

April 30, 2005

10 CFR 50.36a

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United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454 and STN 50-455

Subject: 2004 Annual Radioactive Effluent Release Report and Addendum to 2003
Annual Radioactive Effluent Release Report

Enclosed is the Annual Radioactive Effluent Release Report for Byron Station. This report is being submitted in accordance with 10 CFR 50.36a, "Technical specifications on effluents from nuclear power reactors," paragraph (a)(2), and includes a summary of radiological liquid and gaseous effluents and solid waste released from the site from January 2004, through December 2004.

Additionally, an addendum to the 2003 Annual Radioactive Effluent Release Report dated May 15, 2004 submitted under Byron Letter #2004-0044 is being supplied for the following reasons:

1. Page 26 of 94 - Attachment A, Lower Limit of Detection Tables for Gaseous Effluents LLD for Sr-89 was incorrectly reported as $3.16E-14$. The correct value is $3.16E-20$. The original value was micro curie per milliliter and the correct value is curies per milliliter.
2. Page 26 of 94 - Attachment A, Lower Limit of Detection Tables for Gaseous Effluents LLD for Sr-90 was incorrectly reported as $3.54E-15$. The correct value is $3.54E-21$. The original value was micro curie per milliliter and the correct value is curies per milliliter.
3. The Alpha LLD was reported as $5.36E-15$. The correct value is $5.36E-21$. The original value was micro curie per milliliter and the correct value is curies per milliliter.
4. Page 26 of 94 - Attachment A, Lower Limit of Detection Table for Aqueous Effluents LLD for Fe-55 was incorrectly reported as $8.63E-07$. The correct value is $8.63E-13$. The original value was micro curie per milliliter and the correct value is curies per milliliter.
5. Page 26 of 94 - Attachment A, Lower Limit of Detection Table for Aqueous Effluents LLD for Sr-89 was incorrectly reported as $5.45E-08$. The correct value is $5.45E-14$. The original value was micro curie per milliliter and the correct value is curies per milliliter.

6. Page 26 of 94 - Attachment A, Lower Limit of Detection Table for Aqueous Effluents LLD for Sr-90 was incorrectly reported as 2.26E-08. The correct value is 2.26E-14. The original value was micro curie per milliliter and the correct value is curies per milliliter.

These corrections have been captured in the Exelon Corporation Corrective Action Program in Issue Report # 325266.

If you have any questions regarding this information, please contact W. Grundmann, Regulatory Assurance Manager, at (815) 406-2800.

Respectfully,

(signed by)
Stephen E. Kuczynski
Site Vice President
Byron Nuclear Generating Station

SEK/ES/tlf/rah

Attachment

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
January, 2004 THROUGH December, 2004
Supplemental Information

1. Regulatory Limits

a. Fission and activation gases:

Tech Spec Whole Body = 500 mrem/year
Skin = 3000 mrem/year

10CFR50 Gamma = 5 mrad/quarter; 10 mrad/year
Beta = 10 mrad/quarter; 20 mrad/year

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

c. Particulates with half-lives > 8 days:

Tech Spec Organ = 1500 mrem/year
10CFR50 Organ = 7.5 mrem/quarter; 15 mrem/year

d. Liquid Effluents:

10CFR50 Whole Body = 1.5 mrem/quarter; 3 mrem/year
Organ = 5 mrem/quarter; 10 mrem/year

e. Total Effective Dose Equivalent:

10CFR20 TEDE = 100 mrem/year

2. Maximum Permissible Concentration

- a. Fission and Activation Gases: 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: Prior to release, the isotopic content is determined. Released activity is calculated using volume of release, which is determined by the change in tank or containment pressure. Additional methods of calculation utilize historical data and assign an isotopic mix which is representative of normal vent stack isotopics.
- b. Particulate, Tritium and Iodine sampling media for the plant vent stacks are collected and isotopically analyzed weekly for the plant vent stacks.

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
January, 2004 THROUGH December, 2004
Supplemental Information

- c. Liquid effluents: Batch releases are isotopically analyzed prior to release. Total release activity is calculated using volume of release. Total tritium activity released is calculated from the highest of a monthly circulating water blowdown composite activity or a sum of the input composite activities.
 - d. Analysis results which are less than the lower limit of detection (<LLD) are reported in units of Ci/ml unless otherwise noted. All LLD values are listed in Attachment A.
5. Batch Releases:
- a. Liquid:
 - 1. Number of batch releases = 84
 - 2. Total time period for batch releases = 12,800 minutes
 - 3. Maximum time period for a batch release = 613 minutes
 - 4. Average time period for a batch release = 153 minutes
 - 5. Minimum time period for a batch release = 51 minutes
 - 6. Average stream flow during periods of release of effluent into a flowing stream = 154 m³/sec, based on information from the U.S. Geological Survey Byron Gauging Station.
 - b. Gaseous:
 - 1. Number of batch releases = 300
 - 2. Total time period for batch releases = 46,900 minutes
 - 3. Maximum time period for a batch release = 13,000 minutes
 - 4. Average time period for batch releases = 156 minutes
 - 5. Minimum time period for a batch release = 4 minutes
6. Abnormal Releases:
- a. Liquid - None
 - b. Gaseous – None
7. Addendum

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 1A
 GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES
 Byron Station Unit One 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	2.50E+00	3.68E+00	2.26E+00	2.81E+00	1.12E+01
2. Avg. Release Rate	uCi/sec	3.18E-01	4.68E-01	2.84E-01	3.53E-01	3.54E-01
Iodine-131						
1. Total Release	Ci	4.70E-05	3.23E-05	2.44E-05	2.24E-05	1.26E-04
2. Avg. Release Rate	uCi/sec	5.98E-06	4.10E-06	3.07E-06	2.81E-06	3.99E-06
Particulates Half Life >= 8 days						
1. Total Release	Ci	0.00E+00	0.00E+00	3.77E-06	0.00E+00	3.77E-06
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	4.74E-07	0.00E+00	1.19E-07
Tritium						
1. Total Release	Ci	3.18E-01	2.19E-01	3.06E-01	3.61E-01	1.20E+00
2. Avg. Release Rate	uCi/sec	4.05E-02	2.78E-02	3.85E-02	4.54E-02	3.81E-02

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 1C
 GASEOUS EFFLUENTS - GROUND RELEASES - CONTINUOUS MODE
 Byron Station Unit One 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
XE-133	Ci	3.86E-01	1.32E+00	5.18E-01	1.44E+00	3.66E+00
Totals for Period...	Ci	3.86E-01	1.32E+00	5.18E-01	1.44E+00	3.66E+00
Iodines						
I-131	Ci	4.70E-05	3.23E-05	2.44E-05	2.24E-05	1.26E-04
I-133	Ci	1.14E-05	1.42E-05	7.02E-05	6.30E-05	1.59E-04
Totals for Period...	Ci	5.84E-05	4.65E-05	9.46E-05	8.54E-05	2.85E-04
Particulates Half Life >= 8 days						
CR-51	Ci	0.00E+00	0.00E+00	3.77E-06	0.00E+00	3.77E-06
Totals for Period...	Ci	0.00E+00	0.00E+00	3.77E-06	0.00E+00	3.77E-06
Tritium						
H-3	Ci	3.18E-01	2.19E-01	3.06E-01	3.61E-01	1.20E+00
Totals for Period...	Ci	3.18E-01	2.19E-01	3.06E-01	3.61E-01	1.20E+00

