02	Unit Total	1.08E+01	2.99E+01
Grand Total	2.71E+02		Grand Total	4.07E+01	

Gaseous Effluent - Noble Gas, 1989-1993



Gaseous Effluents - Tritium 1989-1993



BRAIDWOOD STATION UNIT ONE

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 07/01/93 TO 07/31/93 CALCULATED 02/23/94

INFANT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	8.25E-05	1.17E-03	8.88E-04	1.94E-04	1.16E-03	3.41E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	3.47E-04	5.01E-03	3.13E-03	8.09E-04	4.88E-03	1.38E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	4.27E-05	6.00E-04	4.97E-04	1.01E-04	5.99E-04	1.80E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	1.69E-04	2.38E-03	1.87E-03	3.99E-04	2.42E-03	7.06E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	2.41E-04	3.81E-03	2.25E-03	3.06E-04	5.15E-04	6.89E-03
(MREM)	(E)	(E)	(E)	(E)	(E)	(E)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON: ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993 COMPLIANCE STATUS - 10CFR 50 APP. I INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY	1ST QTR	2ND QTR	3RD QTR	4TH QTR	YRLY	% OF
	OBJ	JAN-MAR	APR-JUN	JUL-SEP	OCT-DEC	OBJ	APP.
GAMMA AIR (MRAD)	5.0	0.02	0.02	0.00	0.02	10.0	0.0
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.05	20.0	0.0
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.02	5.0	0.0
SKIN (MREM)	7.5	0.03	0.02	0.01	0.03	15.0	0.0
ORGAN (MREM)	7.5	0.05	0.03	0.00	0.01	15.0	0.0

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RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 07/01/93 TO 07/31/93 CALCULATED 02/23/94

ADULT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	8.25E-05	1.17E-03	8.88E-04	1.94E-04	1.16E-03	3.41E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	3.47E-04	5.01E-03	3.13E-03	8.09E-04	4.88E-03	1.38E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	4.27E-05	6.00E-04	4.97E-04	1.01E-04	5.99E-04	1.80E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	1.69E-04	2.38E-03	1.87E-03	3.99E-04	2.42E-03	7.06E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	5.24E-04	1.81E-03	5.64E-03	7.14E-04	1.60E-03	9.76E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993

ODCM SOFTWARE VERSION 0.1 APRIL 1993

ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.02	0.02	0.00	0.02	10.0	0.0
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.05	20.0	0.0
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.02	5.0	0.0
SKIN (MREM)	7.5	0.03	0.02	0.01	0.03	15.0	0.0
ORGAN (MREM)	7.5	0.02	0.08	0.01	0.02	15.0	0.0

THYROID	THYROID	THYROID	THYROID	THYROI
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RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 08/01/93 TO 08/31/93 CALCULATED 02/23/94

INFANT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	9.12E-05	1.17E-03	8.88E-04	1.91E-04	1.16E-03	3.41E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	3.82E-04	5.01E-03	3.13E-03	7.98E-04	4.88E-03	1.38E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	4.74E-05	6.00E-04	4.97E-04	9.92E-05	5.99E-04	1.80E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	1.89E-04	2.38E-03	1.87E-03	3.93E-04	2.42E-03	7.06E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	4.70E-05	3.81E-03	2.25E-03	3.06E-04	5.15E-04	6.88E-03
(MREM)	(E)	(E)	(E)	(E)	(E)	(E)
	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.02	0.02	0.00	0.02	10.0	0.
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.05	20.0	0.
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.02	5.0	0.
SKIN (MREM)	7.5	0.03	0.02	0.01	0.03	15.0	0.
ORGAN (MREM)	7.5	0.05	0.03	0.00	0.01	15.0	0.

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RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 08/01/93 TO 08/31/93 CALCULATED 02/23/94

ADULT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	9.12E-05	1.17E-03	8.88E-04	1.91E-04	1.16E-03	3.41E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	3.82E-04	5.01E-03	3.13E-03	7.98E-04	4.88E-03	1.38E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	4.74E-05	6.00E-04	4.97E-04	9.92E-05	5.99E-04	1.80E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	1.89E-04	2.38E-03	1.87E-03	3.93E-04	2.42E-03	7.06E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	1.27E-04	1.81E-03	5.64E-03	7.08E-04	1.60E-03	9.75E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MPAD)	5.0	0.02	0.02	0.00	0.02	10.0	0.0
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.05	20.0	0.0
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.02	5.0	0.0
SKIN (MREM)	7.5	0.03	0.02	0.01	0.03	15.0	0.0
ORGAN (MREM)	7.5	0.02	0.08	0.01	0.02	15.0	0.0

THYROID	THYROID	THYROID	THYROID	THYROID
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RESULTS BASED UPON:

ODCM ANNEX REVISION 0.8 JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

ACTUAL 1993
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 09/01/93 TO 09/30/93 CALCULATED 10/13/93
 INFANT RECEPTOR
 DATABASE CONTAINS DATA THROUGH 09/30/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.74E-05	1.17E-03	8.88E-04	1.98E-04	0.00E+00	2.26E-03
(MRAD)	(N)	(N)	(N)	(N)	()	(N)
BETA AIR	6.90E-05	5.01E-03	3.13E-03	8.23E-04	0.00E+00	8.97E-03
(MRAD)	(N)	(N)	(N)	(N)	()	(N)
TOT. BODY	9.17E-06	6.00E-04	4.97E-04	1.03E-04	0.00E+00	1.20E-03
(MREM)	(N)	(N)	(N)	(N)	()	(N)
SKIN	3.49E-05	2.38E-03	1.87E-03	4.07E-04	0.00E+00	4.65E-03
(MREM)	(N)	(N)	(N)	(N)	()	(N)
ORGAN	1.79E-05	3.81E-03	2.25E-03	3.07E-04	0.00E+00	6.37E-03
(MREM)	(E)	(E)	(E)	(E)	()	(E)
THYROID		THYROID	THYROID	THYROID		THYROID

THIS REPORT CONTAINS RELEASES FOR THE THIRD QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION O.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.02	0.02	0.00	0.00	10.0	0.02
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.00	20.0	0.04
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.00	5.0	0.02
SKIN (MREM)	7.5	0.03	0.02	0.01	0.00	15.0	0.03
ORGAN (MREM)	7.5	0.05	0.03	0.00	0.00	15.0	0.04

THYROID

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THYROID

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 09/01/93 TO 09/30/93 CALCULATED 10/13/93
 ADULT RECEPTOR
 DATABASE CONTAINS DATA THROUGH 09/30/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.74E-05	1.17E-03	8.88E-04	1.98E-04	0.00E+00	2.26E-03
(MRAD)	(N)	(N)	(N)	(N)	()	(N)
BETA AIR	6.90E-05	5.01E-03	3.13E-03	8.23E-04	0.00E+00	8.97E-03
(MRAD)	(N)	(N)	(N)	(N)	()	(N)
TOT. BODY	9.17E-06	6.00E-04	4.97E-04	1.03E-04	0.00E+00	1.20E-03
(MREM)	(N)	(N)	(N)	(N)	()	(N)
SKIN	3.49E-05	2.38E-03	1.87E-03	4.07E-04	0.00E+00	4.65E-03
(MREM)	(N)	(N)	(N)	(N)	()	(N)
ORGAN	5.68E-05	1.81E-03	5.64E-03	7.25E-04	0.00E+00	8.17E-03
(MREM)	(N)	(N)	(N)	(N)	()	(N)
THYROID	THYROID	THYROID	THYROID	THYROID		THYROID

THIS REPORT CONTAINS RELEASES FOR THE THIRD QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.02	0.02	0.00	0.00	10.0	0.02
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.00	20.0	0.04
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.00	5.0	0.02
SKIN (MREM)	7.5	0.03	0.02	0.01	0.00	15.0	0.03
ORGAN (MREM)	7.5	0.02	0.08	0.01	0.00	15.0	0.05

THYROID

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RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 10/01/93 TO 10/31/93 CALCULATED 11/12/93

INFANT RECEPTOR

DATABASE CONTAINS DATA THROUGH 10/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	7.89E-04	1.17E-03	8.88E-04	1.98E-04	7.89E-04	3.05E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	3.37E-03	5.01E-03	3.13E-03	8.23E-04	3.37E-03	1.23E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	4.07E-04	6.00E-04	4.97E-04	1.03E-04	4.07E-04	1.61E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	1.65E-03	2.38E-03	1.87E-03	4.07E-04	1.65E-03	6.31E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	4.27E-04	3.81E-03	2.25E-03	3.07E-04	4.27E-04	6.80E-03
(MREM)	(E)	(E)	(E)	(E)	(E)	(E)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993

ODCM SOFTWARE VERSION 0.1 APRIL 1993

ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.02	0.02	0.00	0.02	10.0	0.03
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.03	20.0	0.06
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.02	5.0	0.03
SKIN (MREM)	7.5	0.03	0.02	0.01	0.02	15.0	0.04
ORGAN (MREM)	7.5	0.05	0.03	0.00	0.01	15.0	0.05