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 1C
 GASEOUS EFFLUENTS - GROUND RELEASES - BATCH MODE
 Byron Station Unit One 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
AR-41	Ci	0.00E+00	1.48E-05	1.28E-03	5.31E-03	6.60E-03
KR-85	Ci	9.72E-02	6.66E-02	4.33E-02	1.59E-01	3.66E-01
XE-131M	Ci	1.30E-02	1.41E-02	1.92E-03	4.96E-03	3.40E-02
XE-133	Ci	1.99E+00	2.27E+00	1.70E+00	1.21E+00	7.17E+00
XE-133M	Ci	2.83E-03	7.50E-04	0.00E+00	5.31E-05	3.63E-03
XE-135	Ci	7.79E-03	2.61E-03	7.25E-04	3.91E-04	1.15E-02
Totals for Period...	Ci	2.11E+00	2.35E+00	1.75E+00	1.38E+00	7.59E+00
Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Tritium						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 2A
 LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES
 Byron Station Unit One 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
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Fission and Activation Gases						
1. Total Release	Ci	3.02E-03	8.12E-03	4.82E-03	1.94E-03	1.79E-02
2. Avg. Diluted Conc.	uCi/ml	9.76E-10	2.39E-09	1.15E-09	5.35E-10	1.25E-09
Tritium						
1. Total Release	Ci	4.53E+02	9.79E+01	2.23E+02	4.36E+02	1.21E+03
2. Avg. Diluted Conc.	uCi/ml	1.46E-04	2.88E-05	5.32E-05	1.20E-04	8.44E-05
Dissolved and Entrained Gases						
1. Total Release	Ci	9.36E-03	1.27E-02	8.49E-04	2.83E-03	2.58E-02
2. Avg. Diluted Conc.	uCi/ml	3.02E-09	3.74E-09	2.02E-10	7.78E-10	1.80E-09
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Volume of liquid waste	liters	3.10E+09	3.40E+09	4.20E+09	3.64E+09	1.43E+10
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 2A - Rock River
 LIQUID EFFLUENTS - SUMMATION BY RELEASE POINT
 Byron Station Unit One 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	3.02E-03	8.12E-03	4.82E-03	1.94E-03	1.79E-02
2. Avg. Diluted Conc.	uCi/ml	2.65E-06	8.69E-06	6.79E-06	2.85E-06	5.17E-06
Tritium						
1. Total Release	Ci	3.21E+02	9.05E+01	1.55E+02	3.69E+02	9.35E+02
2. Avg. Diluted Conc.	uCi/ml	2.81E-01	9.69E-02	2.18E-01	5.41E-01	2.70E-01
Dissolved and Entrained Gases						
1. Total Release	Ci	9.36E-03	1.27E-02	8.49E-04	2.83E-03	2.58E-02
2. Avg. Diluted Conc.	uCi/ml	8.19E-06	1.36E-05	1.20E-06	4.15E-06	7.43E-06
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Volume of liquid waste	liters	1.14E+06	9.34E+05	7.09E+05	6.81E+05	3.47E+06
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 2A - Circulating Water Blowdown
 LIQUID EFFLUENTS - SUMMATION BY RELEASE POINT
 Byron Station Unit One 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Diluted Conc.	uCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tritium						
1. Total Release	Ci	1.32E+02	7.43E+00	6.83E+01	6.77E+01	2.75E+02
2. Avg. Diluted Conc.	uCi/ml	4.25E-05	2.18E-06	1.63E-05	1.86E-05	1.92E-05
Dissolved and Entrained Gases						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Diluted Conc.	uCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Volume of liquid waste	liters	3.10E+09	3.40E+09	4.20E+09	3.64E+09	1.43E+10
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 2B
 LIQUID EFFLUENTS - CONTINUOUS MODE
 Byron Station Unit One 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Tritium						
H-3	Ci	1.32E+02	7.43E+00	6.83E+01	6.77E+01	2.75E+02
Totals for Period...	Ci	1.32E+02	7.43E+00	6.83E+01	6.77E+01	2.75E+02
Dissolved and Entrained Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 2B
 LIQUID EFFLUENTS - BATCH MODE
 Byron Station Unit One 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
CO-57	Ci	2.00E-06	6.83E-06	1.51E-05	1.22E-06	2.52E-05
CO-58	Ci	1.71E-03	2.67E-03	2.71E-03	7.42E-04	7.83E-03
CO-60	Ci	1.86E-04	2.13E-04	4.94E-04	3.17E-04	1.21E-03
CR-51	Ci	2.08E-05	0.00E+00	1.48E-04	0.00E+00	1.69E-04
CS-137	Ci	0.00E+00	0.00E+00	0.00E+00	1.04E-06	1.04E-06
I-131	Ci	0.00E+00	1.34E-05	0.00E+00	0.00E+00	1.34E-05
I-132	Ci	2.15E-05	5.83E-05	0.00E+00	0.00E+00	7.98E-05
MN-54	Ci	0.00E+00	2.09E-05	8.64E-05	5.51E-05	1.62E-04
NB-95	Ci	0.00E+00	0.00E+00	1.69E-04	7.22E-05	2.42E-04
SB-125	Ci	1.04E-03	1.31E-04	5.06E-04	7.75E-06	1.68E-03
TE-123M	Ci	2.58E-05	8.39E-05	1.29E-05	0.00E+00	1.23E-04
TE-125M	Ci	0.00E+00	4.87E-03	5.70E-04	7.09E-04	6.15E-03
TE-132	Ci	1.94E-05	5.48E-05	0.00E+00	0.00E+00	7.43E-05
ZR-95	Ci	0.00E+00	0.00E+00	1.12E-04	3.84E-05	1.50E-04
Totals for Period...	Ci	3.03E-03	8.12E-03	4.82E-03	1.94E-03	1.79E-02
Tritium						
H-3	Ci	3.21E+02	9.05E+01	1.55E+02	3.69E+02	9.35E+02
Totals for Period...	Ci	3.21E+02	9.05E+01	1.55E+02	3.69E+02	9.35E+02
Dissolved and Entrained Gases						
KR-85	Ci	3.32E-03	3.09E-03	6.87E-04	0.00E+00	7.10E-03
KR-85M	Ci	0.00E+00	0.00E+00	1.90E-06	0.00E+00	1.90E-06
XE-131M	Ci	6.40E-05	3.86E-04	0.00E+00	6.88E-05	5.19E-04
XE-133	Ci	5.94E-03	9.20E-03	1.59E-04	2.75E-03	1.80E-02
XE-133M	Ci	2.08E-05	4.28E-05	0.00E+00	1.41E-05	7.77E-05
XE-135	Ci	1.11E-05	4.70E-06	0.00E+00	0.00E+00	1.58E-05
Totals for Period...	Ci	9.36E-03	1.27E-02	8.48E-04	2.83E-03	2.57E-02
Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 1A
 GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES
 Byron Station Unit Two 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	1.00E+00	1.72E+00	5.83E-01	1.64E+00	4.94E+00
2. Avg. Release Rate	uCi/sec	1.27E-01	2.19E-01	7.33E-02	2.06E-01	1.56E-01
Iodine-131						
1. Total Release	Ci	1.55E-05	1.02E-05	1.25E-05	1.58E-06	3.98E-05
2. Avg. Release Rate	uCi/sec	1.97E-06	1.30E-06	1.57E-06	1.98E-07	1.26E-06
Particulates Half Life >= 8 days						
1. Total Release	Ci	0.00E+00	2.25E-07	3.92E-07	0.00E+00	6.17E-07
2. Avg. Release Rate	uCi/sec	0.00E+00	2.86E-08	4.93E-08	0.00E+00	1.95E-08
Tritium						
1. Total Release	Ci	5.31E-01	1.67E-01	2.49E-01	5.63E-01	1.51E+00
2. Avg. Release Rate	uCi/sec	6.75E-02	2.12E-02	3.14E-02	7.08E-02	4.77E-02

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 1C
 GASEOUS EFFLUENTS - GROUND RELEASES - CONTINUOUS MODE
 Byron Station Unit Two 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
XE-133	Ci	3.86E-01	1.32E+00	5.18E-01	1.44E+00	3.66E+00
Totals for Period...	Ci	3.86E-01	1.32E+00	5.18E-01	1.44E+00	3.66E+00
Iodines						
I-131	Ci	1.55E-05	1.02E-05	1.25E-05	1.58E-06	3.98E-05
I-133	Ci	0.00E+00	0.00E+00	1.92E-05	9.11E-06	2.83E-05
Totals for Period...	Ci	1.55E-05	1.02E-05	3.17E-05	1.07E-05	6.81E-05
Particulates Half Life >= 8 days						
SN-113	Ci	0.00E+00	2.25E-07	3.92E-07	0.00E+00	6.17E-07
Totals for Period...	Ci	0.00E+00	2.25E-07	3.92E-07	0.00E+00	6.17E-07
Tritium						
H-3	Ci	5.31E-01	1.67E-01	2.49E-01	5.63E-01	1.51E+00
Totals for Period...	Ci	5.31E-01	1.67E-01	2.49E-01	5.63E-01	1.51E+00

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 1C
 GASEOUS EFFLUENTS - GROUND RELEASES - BATCH MODE
 Byron Station Unit Two 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
AR-41	Ci	2.59E-03	1.41E-03	1.63E-03	0.00E+00	5.63E-03
KR-85	Ci	9.72E-02	6.66E-02	4.33E-02	1.59E-01	3.66E-01
XE-131M	Ci	1.30E-02	1.41E-02	1.92E-03	4.96E-03	3.40E-02
XE-133	Ci	5.03E-01	3.14E-01	1.81E-02	4.00E-02	8.75E-01
XE-133M	Ci	5.30E-04	7.50E-04	0.00E+00	5.31E-05	1.33E-03
XE-135	Ci	2.07E-04	3.71E-04	4.88E-06	0.00E+00	5.83E-04
Totals for Period...	Ci	6.17E-01	3.97E-01	6.50E-02	2.04E-01	1.28E+00
Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Tritium						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2A
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES
Byron Station Unit Two 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	3.02E-03	8.12E-03	4.82E-03	1.94E-03	1.79E-02
2. Avg. Diluted Conc.	uCi/ml	9.76E-10	2.39E-09	1.15E-09	5.35E-10	1.25E-09
Tritium						
1. Total Release	Ci	4.53E+02	9.79E+01	2.23E+02	4.36E+02	1.21E+03
2. Avg. Diluted Conc.	uCi/ml	1.46E-04	2.88E-05	5.32E-05	1.20E-04	8.44E-05
Dissolved and Entrained Gases						
1. Total Release	Ci	9.36E-03	1.27E-02	8.49E-04	2.83E-03	2.58E-02
2. Avg. Diluted Conc.	uCi/ml	3.02E-09	3.74E-09	2.02E-10	7.78E-10	1.80E-09
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Volume of liquid waste	liters	3.10E+09	3.40E+09	4.20E+09	3.64E+09	1.43E+10
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 2A - Rock River
 LIQUID EFFLUENTS - SUMMATION BY RELEASE POINT
 Byron Station Unit Two 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	3.02E-03	8.12E-03	4.82E-03	1.94E-03	1.79E-02
2. Avg. Diluted Conc.	uCi/ml	2.65E-06	8.69E-06	6.79E-06	2.85E-06	5.17E-06
Tritium						
1. Total Release	Ci	3.21E+02	9.05E+01	1.55E+02	3.69E+02	9.35E+02
2. Avg. Diluted Conc.	uCi/ml	2.81E-01	9.69E-02	2.18E-01	5.41E-01	2.70E-01
Dissolved and Entrained Gases						
1. Total Release	Ci	9.36E-03	1.27E-02	8.49E-04	2.83E-03	2.58E-02
2. Avg. Diluted Conc.	uCi/ml	8.19E-06	1.36E-05	1.20E-06	4.15E-06	7.43E-06
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Volume of liquid waste	liters	1.14E+06	9.34E+05	7.09E+05	6.81E+05	3.47E+06
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 2A - Circulating Water Blowdown
 LIQUID EFFLUENTS - SUMMATION BY RELEASE POINT
 Byron Station Unit Two 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Diluted Conc.	uCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tritium						
1. Total Release	Ci	1.32E+02	7.43E+00	6.83E+01	6.77E+01	2.75E+02
2. Avg. Diluted Conc.	uCi/ml	4.25E-05	2.18E-06	1.63E-05	1.86E-05	1.92E-05
Dissolved and Entrained Gases						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Diluted Conc.	uCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Volume of liquid waste	liters	3.10E+09	3.40E+09	4.20E+09	3.64E+09	1.43E+10
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 2B
 LIQUID EFFLUENTS - CONTINUOUS MODE
 Byron Station Unit Two 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR

Fission and Activation Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Tritium						
H-3	Ci	1.32E+02	7.43E+00	6.83E+01	6.77E+01	2.75E+02
		-----	-----	-----	-----	-----
Totals for Period...	Ci	1.32E+02	7.43E+00	6.83E+01	6.77E+01	2.75E+02
Dissolved and Entrained Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT
 TABLE 2B
 LIQUID EFFLUENTS - BATCH MODE
 Byron Station Unit Two 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
CO-57	Ci	2.00E-06	6.83E-06	1.51E-05	1.22E-06	2.52E-05
CO-58	Ci	1.71E-03	2.67E-03	2.71E-03	7.42E-04	7.83E-03
CO-60	Ci	1.86E-04	2.13E-04	4.94E-04	3.17E-04	1.21E-03
CR-51	Ci	2.08E-05	0.00E+00	1.48E-04	0.00E+00	1.69E-04
CS-137	Ci	0.00E+00	0.00E+00	0.00E+00	1.04E-06	1.04E-06
I-131	Ci	0.00E+00	1.34E-05	0.00E+00	0.00E+00	1.34E-05
I-132	Ci	2.15E-05	5.83E-05	0.00E+00	0.00E+00	7.98E-05
MN-54	Ci	0.00E+00	2.09E-05	8.64E-05	5.51E-05	1.62E-04
NB-95	Ci	0.00E+00	0.00E+00	1.69E-04	7.22E-05	2.42E-04
SB-125	Ci	1.04E-03	1.31E-04	5.06E-04	7.75E-06	1.68E-03
TE-123M	Ci	2.58E-05	8.39E-05	1.29E-05	0.00E+00	1.23E-04
TE-125M	Ci	0.00E+00	4.87E-03	5.70E-04	7.09E-04	6.15E-03
TE-132	Ci	1.94E-05	5.48E-05	0.00E+00	0.00E+00	7.43E-05
ZR-95	Ci	0.00E+00	0.00E+00	1.12E-04	3.84E-05	1.50E-04
Totals for Period...	Ci	3.03E-03	8.12E-03	4.82E-03	1.94E-03	1.79E-02
Tritium						
H-3	Ci	3.21E+02	9.05E+01	1.55E+02	3.69E+02	9.35E+02
Totals for Period...	Ci	3.21E+02	9.05E+01	1.55E+02	3.69E+02	9.35E+02
Dissolved and Entrained Gases						
KR-85	Ci	3.32E-03	3.09E-03	6.87E-04	0.00E+00	7.10E-03
KR-85M	Ci	0.00E+00	0.00E+00	1.90E-06	0.00E+00	1.90E-06
XE-131M	Ci	6.40E-05	3.86E-04	0.00E+00	6.88E-05	5.19E-04
XE-133	Ci	5.94E-03	9.20E-03	1.59E-04	2.75E-03	1.80E-02
XE-133M	Ci	2.08E-05	4.28E-05	0.00E+00	1.41E-05	7.77E-05
XE-135	Ci	1.11E-05	4.70E-06	0.00E+00	0.00E+00	1.58E-05
Totals for Period...	Ci	9.36E-03	1.27E-02	8.48E-04	2.83E-03	2.57E-02
Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
January, 2004 THROUGH December, 2004

SOLID RADIOACTIVE WASTE FOR BURIAL 1ST QUARTER 2004

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
3/17/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	1.89E-05
3/17/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	9.65E-05
Quarterly Totals		Number of Shipments:	2	7.30E+01	1.154E-04
* Calculated using measured ratios				CUBIC M	CURIES

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
January, 2004 THROUGH December, 2004

SOLID RADIOACTIVE WASTE FOR BURIAL 2ND QUARTER 2004

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
5/11/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	CLIVE, UT	5.83E+00	4.65E-03
5/19/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	2.01E-03
6/15/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS B, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	BARNWELL, SC	3.41E+00	6.16E-02
6/21/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	CLIVE, UT	5.83E+00	4.84E-02
6/29/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS B, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	BARNWELL, SC	4.84E+00	5.10E-02
6/30/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	3.73E-05
6/30/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	5.44E-05
Quarterly Totals		Number of Shipments:	7	1.29E+02	1.68E-01
* Calculated using measured ratios				CUBIC M	CURIES

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
January, 2004 THROUGH December, 2004

SOLID RADIOACTIVE WASTE FOR BURIAL 3RD QUARTER 2004

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
8/12/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	KINGSTON, TN	3.63E+01	2.22E-06
8/30/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	KINGSTON, TN	1.63E+01	2.34E-07
9/13/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	1.71E-04
9/13/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	5.41E-05
9/23/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAKRIDGE, TN	5.83E+00	1.56E-02
Quarterly Totals		Number of Shipments:	5	1.31E+02	1.58E-02
* Calculated using measured ratios				CUBIC M	CURIES

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
January, 2004 THROUGH December, 2004

SOLID RADIOACTIVE WASTE FOR BURIAL 4TH QUARTER 2004

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
10/18/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	KINGSTON, TN	1.63E+01	8.39E-06
11/08/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAKRIDGE, TN	3.63E+01	1.02E-05
11/29/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAKRIDGE, TN	3.63E+01	6.66E-06
12/14/2004	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	CLIVE, UT	5.83E+00	1.14E-02
Quarterly Totals		Number of Shipments:	4	9.47E+01	1.14E-02
* Calculated using measured ratios				CUBIC M	CURIES

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
January, 2004 THROUGH December, 2004

A. There were no changes to the Radioactive Waste Process Control Program for 2004.

B. Error Analysis

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.

1. Gaseous Effluents

Qme=3.33%
RM=N/A
ECe=5%
Stdcse/Smplcse=5%
qme=N/A

Total error = 7.8%

2. Liquid Effluents

Qme=3.33%
RM=N/A
ECe=N/A
Stdcse/Smplcse=5%
qme=2.22%

Total error = 6.4%

3. Waste Resin

Qme=10.0%
RM=N/A
ECe=5%
Stdcse/Smplcse=5%
qme=1.0%

Total error = 12.3%

4. DAW, Mechanical Filters, and Contaminated Metal

Qme=10.0%
RM=N/A
ECe=N/A
Stdcse/Smplcse=5%
qme=N/A

Instrument calibration error = 10%
Total error = 11.2%

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
January, 2004 THROUGH December, 2004

- A. Meteorological and environmental impact information is reported in the Station Annual Radiological Environmental Operating Report as required by Technical Specification 5.6.2.
- B. No limits were exceeded in liquid hold up tanks as stated in Technical Specification 5.5.12 or in waste gas decay tanks as stated in Technical Specification 5.5.12.
- C. There were no irradiated fuel shipments during this period.
- D. There were no elevated releases. All releases are considered vent or ground level releases.
- E. There were no REMP issues in 2004.
- F. Attached are Offsite Dose Calculations for January through December of 2004.
- G. The April 2004 Release Tank composite sample was disposed of prematurely. This was discovered on 8/11/2004 during the completion of 0BCSR 11.C.1-4 Strontium Radioactive Liquid Effluent-Quarterly (Sample Preparation and Shipment to Offsite Vendor). The Technical requirements Manual Table T3.11.c-1 states that the Release Tanks (Batch Releases) shall be composited and the composite sample is one in which the quantity of liquid sampled is proportional to the quantity of the liquid waste discharged and in which the method of sampling employed result in a specimen that is representative of the liquid released. The months of May and June 2004 were used to composite the second quarter 2004 sample. This sample was sent to an offsite vendor for analysis and identification of Sr-89, Sr-90, and Fe-55. The results from the offsite vendor did not identify the presence of these isotopes. For the years 2003 and 2004 in all composites there has not been the identification of these isotopes. Therefore it is assumed that Sr89, Sr90, and Fe55 were not present in the April 2004 sample. Improvements were made to the storage process to prevent this from occurring again. This incident was captured in Issue Report #243666.