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RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 10/01/93 TO 10/31/93 CALCULATED 11/12/93

ADULT RECEPTOR

DATABASE CONTAINS DATA THROUGH 10/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	7.89E-04	1.17E-03	8.88E-04	1.98E-04	7.89E-04	3.05E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	3.37E-03	5.01E-03	3.13E-03	8.23E-04	3.37E-03	1.23E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	4.07E-04	6.00E-04	4.97E-04	1.03E-04	4.07E-04	1.61E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	1.65E-03	2.38E-03	1.87E-03	4.07E-04	1.65E-03	6.31E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	1.54E-03	1.81E-03	5.64E-03	7.25E-04	1.54E-03	9.71E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.02	0.02	0.00	0.02	10.0	0.03
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.03	20.0	0.06
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.02	5.0	0.03
SKIN (MREM)	7.5	0.03	0.02	0.01	0.02	15.0	0.04
ORGAN (MREM)	7.5	0.02	0.08	0.01	0.02	15.0	0.06

THYROID	THYROID	THYROID	THYROID	THYROID
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RESULTS BASED UPON:	ODCM ANNEX REVISION	0.K JANUARY 1993
	ODCM SOFTWARE VERSION	0.1 APRIL 1993
	ODCM DATABASE VERSION	0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 11/01/93 TO 11/30/93 CALCULATED 02/23/94

INFANT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	3.39E-04	1.17E-03	8.88E-04	1.91E-04	1.16E-03	3.41E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	1.40E-03	5.01E-03	3.13E-03	7.98E-04	4.88E-03	1.38E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	1.77E-04	6.00E-04	4.97E-04	9.92E-05	5.99E-04	1.80E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	7.08E-04	2.38E-03	1.87E-03	3.93E-04	2.42E-03	7.06E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	6.76E-05	3.81E-03	2.25E-03	3.06E-04	5.00E-04	6.87E-03
(MREM)	(E)	(E)	(E)	(E)	(E)	(E)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.02	0.02	0.00	0.02	10.0	0.0
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.05	20.0	0.0
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.02	5.0	0.0
SKIN (MREM)	7.5	0.03	0.02	0.01	0.03	15.0	0.0
ORGAN (MREM)	7.5	0.05	0.03	0.00	0.01	15.0	0.0

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 11/01/93 TO 11/30/93 CALCULATED 02/23/94

ADULT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	3.39E-04	1.17E-03	8.88E-04	1.91E-04	1.16E-03	3.41E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	1.40E-03	5.01E-03	3.13E-03	7.98E-04	4.88E-03	1.38E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	1.77E-04	6.00E-04	4.97E-04	9.92E-05	5.99E-04	1.80E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	7.08E-04	2.38E-03	1.87E-03	3.93E-04	2.42E-03	7.06E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	4.70E-05	1.81E-03	5.64E-03	7.08E-04	1.59E-03	9.75E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.02	0.02	0.00	0.02	10.0	0.02
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.05	20.0	0.02
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.02	5.0	0.04
SKIN (MREM)	7.5	0.03	0.02	0.01	0.03	15.0	0.05
ORGAN (MREM)	7.5	0.02	0.08	0.01	0.02	15.0	0.06

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 12/01/93 TO 12/31/93 CALCULATED 02/23/94

INFANT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	5.58E-05	1.17E-03	8.88E-04	1.91E-04	1.18E-03	3.43E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	2.30E-04	5.01E-03	3.13E-03	7.98E-04	5.00E-03	1.39E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	2.91E-05	6.00E-04	4.97E-04	9.92E-05	6.13E-04	1.81E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	1.15E-04	2.38E-03	1.87E-03	3.93E-04	2.48E-03	7.12E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	5.77E-06	3.81E-03	2.25E-03	3.06E-04	5.00E-04	6.87E-03
(MREM)	(N)	(E)	(E)	(E)	(E)	(E)
	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.02	0.02	0.00	0.02	10.0	0.0
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.05	20.0	0.0
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.02	5.0	0.0
SKIN (MREM)	7.5	0.03	0.02	0.01	0.03	15.0	0.0
ORGAN (MREM)	7.5	0.05	0.03	0.00	0.01	15.0	0.0

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 12/01/93 TO 12/31/93 CALCULATED 02/23/94
 ADULT RECEPTOR
 DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	5.58E-05	1.17E-03	8.88E-04	1.91E-04	1.18E-03	3.43E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	2.30E-04	5.01E-03	3.13E-03	7.98E-04	5.00E-03	1.39E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	2.91E-05	6.00E-04	4.97E-04	9.92E-05	6.13E-04	1.81E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	1.15E-04	2.38E-03	1.87E-03	3.93E-04	2.48E-03	7.12E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	4.96E-06	1.81E-03	5.64E-03	7.08E-04	1.59E-03	9.75E-03
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON: ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT ONE