Solid Radioactive Waste for Burial, Addendum

A. Estimated Solid Waste Composition

Resins, Filters, Evap Bottoms		
Nuclide	Percent Abundance	uCi/ml
H-3	5.566	1.67E-01
C-14	0.611	1.83E-02
Na-24	0.000	6.31E-06
Cr-51	0.576	1.73E-02
Mn-54	2.601	7.76E-02
Fe-55	22.189	6.62E-01
Fe-59	0.080	2.40E-03
Co-57	0.595	1.77E-02
Co-58	38.301	1.14E+00
Co-60	13.688	4.08E-01
Ni-63	12.817	3.82E-01
Zn-65	0.099	2.95E-03
Sr-90	0.002	5.99E-05
Zr-95	0.411	1.23E-02
Ru-103	0.000	1.98E-06
Nb-95	0.632	1.89E-02
Mo-99	0.006	1.86E-04
Tc-99	0.000	5.50E-06
Ag-110m	0.000	3.27E-06
Sn-113	0.117	3.50E-03
Sb-122	0.001	2.20E-05
Sb-124	0.102	3.04E-03
Sb-125	0.656	1.96E-02
Sb-126	0.000	4.25E-06
Te-123m	0.005	1.41E-04
I-129	0.000	6.36E-06
I-131	0.011	3.32E-04
I-133	0.001	2.79E-05
Xe-133	0.000	1.07E-05
Ce-134	0.048	1.42E-03
Cs-136	0.000	0.00E+00
Cs-137	0.729	2.18E-02
Ce-144	0.100	2.99E-03
Hf-181	0.004	1.15E-04
Pu-238	0.000	2.93E-06
Pu-239	0.000	1.31E-06
Pu-241	0.050	1.50E-03
Am-241	0.000	1.80E-06
Cm-242	0.000	1.31E-06
Cm-243	0.000	6.34E-06

Dry Active Waste		
Nuclide	Percent Abundance	uCi/ml
H-3	7.214	6.14E-04
C-14	0.420	3.59E-05
Cr-51	6.550	5.55E-04
Mn-54	2.432	2.07E-04
Fe-55	15.483	1.32E-03
Fe-59	0.819	6.97E-05
Co-57	0.097	8.24E-06
Co-58	25.540	2.17E-03
Co-60	9.434	8.00E-04
Ni-63	8.526	7.24E-04
Zn-65	0.111	9.45E-06
Sr-90	0.001	1.22E-07
Zr-95	7.490	6.38E-04
Zr-97	0.000	1.03E-24
Nb-95	14.894	1.27E-03
Tc-99	0.000	1.05E-08
Ag-110	0.005	4.03E-07
Sn-113	0.211	1.80E-05
Sb-125	0.270	2.30E-05
I-129	0.000	1.21E-08
Cs-137	0.033	2.83E-06
La-140	0.000	1.04E-10
Ce-144	0.176	1.50E-05
Hf-181	0.062	5.24E-06
Ta-182	0.193	1.64E-05
Pu-238	0.000	5.72E-09
Pu-239	0.000	2.56E-09
Pu-241	0.036	3.08E-06
Am-241	0.000	3.51E-09
Cm-242	0.000	3.44E-09
Cm-243	0.000	3.70E-09

Other Contaminated Oil		
Nuclide	Percent Abundance	uCi/ml
H-3	99.972	9.67E-05
C-14	0.000	1.09E-10
Fe-55	0.009	9.05E-09
Co-60	0.006	6.27E-09
Ni-63	0.006	5.53E-09
Sr-90	0.000	1.07E-12
Tc-99	0.000	8.19E-14
I-129	0.000	9.47E-14
Xe-133	0.005	4.52E-09
Xe-135	0.000	9.31E-21
Cs-137	0.000	2.11E-10
Ce-144	0.001	1.06E-09
Pu-238	0.000	3.99E-14
Pu-239	0.000	1.61E-14
Pu-241	0.000	6.80E-12
Am-241	0.000	1.84E-14
Cm-242	0.000	2.11E-14
Cm-243	0.000	7.07E-14

Attachment A, 2004 Radioactive Effluent Release Report

Lower Limit of Detection Gaseous Effluents

Nuclides	LLD (Ci/ml)
H3	5.58E-17
Ar41	2.14E-13
Cr51	2.29E-12
Mn54	3.65E-13
Co58	5.22E-13
Fe59	8.32E-13
Co60	2.06E-13
Zn65	1.19E-12
Kr85m	2.53E-13
Kr87	6.78E-13
Kr88	1.02E-12
Sr89	2.51E-20
Sr-90	1.58E-21
Mo99	2.19E-13
I131	2.99E-13
Xe131m	1.23E-11
I133	3.04E-13
Xe133	6.13E-13
Xe133m	2.41E-12
Cs134	7.27E-13
I135	6.96E-13
Xe135	2.75E-13
Cs137	4.63E-13
Xe138	1.38E-12
Ba140	1.42E-12
La140	6.99E-13
Ce141	4.68E-13
Ce144	1.81E-12
Gross Alpha	1.37E-19

Lower Limit of Detection Aqueous Effluents

Nuclides	LLD (Ci/ml)
H3	1.69E-12
Na24	5.70E-14
Cr51	2.54E-13
Mn54	3.06E-14
Fe55	8.18E-13
Co57	2.69E-14
Co58	3.10E-14
Fe59	7.83E-14
Co60	1.35E-14
Zn65	7.10E-14
Sr85	3.37E-14
Sr89	2.89E-14
Sr-90	1.03E-14
Sr92	1.74E-14
Nb95	3.87E-14
Zr95	6.70E-14
Mo99	2.15E-14
Ag110m	4.18E-14
Sb122	4.78E-14
Te123m	2.64E-14
Sb124	3.60E-14
Sb125	9.24E-14
Te125m	7.79E-12
Sb126	2.73E-14
I131	2.16E-14
I132	3.76E-14
Te132	2.48E-14
I133	3.22E-14
Xe133	7.60E-14
Cs134	4.49E-14
Xe135	2.53E-14
Cs137	4.89E-14
Ba140	8.70E-14
La140	4.62E-14
Ce141	3.96E-14
Ce144	1.93E-13
Gross Alpha	4.66E-14

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

Release ID.....: 1 All Gas Release Types
 Period Start Date....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (min): 5.270E+05
 Coefficient Type.....: Historical
 Unit.....: 1

=== RELEASE DATA =====
 Total Release Duration (minutes)..... 5.844E+05
 Total Release Volume (cf)..... 6.906E+10
 Average Release Flowrate (cfm)..... 1.182E+05

 Average Period Flowrate (cfm)..... 1.310E+05

=== NUCLIDE DATA =====

Nuclide	uCi	Average uCi/cc	EC Ratio	EC
AR-41	6.60E+03	3.38E-12	3.38E-04	1.00E-08
KR-85	3.66E+05	1.87E-10	2.67E-04	7.00E-07
XE-131M	3.40E+04	1.74E-11	8.69E-06	2.00E-06
XE-133M	3.63E+03	1.86E-12	3.10E-06	6.00E-07
XE-133	1.08E+07	5.53E-09	1.11E-02	5.00E-07
XE-135	1.15E+04	5.89E-12	8.41E-05	7.00E-08
F&AG	1.12E+07	5.75E-09	1.18E-02	
I-131	1.26E+02	6.45E-14	3.22E-04	2.00E-10
I-133	1.59E+02	8.12E-14	8.12E-05	1.00E-09
Iodine	2.85E+02	1.46E-13	4.03E-04	
H-3	1.20E+06	6.16E-10	6.16E-03	1.00E-07
H-3	1.20E+06	6.16E-10	6.16E-03	
CR-51	3.77E+00	1.93E-15	6.42E-08	3.00E-08
P>=8	3.77E+00	1.93E-15	6.42E-08	
Total	1.24E+07	6.36E-09	1.83E-02	

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

Release ID.....: 1 All Gas Release Types
 Period Start Date....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (min): 5.270E+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
					31-day	2.25E-01	1.57E+01
					Quarter	5.63E+00	6.28E-01
Admin	Any Organ	INFANT	THYROID	3.53E-02	Annual	1.13E+01	3.14E-01
					31-day	3.00E-01	1.18E+01
					Quarter	7.50E+00	4.71E-01
T.Spec	Any Organ	INFANT	THYROID	3.53E-02	Annual	1.50E+01	2.35E-01

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	2.19E-01
CR-51	6.08E-06
I-131	9.86E+01
I-133	1.16E+00

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (min): 5.270E+05
Coefficient Type.....: Historical
Unit.....: 1

Table with columns: Age/Path, Bone, Liver, Thyroid, Kidney, Lung, GI-Lli, Skin, TB. Rows include various pathways like AGPD, AINHL, AVEG, etc., and a summary section for ADULT, TEEN, CHILD, and INFANT.

Table with columns: Abbreviation, Age Group, Pathway. Rows describe pathways for AGPD, AINHL, AVEG, AGMILK, ACMEAT, ACMILK, TGPD, and TINHL.

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

Release ID.....: 1 All Gas Release Types
 Period Start Date....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (min): 5.270E+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....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (min): 5.270E+05
 Coefficient Type.....: Historical
 Unit.....: 1

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

Limit Type	Dose Type	Dose (mrad)	Limit Period	Limit (mrad)	Percent of Limit
			31-day	1.50E-01	1.51E-01
			Quarter	3.75E+00	6.06E-03
Admin	Gamma	2.27E-04	Annual	7.50E+00	3.03E-03
			31-day	3.00E-01	5.78E-02
			Quarter	7.50E+00	2.31E-03
Admin	Beta	1.73E-04	Annual	1.50E+01	1.16E-03
			31-day	2.00E-01	1.14E-01
			Quarter	5.00E+00	4.54E-03
T.Spec	Gamma	2.27E-04	Annual	1.00E+01	2.27E-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	1.57E+00
KR-85	1.61E-01
XE-131M	1.35E-01
XE-133M	3.03E-02
XE-133	9.75E+01
XE-135	5.65E-01

			31-day	4.00E-01	4.34E-02
			Quarter	1.00E+01	1.73E-03
T.Spec	Beta	1.73E-04	Annual	2.00E+01	8.67E-04

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	1.78E-01
KR-85	5.87E+00
XE-131M	3.10E-01

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (min): 5.270E+05
Coefficient Type.....: Historical
Unit.....: 1

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

Nuclide	Percentage
-----	-----
XE-133M	4.42E-02
XE-133	9.34E+01
XE-135	2.33E-01

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (mins): 5.270E+05
Unit.....: 1

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

=== RELEASE DATA =====
Total Release Duration (minutes)..... 5.399E+05
Total Undiluted Volume Released (gallons)..... NA
Average Undiluted Flowrate (gpm)..... NA
Total Dilution Volume (gallons)..... NA
Average Dilution Flowrate (gpm)..... NA

Table with 2 columns: Nuclide, uCi. Rows include CO-57, SB-125, TE-123M, CR-51, MN-54, CO-58, CO-60, ZR-95, NB-95, TE-125M, TE-132, I-131, I-132, CS-137, Gamma, KR-85M, KR-85, XE-131M, XE-133M, XE-133, XE-135, D&EG, H-3, Beta.

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (mins): 5.270E+05

=== NUCLIDE DATA =====

Nuclide	uCi
-----	-----
-----	-----
Total	1.21E+09

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (mins): 5.270E+05
Unit.....: 1
Receptor.....: 0 Liquid Receptor

Table with 8 columns: Age/Path, Bone, Liver, Thyroid, Kidney, Lung, GI-Lli, Skin, TB. Rows include APWtr, AFWFSp, TPWtr, TFWFSp, CPWtr, CFWFSp, IPWtr.

TOTALS table with 8 columns: Age/Path, Bone, Liver, Thyroid, Kidney, Lung, GI-Lli, Skin, TB. Rows include ADULT, TEEN, CHILD, INFANT.

Table with 3 columns: Abbreviation, Age Group, Pathway. Rows include APWtr, AFWFSp, TPWtr, TFWFSp, CPWtr, CFWFSp, IPWtr.

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

Release ID.....: 1 All Liquid Releases
 Period Start Date.....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (mins): 5.270E+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	6.65E-02	6.65E-02	6.65E-02	6.65E-02	6.65E-02	0.00E+00	6.65E-02
CR-51	0.00E+00	0.00E+00	5.05E-08	1.86E-08	1.12E-07	2.12E-05	0.00E+00	8.45E-08
MN-54	0.00E+00	2.78E-04	0.00E+00	8.28E-05	0.00E+00	8.53E-04	0.00E+00	5.31E-05
CO-58	0.00E+00	2.75E-04	0.00E+00	0.00E+00	0.00E+00	5.58E-03	0.00E+00	6.17E-04
CO-60	0.00E+00	1.22E-04	0.00E+00	0.00E+00	0.00E+00	2.30E-03	0.00E+00	2.70E-04
ZR-95	1.56E-08	5.01E-09	0.00E+00	7.87E-09	0.00E+00	1.59E-05	0.00E+00	3.39E-09
NB-95	4.23E-05	2.35E-05	0.00E+00	2.32E-05	0.00E+00	1.43E-01	0.00E+00	1.26E-05
TE-125M	6.19E-03	2.24E-03	1.86E-03	2.52E-02	0.00E+00	2.47E-02	0.00E+00	8.29E-04
TE-132	7.02E-05	4.54E-05	5.02E-05	4.38E-04	0.00E+00	2.15E-03	0.00E+00	4.27E-05
I-131	8.02E-07	1.15E-06	3.76E-04	1.97E-06	0.00E+00	3.03E-07	0.00E+00	6.58E-07
I-132	2.33E-07	6.24E-07	2.18E-05	9.93E-07	0.00E+00	1.17E-07	0.00E+00	2.18E-07
CS-137	1.55E-04	2.12E-04	0.00E+00	7.20E-05	2.39E-05	4.10E-06	0.00E+00	1.39E-04
TEEN								
H-3	0.00E+00	4.99E-02	4.99E-02	4.99E-02	4.99E-02	4.99E-02	0.00E+00	4.99E-02
CR-51	0.00E+00	0.00E+00	4.84E-08	1.91E-08	1.24E-07	1.46E-05	0.00E+00	8.70E-08
MN-54	0.00E+00	2.74E-04	0.00E+00	8.17E-05	0.00E+00	5.62E-04	0.00E+00	5.43E-05
CO-58	0.00E+00	2.74E-04	0.00E+00	0.00E+00	0.00E+00	3.77E-03	0.00E+00	6.30E-04
CO-60	0.00E+00	1.22E-04	0.00E+00	0.00E+00	0.00E+00	1.59E-03	0.00E+00	2.75E-04
ZR-95	1.60E-08	5.05E-09	0.00E+00	7.42E-09	0.00E+00	1.17E-05	0.00E+00	3.47E-09
NB-95	4.26E-05	2.36E-05	0.00E+00	2.29E-05	0.00E+00	1.01E-01	0.00E+00	1.30E-05
TE-125M	6.74E-03	2.43E-03	1.88E-03	0.00E+00	0.00E+00	1.99E-02	0.00E+00	9.01E-04
TE-132	7.41E-05	4.69E-05	4.95E-05	4.50E-04	0.00E+00	1.49E-03	0.00E+00	4.42E-05
I-131	8.58E-07	1.20E-06	3.50E-04	2.07E-06	0.00E+00	2.37E-07	0.00E+00	6.45E-07
I-132	2.44E-07	6.38E-07	2.15E-05	1.00E-06	0.00E+00	2.78E-07	0.00E+00	2.29E-07
CS-137	1.66E-04	2.21E-04	0.00E+00	7.51E-05	2.92E-05	3.14E-06	0.00E+00	7.69E-05
CHILD								
H-3	0.00E+00	5.56E-02	5.56E-02	5.56E-02	5.56E-02	5.56E-02	0.00E+00	5.56E-02
CR-51	0.00E+00	0.00E+00	5.16E-08	1.41E-08	9.43E-08	4.93E-06	0.00E+00	9.30E-08
MN-54	0.00E+00	2.14E-04	0.00E+00	6.01E-05	0.00E+00	1.80E-04	0.00E+00	5.71E-05
CO-58	0.00E+00	2.20E-04	0.00E+00	0.00E+00	0.00E+00	1.29E-03	0.00E+00	6.74E-04
CO-60	0.00E+00	1.00E-04	0.00E+00	0.00E+00	0.00E+00	5.54E-04	0.00E+00	2.95E-04
ZR-95	2.17E-08	4.77E-09	0.00E+00	6.83E-09	0.00E+00	4.98E-06	0.00E+00	4.25E-09
NB-95	5.03E-05	1.96E-05	0.00E+00	1.84E-05	0.00E+00	3.62E-02	0.00E+00	1.40E-05
TE-125M	8.66E-03	2.35E-03	2.43E-03	0.00E+00	0.00E+00	8.35E-03	0.00E+00	1.15E-03
TE-132	9.26E-05	4.10E-05	5.97E-05	3.81E-04	0.00E+00	4.13E-04	0.00E+00	4.95E-05
I-131	1.12E-06	1.12E-06	3.72E-04	1.84E-06	0.00E+00	1.00E-07	0.00E+00	6.39E-07
I-132	3.10E-07	5.69E-07	2.64E-05	8.71E-07	0.00E+00	6.69E-07	0.00E+00	2.62E-07