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.02	0.02	0.00	0.02	10.0	0.0
BETA AIR (MRAD)	10.0	0.05	0.03	0.01	0.05	20.0	0.0
TOT. BODY (MREM)	2.5	0.02	0.02	0.00	0.02	5.0	0.0
SKIN (MREM)	7.5	0.03	0.02	0.01	0.03	15.0	0.0
ORGAN (MREM)	7.5	0.02	0.08	0.01	0.02	15.0	0.0

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RESULTS BASED UPON:

ODCM ANNEX REVISION 0.8 JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 07/01/93 TO 07/31/93 CALCULATED 02/23/94

INFANT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.85E-03	4.63E-03	4.41E-03	8.56E-03	5.05E-03	2.27E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	7.82E-03	1.99E-02	1.67E-02	3.43E-02	2.14E-02	9.23E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	9.59E-04	2.37E-03	2.40E-03	4.55E-03	2.61E-03	1.19E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	3.83E-03	9.41E-03	9.23E-03	1.79E-02	1.05E-02	4.71E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	1.91E-03	1.06E-02	5.27E-03	3.45E-03	1.03E-02	2.95E-02
(MREM)	(E)	(E)	(E)	(E)	(E)	(E)
	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.17	0.10	10.0	0.2
BETA AIR (MRAD)	10.0	0.20	0.17	0.34	0.21	20.0	0.4
TOT. BODY (MREM)	2.5	0.09	0.10	0.18	0.10	5.0	0.2
SKIN (MREM)	7.5	0.13	0.12	0.24	0.14	15.0	0.3
ORGAN (MREM)	7.5	0.14	0.07	0.05	0.14	15.0	0.2

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RESULTS BASED UPON: ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 07/01/93 TO 07/31/93 CALCULATED 02/23/94

ADULT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.85E-03	4.63E-03	4.41E-03	8.56E-03	5.05E-03	2.27E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	7.82E-03	1.99E-02	1.67E-02	3.43E-02	2.14E-02	9.23E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	9.59E-04	2.37E-03	2.40E-03	4.55E-03	2.61E-03	1.19E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	3.83E-03	9.41E-03	9.23E-03	1.79E-02	1.05E-02	4.71E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	4.03E-03	5.18E-03	1.07E-02	1.37E-02	2.09E-02	5.06E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.17	0.10	10.0	0.2
BETA AIR (MRAD)	10.0	0.20	0.17	0.34	0.21	20.0	0.4
TOT. BODY (MREM)	2.5	0.09	0.10	0.18	0.10	5.0	0.2
SKIN (MREM)	7.5	0.13	0.12	0.24	0.14	15.0	0.3
ORGAN (MREM)	7.5	0.07	0.14	0.18	0.28	15.0	0.3

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 08/01/93 TO 08/31/93 CALCULATED 02/23/94

INFANT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	3.08E-03	4.63E-03	4.41E-03	8.27E-03	5.05E-03	2.24E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	1.18E-02	1.99E-02	1.67E-02	3.31E-02	2.14E-02	9.11E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	1.67E-03	2.37E-03	2.40E-03	4.40E-03	2.61E-03	1.18E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	6.53E-03	9.41E-03	9.23E-03	1.73E-02	1.05E-02	4.65E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	1.31E-03	1.06E-02	5.27E-03	3.30E-03	1.03E-02	2.94E-02
(MREM)	(E)	(E)	(E)	(E)	(E)	(E)
	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.17	0.10	10.0	0.25
BETA AIR (MRAD)	10.0	0.20	0.17	0.33	0.21	20.0	0.40
TOT. BODY (MREM)	2.5	0.09	0.10	0.18	0.10	5.0	0.20
SKIN (MREM)	7.5	0.13	0.12	0.23	0.14	15.0	0.30
ORGAN (MREM)	7.5	0.14	0.07	0.04	0.14	15.0	0.20

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON: ODCM ANNEX REVISION 0.8 JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 08/01/93 TO 08/31/93 CALCULATED 02/23/94