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (mins): 5.270E+05

=== PERMIT ORGAN DOSE BY AGE GROUP AND NUCLIDE (mrem) =====
Agegroup Bone Liver Thyroid Kidney Lung GI-Lli Skin TB

CS-137 2.09E-04 2.00E-04 0.00E+00 6.52E-05 2.35E-05 1.25E-06 0.00E+00 2.95E-05

INFANT
H-3 0.00E+00 2.46E-02 2.46E-02 2.46E-02 2.46E-02 2.46E-02 0.00E+00 2.46E-02
CR-51 0.00E+00 0.00E+00 2.29E-10 5.00E-11 4.46E-10 1.02E-08 0.00E+00 3.51E-10
MN-54 0.00E+00 4.76E-07 0.00E+00 1.05E-07 0.00E+00 1.75E-07 0.00E+00 1.08E-07
CO-58 0.00E+00 4.15E-06 0.00E+00 0.00E+00 0.00E+00 1.03E-05 0.00E+00 1.04E-05
CO-60 0.00E+00 1.93E-06 0.00E+00 0.00E+00 0.00E+00 4.58E-06 0.00E+00 4.55E-06
ZR-95 4.56E-09 1.11E-09 0.00E+00 1.20E-09 0.00E+00 5.54E-07 0.00E+00 7.88E-10
NB-95 1.50E-09 6.16E-10 0.00E+00 4.42E-10 0.00E+00 5.20E-07 0.00E+00 3.56E-10
TE-125M 2.11E-05 7.06E-06 7.10E-06 0.00E+00 0.00E+00 1.01E-05 0.00E+00 2.85E-06
TE-132 2.28E-07 1.13E-07 1.66E-07 7.05E-07 0.00E+00 4.17E-07 0.00E+00 1.05E-07
I-131 7.09E-08 8.35E-08 2.74E-05 9.75E-08 0.00E+00 2.98E-09 0.00E+00 3.67E-08
I-132 1.95E-08 3.96E-08 1.86E-06 4.42E-08 0.00E+00 3.21E-08 0.00E+00 1.41E-08
CS-137 7.98E-08 9.34E-08 0.00E+00 2.51E-08 1.01E-08 2.92E-10 0.00E+00 6.62E-09

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (mins): 5.270E+05
Unit.....: 1
Receptor.....: 0 Liquid Receptor

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

Table with 8 columns: Limit Type, Organ Type, Age Group, Organ, Dose (mrem), Limit Period, Limit (mrem), Percent of Limit. Rows include Admin Any Organ ADULT GILLI and Admin Tot Body ADULT TBODY.

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

Table with 2 columns: Nuclide, Percentage. Lists nuclides like H-3, CR-51, MN-54, CO-58, CO-60, ZR-95, NB-95, TE-125M, TE-132, I-131, I-132, CS-137.

Table with 8 columns: Limit Type, Organ Type, Age Group, Organ, Dose (mrem), Limit Period, Limit (mrem), Percent of Limit. Row includes T.Spec Tot Body ADULT TBODY.

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

Table with 2 columns: Nuclide, Percentage. Lists nuclide H-3.

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

Release ID.....: 1 All Liquid Releases
 Period Start Date.....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (mins): 5.270E+05

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

Nuclide	Percentage
-----	-----
CR-51	1.23E-04
MN-54	7.76E-02
CO-58	9.02E-01
CO-60	3.94E-01
ZR-95	4.96E-06
NB-95	1.85E-02
TE-125M	1.21E+00
TE-132	6.23E-02
I-131	9.61E-04
I-132	3.19E-04
CS-137	2.03E-01

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

Release ID.....: 1 All Gas Release Types
 Period Start Date....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (min): 5.270E+05
 Coefficient Type.....: Historical
 Unit.....: 2

=== RELEASE DATA ===
 Total Release Duration (minutes)..... 5.808E+05
 Total Release Volume (cf)..... 7.637E+10
 Average Release Flowrate (cfm)..... 1.315E+05
 Average Period Flowrate (cfm)..... 1.449E+05

=== NUCLIDE DATA ===

Nuclide	uCi	Average uCi/cc	EC Ratio	EC
AR-41	5.63E+03	2.61E-12	2.61E-04	1.00E-08
KR-85	3.66E+05	1.69E-10	2.42E-04	7.00E-07
XE-131M	3.40E+04	1.57E-11	7.85E-06	2.00E-06
XE-133M	1.33E+03	6.16E-13	1.03E-06	6.00E-07
XE-133	4.54E+06	2.10E-09	4.20E-03	5.00E-07
XE-135	5.83E+02	2.70E-13	3.85E-06	7.00E-08
F&AG	4.94E+06	2.29E-09	4.71E-03	
I-131	3.98E+01	1.84E-14	9.19E-05	2.00E-10
I-133	2.83E+01	1.31E-14	1.31E-05	1.00E-09
Iodine	6.80E+01	3.15E-14	1.05E-04	
H-3	1.51E+06	6.98E-10	6.98E-03	1.00E-07
H-3	1.51E+06	6.98E-10	6.98E-03	
SN-113	6.17E-01	2.85E-16	3.57E-07	8.00E-10
P>=8	6.17E-01	2.85E-16	3.57E-07	
Total	6.45E+06	2.98E-09	1.18E-02	

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (min): 5.270E+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
					31-day	2.25E-01	4.96E+00
					Quarter	5.63E+00	1.98E-01
Admin	Any Organ	INFANT	THYROID	1.12E-02	Annual	1.13E+01	9.92E-02
					31-day	3.00E-01	3.72E+00
					Quarter	7.50E+00	1.49E-01
T.Spec	Any Organ	INFANT	THYROID	1.12E-02	Annual	1.50E+01	7.44E-02

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	8.69E-01
I-131	9.85E+01
I-133	6.52E-01

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (min): 5.270E+05
Coefficient Type.....: Historical
Unit.....: 2

Table with 9 columns: Age/Path, Bone, Liver, Thyroid, Kidney, Lung, GI-Lli, Skin, TB. Rows include various pathways like AGPD, AINHL, AVEG, etc., and a summary section for ADULT, TEEN, CHILD, and INFANT.

Table with 3 columns: Abbreviation, Age Group, Pathway. Descriptions for AGPD, AINHL, AVEG, AGMILK, ACMEAT, ACMILK, TGPD, and TINHL.

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

Release ID.....: 1 All Gas Release Types
 Period Start Date....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (min): 5.270E+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....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (min): 5.270E+05
 Coefficient Type.....: Historical
 Unit.....: 2

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

Limit Type	Dose Type	Dose (mrad)	Limit Period	Limit (mrad)	Percent of Limit
			31-day	1.50E-01	6.45E-02
			Quarter	3.75E+00	2.58E-03
Admin	Gamma	9.67E-05	Annual	7.50E+00	1.29E-03
			31-day	3.00E-01	2.63E-02
			Quarter	7.50E+00	1.05E-03
Admin	Beta	7.89E-05	Annual	1.50E+01	5.26E-04
			31-day	2.00E-01	4.84E-02
			Quarter	5.00E+00	1.93E-03
T.Spec	Gamma	9.67E-05	Annual	1.00E+01	9.67E-04

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	3.14E+00
KR-85	3.78E-01
XE-131M	3.18E-01
XE-133M	2.61E-02
XE-133	9.61E+01
XE-135	6.71E-02

			31-day	4.00E-01	1.97E-02
			Quarter	1.00E+01	7.89E-04
T.Spec	Beta	7.89E-05	Annual	2.00E+01	3.95E-04

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	3.34E-01
KR-85	1.29E+01
XE-131M	6.81E-01

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (min): 5.270E+05
Coefficient Type.....: Historical
Unit.....: 2

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

Nuclide	Percentage
-----	-----
XE-133M	3.56E-02
XE-133	8.60E+01
XE-135	2.59E-02

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (mins): 5.270E+05
Unit.....: 2

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

=== RELEASE DATA =====
Total Release Duration (minutes)..... 5.399E+05
Total Undiluted Volume Released (gallons)..... NA
Average Undiluted Flowrate (gpm)..... NA
Total Dilution Volume (gallons)..... NA
Average Dilution Flowrate (gpm)..... NA

Table with 2 columns: Nuclide, uCi. Rows include CO-57, SB-125, TE-123M, CR-51, MN-54, CO-58, CO-60, ZR-95, NB-95, TE-125M, TE-132, I-131, I-132, CS-137, Gamma, KR-85M, KR-85, XE-131M, XE-133M, XE-133, XE-135, D&EG, H-3, Beta.