ADULT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	3.08E-03	4.63E-03	4.41E-03	8.27E-03	5.05E-03	2.24E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	1.18E-02	1.99E-02	1.67E-02	3.31E-02	2.14E-02	9.11E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	1.67E-03	2.37E-03	2.40E-03	4.40E-03	2.61E-03	1.18E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	6.53E-03	9.41E-03	9.23E-03	1.73E-02	1.05E-02	4.65E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	7.66E-03	5.18E-03	1.07E-02	1.21E-02	2.09E-02	4.90E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993 COMPLIANCE STATUS - 10CFR 50 APP. I ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.17	0.10	10.0	0.2
BETA AIR (MRAD)	10.0	0.20	0.17	0.33	0.21	20.0	0.4
TOT. BODY (MREM)	2.5	0.09	0.10	0.18	0.10	5.0	0.2
SKIN (MREM)	7.5	0.13	0.12	0.23	0.14	15.0	0.3
ORGAN (MREM)	7.5	0.07	0.14	0.16	0.28	15.0	0.3

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.8 JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	3.34E-03 (N)	4.63E-03 (N)	4.41E-03 (N)	8.96E-03 (N)	0.00E+00 ()	1.80E-02 (N)
BETA AIR (MRAD)	1.35E-02 (N)	1.99E-02 (N)	1.67E-02 (N)	3.60E-02 (N)	0.00E+00 ()	7.26E-02 (N)
TOT. BODY (MREM)	1.77E-03 (N)	2.37E-03 (N)	2.40E-03 (N)	4.75E-03 (N)	0.00E+00 ()	9.52E-03 (N)
SKIN (MREM)	6.97E-03 (N)	9.41E-03 (N)	9.23E-03 (N)	1.88E-02 (N)	0.00E+00 ()	3.74E-02 (N)
ORGAN (MREM)	8.10E-05 (E)	1.06E-02 (E)	5.27E-03 (E)	3.46E-03 (E)	0.00E+00 ()	1.93E-02 (E)
THYROID	THYROID	THYROID	THYROID	THYROID		THYROID

THIS REPORT CONTAINS RELEASES FOR THE THIRD QUARTER

RESULTS BASED UPON: ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993 COMPLIANCE STATUS - 10CFR 50 APP. I INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.18	0.00	10.0	0.18
BETA AIR (MRAD)	10.0	0.20	0.17	0.36	0.00	20.0	0.36
TOT. BODY (MREM)	2.5	0.09	0.10	0.19	0.00	5.0	0.19
SKIN (MREM)	7.5	0.13	0.12	0.25	0.00	15.0	0.25
ORGAN (MREM)	7.5	0.14	0.07	0.05	0.00	15.0	0.13

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RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 09/01/93 TO 09/30/93 CALCULATED 10/13/93

ADULT RECEPTOR

DATABASE CONTAINS DATA THROUGH 09/30/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	3.34E-03	4.63E-03	4.41E-03	8.96E-03	0.00E+00	1.80E-02
(MRAD)	(N)	(N)	(N)	(N)	()	(N)
BETA AIR	1.35E-02	1.99E-02	1.67E-02	3.60E-02	0.00E+00	7.26E-02
(MRAD)	(N)	(N)	(N)	(N)	()	(N)
TOT. BODY	1.77E-03	2.37E-03	2.40E-03	4.75E-03	0.00E+00	9.52E-03
(MREM)	(N)	(N)	(N)	(N)	()	(N)
SKIN	6.97E-03	9.41E-03	9.23E-03	1.88E-02	0.00E+00	3.74E-02
(MREM)	(N)	(N)	(N)	(N)	()	(N)
ORGAN	4.43E-04	5.18E-03	1.07E-02	1.38E-02	0.00E+00	2.97E-02
(MREM)	(N)	(N)	(N)	(N)	()	(N)
THYROID	THYROID	THYROID	THYROID	THYROID		THYROID

THIS REPORT CONTAINS RELEASES FOR THE THIRD QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993

ODCM SOFTWARE VERSION 0.1 APRIL 1993

ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.18	0.00	10.0	0.18
BETA AIR (MRAD)	10.0	0.20	0.17	0.36	0.00	20.0	0.36
TOT. BODY (MREM)	2.5	0.09	0.10	0.19	0.00	5.0	0.19
SKIN (MREM)	7.5	0.13	0.12	0.25	0.00	15.0	0.25
ORGAN (MREM)	7.5	0.07	0.14	0.18	0.00	15.0	0.20

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RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 10/01/93 TO 10/31/93 CALCULATED 02/23/94