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (mins): 5.270E+05

=== NUCLIDE DATA =====

Nuclide	uCi
-----	-----
-----	-----
Total	1.21E+09

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (mins): 5.270E+05
Unit.....: 2
Receptor.....: 0 Liquid Receptor

Table with 8 columns: Age/Path, Bone, Liver, Thyroid, Kidney, Lung, GI-Lli, Skin, TB. Rows include APWtr, AFWFSp, TPWtr, TFWFSp, CPWtr, CFWFSp, IPWtr.

TOTALS table with 8 columns: Age/Path, Bone, Liver, Thyroid, Kidney, Lung, GI-Lli, Skin, TB. Rows include ADULT, TEEN, CHILD, INFANT.

Table with 3 columns: Abbreviation, Age Group, Pathway. Rows include APWtr, AFWFSp, TPWtr, TFWFSp, CPWtr, CFWFSp, IPWtr.

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (mins): 5.270E+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

Table with 9 columns: Agegroup, Bone, Liver, Thyroid, Kidney, Lung, GI-Lli, Skin, TB. Rows include H-3, CR-51, MN-54, CO-58, CO-60, ZR-95, NB-95, TE-125M, TE-132, I-131, I-132, CS-137.

TEEN

Table with 9 columns: Agegroup, Bone, Liver, Thyroid, Kidney, Lung, GI-Lli, Skin, TB. Rows include H-3, CR-51, MN-54, CO-58, CO-60, ZR-95, NB-95, TE-125M, TE-132, I-131, I-132, CS-137.

CHILD

Table with 9 columns: Agegroup, Bone, Liver, Thyroid, Kidney, Lung, GI-Lli, Skin, TB. Rows include H-3, CR-51, MN-54, CO-58, CO-60, ZR-95, NB-95, TE-125M, TE-132, I-131, I-132.

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (mins): 5.270E+05

=== PERMIT ORGAN DOSE BY AGE GROUP AND NUCLIDE (mrem) =====								
Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
CS-137	2.09E-04	2.00E-04	0.00E+00	6.52E-05	2.35E-05	1.25E-06	0.00E+00	2.95E-05

INFANT

H-3	0.00E+00	2.46E-02	2.46E-02	2.46E-02	2.46E-02	2.46E-02	0.00E+00	2.46E-02
CR-51	0.00E+00	0.00E+00	2.29E-10	5.00E-11	4.46E-10	1.02E-08	0.00E+00	3.51E-10
MN-54	0.00E+00	4.76E-07	0.00E+00	1.05E-07	0.00E+00	1.75E-07	0.00E+00	1.08E-07
CO-58	0.00E+00	4.15E-06	0.00E+00	0.00E+00	0.00E+00	1.03E-05	0.00E+00	1.04E-05
CO-60	0.00E+00	1.93E-06	0.00E+00	0.00E+00	0.00E+00	4.58E-06	0.00E+00	4.55E-06
ZR-95	4.56E-09	1.11E-09	0.00E+00	1.20E-09	0.00E+00	5.54E-07	0.00E+00	7.88E-10
NB-95	1.50E-09	6.16E-10	0.00E+00	4.42E-10	0.00E+00	5.20E-07	0.00E+00	3.56E-10
TE-125M	2.11E-05	7.06E-06	7.10E-06	0.00E+00	0.00E+00	1.01E-05	0.00E+00	2.85E-06
TE-132	2.28E-07	1.13E-07	1.66E-07	7.05E-07	0.00E+00	4.17E-07	0.00E+00	1.05E-07
I-131	7.09E-08	8.35E-08	2.74E-05	9.75E-08	0.00E+00	2.98E-09	0.00E+00	3.67E-08
I-132	1.95E-08	3.96E-08	1.86E-06	4.42E-08	0.00E+00	3.21E-08	0.00E+00	1.41E-08
CS-137	7.98E-08	9.34E-08	0.00E+00	2.51E-08	1.01E-08	2.92E-10	0.00E+00	6.62E-09

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

Release ID.....: 1 All Liquid Releases
 Period Start Date.....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (mins): 5.270E+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
					31-day	1.50E-01	1.63E+02
					Quarter	3.75E+00	6.53E+00
Admin	Any Organ	ADULT	GILLI	2.45E-01	Annual	7.50E+00	3.26E+00
					31-day	4.50E-02	1.52E+02
					Quarter	1.13E+00	6.08E+00
Admin	Tot Body	ADULT	TBODY	6.84E-02	Annual	2.25E+00	3.04E+00
					31-day	2.00E-01	1.22E+02
					Quarter	5.00E+00	4.90E+00
T.Spec	Any Organ	ADULT	GILLI	2.45E-01	Annual	1.00E+01	2.45E+00

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

Nuclide	Percentage
H-3	2.72E+01
CR-51	8.67E-03
MN-54	3.48E-01
CO-58	2.28E+00
CO-60	9.38E-01
ZR-95	6.49E-03
NB-95	5.83E+01
TE-125M	1.01E+01
TE-132	8.78E-01
I-131	1.24E-04
I-132	4.78E-05
CS-137	1.68E-03

					31-day	6.00E-02	1.14E+02
					Quarter	1.50E+00	4.56E+00
T.Spec	Tot Body	ADULT	TBODY	6.84E-02	Annual	3.00E+00	2.28E+00

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

Nuclide	Percentage
H-3	9.71E+01

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (mins): 5.270E+05

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

Nuclide	Percentage
-----	-----
CR-51	1.23E-04
MN-54	7.76E-02
CO-58	9.02E-01
CO-60	3.94E-01
ZR-95	4.96E-06
NB-95	1.85E-02
TE-125M	1.21E+00
TE-132	6.23E-02
I-131	9.61E-04
I-132	3.19E-04
CS-137	2.03E-01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

							Liquid Receptor	
=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ===							QUARTER 1	
Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	1.28E-06	2.09E-03	2.08E-03	2.09E-03	2.08E-03	2.23E-03	0.00E+00	2.09E-03
TEEN	1.35E-06	1.57E-03	1.56E-03	1.57E-03	1.56E-03	1.66E-03	0.00E+00	1.57E-03
CHILD	1.69E-06	1.74E-03	1.74E-03	1.75E-03	1.74E-03	1.77E-03	0.00E+00	1.75E-03
INFANT	4.50E-09	7.70E-04	7.70E-04	7.70E-04	7.70E-04	7.70E-04	0.00E+00	7.70E-04

=== SITE DOSE LIMIT ANALYSIS === QUARTER 1

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 1 - Admin. Any Organ	ADULT	GILLI	2.23E-03	3.75E+00	5.95E-02
Qtr 1 - Admin. Total Body	ADULT	TBODY	2.09E-03	1.13E+00	1.86E-01

Qtr 1 - T.Spc. Any Organ ADULT GILLI 2.23E-03 5.00E+00 4.46E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.33E+01
CR-51	8.12E-03
CO-58	3.80E+00
CO-60	1.10E+00
TE-132	1.75E+00
I-132	9.84E-05

Qtr 1 - T.Spc. Total Body ADULT TBODY 2.09E-03 1.50E+00 1.40E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.94E+01
CR-51	3.44E-05
CO-58	4.47E-01
CO-60	1.38E-01
TE-132	3.70E-02
I-132	1.95E-04

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

Liquid Receptor

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	3.36E-04	5.90E-04	5.86E-04	1.83E-03	4.57E-04	2.05E-03	0.00E+00	5.21E-04
TEEN	3.65E-04	4.85E-04	4.71E-04	3.66E-04	3.43E-04	1.59E-03	0.00E+00	4.12E-04
CHILD	4.69E-04	5.18E-04	5.41E-04	4.01E-04	3.82E-04	8.88E-04	0.00E+00	4.66E-04
INFANT	1.15E-06	1.69E-04	1.71E-04	1.69E-04	1.69E-04	1.70E-04	0.00E+00	1.69E-04

=== SITE DOSE LIMIT ANALYSIS === QUARTER 2 ===

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 2 - Admin. Any Organ	ADULT	GILLI	2.05E-03	3.75E+00	5.48E-02
Qtr 2 - Admin. Total Body	ADULT	TBODY	5.21E-04	1.13E+00	4.63E-02

Qtr 2 - T.Spc. Any Organ ADULT GILLI 2.05E-03 5.00E+00 4.11E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	2.22E+01
MN-54	3.62E-01
CO-58	6.28E+00
CO-60	1.33E+00
TE-125M	6.46E+01
TE-132	5.23E+00
I-131	9.99E-04
I-132	2.82E-04

Qtr 2 - T.Spc. Total Body ADULT TBODY 5.21E-04 1.50E+00 3.47E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.76E+01
MN-54	8.88E-02
CO-58	2.74E+00
CO-60	6.17E-01
TE-125M	8.54E+00
TE-132	4.09E-01
I-131	8.55E-03
I-132	2.07E-03

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LIQUID DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

Liquid Receptor

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	4.16E-05	9.86E-04	9.62E-04	1.12E-03	9.50E-04	8.25E-03	0.00E+00	9.80E-04
TEEN	4.51E-05	7.50E-04	7.25E-04	7.17E-04	7.13E-04	5.88E-03	0.00E+00	7.44E-04
CHILD	5.78E-05	8.26E-04	8.10E-04	7.97E-04	7.94E-04	2.65E-03	0.00E+00	8.29E-04
INFANT	1.35E-07	3.52E-04	3.52E-04	3.52E-04	3.52E-04	3.52E-04	0.00E+00	3.52E-04