INFANT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.74E-03	4.63E-03	4.41E-03	8.27E-03	5.03E-03	2.24E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	7.41E-03	1.99E-02	1.67E-02	3.31E-02	2.13E-02	9.10E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	8.98E-04	2.37E-03	2.40E-03	4.40E-03	2.60E-03	1.18E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	3.60E-03	9.41E-03	9.23E-03	1.73E-02	1.04E-02	4.64E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	1.01E-02	1.06E-02	5.27E-03	3.30E-03	1.03E-02	2.94E-02
(MREM)	(E)	(E)	(E)	(E)	(E)	(E)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.17	0.10	10.0	0.2
BETA AIR (MRAD)	10.0	0.20	0.17	0.33	0.21	20.0	0.4
TOT. BODY (MREM)	2.5	0.09	0.10	0.18	0.10	5.0	0.2
SKIN (MREM)	7.5	0.13	0.12	0.23	0.14	15.0	0.3
ORGAN (MREM)	7.5	0.14	0.07	0.04	0.14	15.0	0.2

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON: ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 10/01/93 TO 10/31/93 CALCULATED 02/23/94
 ADULT RECEPTOR
 DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.74E-03	4.63E-03	4.41E-03	8.27E-03	5.03E-03	2.24E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	7.41E-03	1.99E-02	1.67E-02	3.31E-02	2.13E-02	9.10E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	8.98E-04	2.37E-03	2.40E-03	4.40E-03	2.60E-03	1.18E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	3.60E-03	9.41E-03	9.23E-03	1.73E-02	1.04E-02	4.64E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	2.06E-02	5.18E-03	1.07E-02	1.21E-02	2.09E-02	4.90E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.17	0.10	10.0	0.2
BETA AIR (MRAD)	10.0	0.20	0.17	0.33	0.21	20.0	0.4
TOT. BODY (MREM)	2.5	0.09	0.10	0.18	0.10	5.0	0.2
SKIN (MREM)	7.5	0.13	0.12	0.23	0.14	15.0	0.3
ORGAN (MREM)	7.5	0.07	0.14	0.16	0.28	15.0	0.3

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON: ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 11/01/93 TO 11/30/93 CALCULATED 02/23/94
 INFANT RECEPTOR
 DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.65E-03	4.63E-03	4.41E-03	8.27E-03	5.06E-03	2.24E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	6.95E-03	1.99E-02	1.67E-02	3.31E-02	2.15E-02	9.11E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	8.54E-04	2.37E-03	2.40E-03	4.40E-03	2.61E-03	1.18E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	3.42E-03	9.41E-03	9.23E-03	1.73E-02	1.05E-02	4.65E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	3.42E-04	1.06E-02	5.27E-03	3.30E-03	1.03E-02	2.94E-02
(MREM)	(N)	(E)	(E)	(E)	(E)	(E)
	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON: ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993 COMPLIANCE STATUS - 10CFR 50 APP. I INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.17	0.10	10.0	0.2
BETA AIR (MRAD)	10.0	0.20	0.17	0.33	0.21	20.0	0.4
TOT. BODY (MREM)	2.5	0.09	0.10	0.18	0.10	5.0	0.2
SKIN (MREM)	7.5	0.13	0.12	0.23	0.14	15.0	0.3
ORGAN (MREM)	7.5	0.14	0.07	0.04	0.14	15.0	0.2

THYROID

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RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 11/01/93 TO 11/30/93 CALCULATED 02/23/94

ADULT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.65E-03	4.63E-03	4.41E-03	8.27E-03	5.06E-03	2.24E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	6.95E-03	1.99E-02	1.67E-02	3.31E-02	2.15E-02	9.11E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	8.54E-04	2.37E-03	2.40E-03	4.40E-03	2.61E-03	1.18E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	3.42E-03	9.41E-03	9.23E-03	1.73E-02	1.05E-02	4.65E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	2.77E-04	5.18E-03	1.07E-02	1.21E-02	2.09E-02	4.90E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.17	0.10	10.0	0.2
BETA AIR (MRAD)	10.0	0.20	0.17	0.33	0.21	20.0	0.4
TOT. BODY (MREM)	2.5	0.09	0.10	0.18	0.10	5.0	0.2
SKIN (MREM)	7.5	0.13	0.12	0.23	0.14	15.0	0.3
ORGAN (MREM)	7.5	0.07	0.14	0.16	0.28	15.0	0.3

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 12/01/93 TO 12/31/93 CALCULATED 02/23/94

INFANT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.69E-03	4.63E-03	4.41E-03	8.27E-03	5.09E-03	2.24E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	7.21E-03	1.99E-02	1.67E-02	3.31E-02	2.16E-02	9.13E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	8.76E-04	2.37E-03	2.40E-03	4.40E-03	2.63E-03	1.18E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	3.54E-03	9.41E-03	9.23E-03	1.73E-02	1.06E-02	4.65E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	7.08E-05	1.06E-02	5.27E-03	3.30E-03	1.03E-02	2.94E-02
(MREM)	(N)	(E)	(E)	(E)	(E)	(E)
THYROID	TH ID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993
COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.17	0.10	10.0	0.
BETA AIR (MRAD)	10.0	0.20	0.17	0.33	0.22	20.0	0.
TOT. BODY (MREM)	2.5	0.09	0.10	0.18	0.11	5.0	0.
SKIN (MREM)	7.5	0.13	0.12	0.23	0.14	15.0	0.
ORGAN (MREM)	7.5	0.14	0.07	0.04	0.14	15.0	0.

THYROID THYROID THYROID THYROID THYRO

RESULTS BASED UPON: ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 12/01/93 TO 12/31/93 CALCULATED 02/23/94

ADULT RECEPTOR

DATABASE CONTAINS DATA THROUGH 12/31/93

TYPE	CURRENT RELEASE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.69E-03	4.63E-03	4.41E-03	8.27E-03	5.09E-03	2.24E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
BETA AIR	7.21E-03	1.99E-02	1.67E-02	3.31E-02	2.16E-02	9.13E-02
(MRAD)	(N)	(N)	(N)	(N)	(N)	(N)
TOT. BODY	8.76E-04	2.37E-03	2.40E-03	4.40E-03	2.63E-03	1.18E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
SKIN	3.54E-03	9.41E-03	9.23E-03	1.73E-02	1.06E-02	4.65E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
ORGAN	6.02E-05	5.18E-03	1.07E-02	1.21E-02	2.09E-02	4.90E-02
(MREM)	(N)	(N)	(N)	(N)	(N)	(N)
THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID

THIS REPORT CONTAINS RELEASES FOR THE FOURTH QUARTER

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
 ODCM SOFTWARE VERSION 0.1 APRIL 1993
 ODCM DATABASE VERSION 0.1 APRIL 1993

BRAIDWOOD STATION UNIT TWO

ACTUAL 1993 COMPLIANCE STATUS - 10CFR 50 APP. I ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP.
GAMMA AIR (MRAD)	5.0	0.09	0.09	0.17	0.10	10.0	0.2
BETA AIR (MRAD)	10.0	0.20	0.17	0.33	0.22	20.0	0.4
TOT. BODY (MREM)	2.5	0.09	0.10	0.18	0.11	5.0	0.2
SKIN (MREM)	7.5	0.13	0.12	0.23	0.14	15.0	0.3
ORGAN (MREM)	7.5	0.07	0.14	0.16	0.28	15.0	0.3

THYROID THYROID THYROID THYROID THYROI

RESULTS BASED UPON:

ODCM ANNEX REVISION 0.K JANUARY 1993
ODCM SOFTWARE VERSION 0.1 APRIL 1993
ODCM DATABASE VERSION 0.1 APRIL 1993

July-September 1993
199-30 ft. DIFFERENTIAL TEMPERATURE

SPEED CLASS	WIND DIRECTION CLASSES																TOTAL	STABILITY CLASSES							
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		EU	MU	SU	N	SS	MS	ES	TOT
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
3 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
1 SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
W MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
1 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
N	.14	.32	.14	.46	.69	.32	.09	.00	.00	.00	.00	.09	.14	.28	.28	.18	3.13								
3 SS	.32	.87	.69	1.56	2.12	.92	.41	.14	.09	.09	.00	.09	.37	.46	.46	.28	8.88								
MS	.18	.18	.23	.41	.97	.60	.28	.18	.05	.18	.00	.14	.74	1.01	.32	.14	5.61								
ES	.18	.18	.14	.05	.18	.14	.05	.00	.00	.05	.14	.18	.46	.78	.23	.18	2.95								
EU	.00	.00	.05	.09	.05	.05	.00	.09	.00	.00	.00	.00	.05	.00	.00	.00	.37	.37							
MU	.05	.05	.18	.05	.14	.09	.00	.00	.00	.05	.00	.00	.05	.14	.09	.14	1.01								
4 SU	.09	.00	.18	.28	.28	.23	.14	.05	.09	.09	.00	.00	.28	.32	.23	.23	2.49								
N	1.10	.83	.74	1.24	1.47	.83	1.56	1.33	.64	.69	1.15	1.52	.46	1.61	1.24	.92	17.35								
7 SS	1.06	.69	1.43	.92	.92	1.84	2.12	2.67	1.15	.83	1.52	2.02	2.39	1.47	.87	1.79	23.70								
MS	.00	.05	.00	.00	.05	.23	.32	.05	.05	.00	.23	.64	.87	.60	.09	.05	3.22								
ES	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.09	.09	.00	.00	.00	.23								
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.05	.05							
MU	.09	.00	.00	.00	.00	.05	.00	.00	.00	.09	.00	.00	.05	.09	.14	.37	.87								
8 SU	.32	.00	.00	.00	.00	.05	.00	.05	.28	.00</															

July-September 1993
199-30 ft. DIFFERENTIAL TEMPERATURE

Wind Direction by Stability

Wind Direction by Wind Speed

[illegible]

CECo BRAIDWOOD STATION
34 ft. WIND SPEED and WIND DIRECTION

October-December 1993
199-30 ft. DIFFERENTIAL TEMPERATURE

NUMBER OF OBSERVATIONS = 2182
VALUES ARE PERCENT OCCURRENCE

SPEED CLASS	WIND DIRECTION CLASSES																STABILITY CLASSES								TOTAL
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	EU	MU	SU	N	SS	MS	ES	
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
C SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
A N	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				
L SS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			
M MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
1 SU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.05			.05					
- N	.05	.05	.32	.60	.50	.14	.05	.00	.00	.09	.00	.05	.18	.23	.09	.18	2.52				2.52				
3 SS	.05	.23	.96	1.05	.78	.23	.05	.05	.09	.00	.05	.18	.18	.50	.23	.32	4.95					4.95			
MS	.23	.14	.27	.37	.32	.18	.09	.09	.05	.05	.05	.23	.27	.14	.32	.32	3.12						3.12		
ES	.14	.00	.09	.05	.05	.05	.09	.09	.00	.00	.00	.00	.18	.14	.18	.14	1.19							1.19	
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
4 SU	.00	.00	.00	.00	.05	.00	.00	.00	.05	.00	.00	.00	.00	.05	.05	.00	.18			.18					
- N	.41	.50	.50	.41	.64	.22	.23	.50	.32	.32	.64	.92	.50	.78	.96	.96	8.94				8.94				
7 SS	.78	.64	.96	.87	.64	1.15	1.05	1.51	.65	.78	1.05	1.19	1.47	1.19	.82	.87	15.54					15.54			
MS	.05	.00	.05	.00	.00	.27	.18	.82	.50	.14	.14	.73	.37	.27	.05	.00	3.57						3.57		
ES	.00	.00	.00	.00	.00	.09	.09	.05	.00	.00	.00	.27	.23	.09	.00	.00	.92							.92	
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.05							
MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.05	.09	.23		.23						
8 SU	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.14	.23	.18	.60			.60					
- N	.60	.73	.60	.09	.23	.23	.82	1.24	1.28	1.65	1.15	1.15	2.43	2.15	1.70	1.19	18.33				18.33				
1 SS	.50	1.47	.41	.05	.18	.14	.64	2.39	2.00	3.04	2.25	1.01	.96	2.11	.50	.87	21.45					21.45			
2 MS	.00	.00	.00	.00	.00	.00	.05	.00	.05	.46	.14	.00	.00	.00	.00	.00	.78						.78		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	
EU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						
1 MU	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
3 SU	.00	.00	.00	.00	.00	.00	.05	.05	.14	.14	.00	.00	.00	.05	.00	.05	.46			.46					
- N	.32	.00	.00	.00	.00	.05	.00	.41	1.70	2.11	1.15	.46	.55	1.33	.32	.50	8.89				8.89				
1 SS	.32	.32	.00	.00	.00	.00	.82	1.88	1.83	.23	.23	.27	.60	.09	.27	.67	6.87					6.87			
8 MS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00						.00		
ES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00	

October-December 1993
199-30 ft. DIFFERENTIAL TEMPERATURE

Wind Direction by Stability

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-
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	CALM
.46	.41	1.65	2.06	1.65	.60	.27	.23	.14	.14	.09	.46	.82	1.01	.82	1.01	11.82	0.9 - 3.5 mph
1.24	1.15	1.51	1.28	1.33	1.83	1.56	2.89	1.42	1.24	1.83	3.21	2.57	2.38	1.88	1.83	29.15	3.6 - 7.5 mph
1.10	2.20	1.10	.14	.41	.37	1.56	3.53	4.45	7.15	4.54	2.15	3.44	4.49	2.47	2.34	41.43	7.6 - 12.5 mph
.64	.32	.00	.00	.00	.05	.05	1.28	3.71	4.08	1.37	.69	.82	1.97	.41	.82	16.22	12.6 - 18.5 mph
.00	.00	.00	.00	.00	.00	.00	.05	.32	.50	.14	.00	.05	.27	.00	.00	1.33	18.6 - 24.5 mph
.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.05	> 24.6 mph