SITE DOSE LIMIT ANALYSIS QUARTER 3

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 3 - Admin. Any Organ	ADULT	GILLI	8.25E-03	3.75E+00	2.20E-01
Qtr 3 - Admin. Total Body	ADULT	TBODY	9.80E-04	1.13E+00	8.72E-02

Qtr 3 - T.Spc. Any Organ ADULT GILLI 8.25E-03 5.00E+00 1.65E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	1.15E+01
CR-51	1.56E-02
MN-54	3.80E-01
CO-58	1.61E+00
CO-60	7.85E-01
ZR-95	9.90E-03
NB-95	8.38E+01
TE-125M	1.92E+00

Qtr 3 - T.Spc. Total Body ADULT TBODY 9.80E-04 1.50E+00 6.54E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.69E+01
CR-51	5.21E-04
MN-54	1.99E-01
CO-58	1.50E+00
CO-60	7.75E-01
ZR-95	1.78E-05
NB-95	6.24E-02
TE-125M	5.40E-01

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LIQUID DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

							Liquid Receptor	
=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ===							QUARTER 4	
Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	6.15E-05	2.08E-03	2.05E-03	2.24E-03	2.03E-03	5.31E-03	0.00E+00	2.06E-03
TEEN	6.66E-05	1.57E-03	1.54E-03	1.53E-03	1.53E-03	3.86E-03	0.00E+00	1.55E-03
CHILD	8.53E-05	1.74E-03	1.72E-03	1.70E-03	1.70E-03	2.54E-03	0.00E+00	1.72E-03
INFANT	1.76E-07	7.52E-04	7.52E-04	7.52E-04	7.52E-04	7.52E-04	0.00E+00	7.52E-04

=== SITE DOSE LIMIT ANALYSIS === QUARTER 4

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 4 - Admin. Any Organ	ADULT	GILLI	5.31E-03	3.75E+00	1.41E-01
Qtr 4 - Admin. Total Body	ADULT	TBODY	2.06E-03	1.13E+00	1.83E-01

Qtr 4 - T.Spc. Any Organ ADULT GILLI 5.31E-03 5.00E+00 1.06E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.83E+01
MN-54	3.81E-01
CO-58	6.95E-01
CO-60	7.91E-01
ZR-95	5.33E-03
NB-95	5.61E+01
TE-125M	3.75E+00
CS-137	5.39E-03

Qtr 4 - T.Spc. Total Body ADULT TBODY 2.06E-03 1.50E+00 1.37E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.87E+01
MN-54	6.11E-02
CO-58	1.98E-01
CO-60	2.40E-01
ZR-95	2.94E-06
NB-95	1.28E-02
TE-125M	3.24E-01
CS-137	4.71E-01

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LIQUID DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

Agegrp	Liquid Receptor							
	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	4.47E-04	5.71E-03	5.64E-03	7.27E-03	5.49E-03	1.78E-02	0.00E+00	5.62E-03
TEEN	4.86E-04	4.35E-03	4.27E-03	4.16E-03	4.12E-03	1.30E-02	0.00E+00	4.25E-03
CHILD	6.24E-04	4.80E-03	4.78E-03	4.62E-03	4.58E-03	7.84E-03	0.00E+00	4.74E-03
INFANT	1.49E-06	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03	0.00E+00	2.03E-03

=== SITE DOSE LIMIT ANALYSIS === ANNUAL 2004 ===

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2004 - Admin. Any Organ	ADULT	GILLI	1.78E-02	7.50E+00	2.38E-01
2004 - Admin. Total Body	ADULT	TBODY	5.62E-03	2.25E+00	2.50E-01

2004 - T.Spc. Any Organ ADULT GILLI 1.78E-02 1.00E+01 1.78E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.07E+01
CR-51	8.25E-03
MN-54	3.31E-01
CO-58	2.17E+00
CO-60	8.92E-01
ZR-95	6.17E-03
NB-95	5.54E+01
TE-125M	9.60E+00
TE-132	8.35E-01
I-131	1.18E-04
I-132	4.55E-05
CS-137	1.59E-03

2004 - T.Spc. Total Body ADULT TBODY 5.62E-03 3.00E+00 1.87E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.76E+01
CR-51	1.04E-04
MN-54	6.55E-02
CO-58	7.61E-01
CO-60	3.33E-01
ZR-95	4.18E-06

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Nuclide	Percentage
NB-95	1.56E-02
TE-125M	1.02E+00
TE-132	5.26E-02
I-131	8.11E-04
I-132	2.69E-04
CS-137	1.71E-01

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GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004
Unit Range - From: 1 To: 1

I&P DOSE LIMIT ANALYSIS QUARTER 1

Table with 6 columns: Quartr - Limit, Age Group, Organ, Dose (mrem), Limit (mrem), Max % of Limit. Rows include Admin. Any Organ and Admin. Total Body for INFANT and CHILD groups.

Qtr 1 - T.Spc. Any Organ INFANT THYROID 1.73E-02 7.50E+00 2.31E-01
Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)
Nuclide Percentage
H-3 3.14E-01
I-131 9.95E+01
I-133 1.69E-01

Qtr 1 - T.Spc. Total Body CHILD TBODY 8.31E-05 7.50E+00 1.11E-03
Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)
Nuclide Percentage
H-3 8.43E+01
I-131 1.57E+01
I-133 3.71E-02

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

==== NG DOSE LIMIT ANALYSIS ===== QUARTER 1 =====

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 1 - Admin. Gamma	6.96E-05	3.75E+00	1.86E-03
Qtr 1 - Admin. Beta	5.52E-05	7.50E+00	7.35E-04

Qtr 1 - T.Spc. Gamma 6.96E-05 5.00E+00 1.39E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.01E+00
KR-85	2.79E-01
XE-135	1.28E+00
XE-133M	9.16E-02
XE-131M	3.37E-01
XE-133	9.60E+01

Qtr 1 - T.Spc. Beta 5.52E-05 1.00E+01 5.52E-04

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.20E-01
KR-85	9.80E+00
XE-135	5.08E-01
XE-133M	1.29E-01
XE-131M	7.43E-01
XE-133	8.86E+01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

==== I&P DOSE LIMIT ANALYSIS ===== QUARTER 2 =====

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 2 - Admin. Any Organ	INFANT	THYROID	1.18E-02	5.63E+00	2.10E-01
Qtr 2 - Admin. Total Body	CHILD	TBODY	4.07E-05	5.25E+00	7.76E-04

Qtr 2 - T.Spc. Any Organ INFANT THYROID 1.18E-02 7.50E+00 1.57E-01

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	2.10E-01
I-131	9.95E+01
I-133	3.09E-01

Qtr 2 - T.Spc. Total Body CHILD TBODY 4.07E-05 7.50E+00 5.43E-04

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	7.81E+01
I-131	2.18E+01
I-133	9.43E-02

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004
Unit Range - From: 1 To: 1

==== NG DOSE LIMIT ANALYSIS ===== QUARTER 2 =====

Table with 4 columns: Quartr - Limit, Dose (mrad), Limit (mrad), Max % of Limit. Rows include Admin. Gamma and Admin. Beta for Qtr 2.

Qtr 2 - T.Spc. Gamma 1.09E-04 5.00E+00 2.17E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Table with 2 columns: Nuclide, Percentage. Lists nuclides AR-41, KR-85, XE-135, XE-133M, XE-131M, XE-133.

Qtr 2 - T.Spc. Beta 8.26E-05 1.00E+01 8.26E-04

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Table with 2 columns: Nuclide, Percentage. Lists nuclides AR-41, KR-85, XE-135, XE-133M, XE-131M, XE-133.

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

==== I&P DOSE LIMIT ANALYSIS ===== QUARTER 3 =====

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 3 - Admin. Any Organ	INFANT	THYROID	1.05E-02	5.63E+00	1.86E-01
Qtr 3 - Admin. Total Body	CHILD	TBODY	5.38E-05	5.25E+00	1.02E-03

Qtr 3 - T.Spc. Any Organ INFANT THYROID 1.05E-02 7.50E+00 1.39E-01

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.41E-01
CR-51	2.05E-05
I-131	9.75E+01
I-133	2.20E+00

Qtr 3 - T.Spc. Total Body CHILD TBODY 5.38E-05 7.50E+00 7.17E-04

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.52E+01
CR-51	4.10E-03
I-131	1.43E+01
I-133	4.50E-01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

==== NG DOSE LIMIT ANALYSIS ===== QUARTER 3 =====

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 3 - Admin. Gamma	5.80E-05	3.75E+00	1.55E-03
Qtr 3 - Admin. Beta	4.37E-05	7.50E+00	5.83E-04

Qtr 3 - T.Spc. Gamma 5.80E-05 5.00E+00 1.16E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.70E+00
KR-85	1.49E-01
XE-135	1.40E-01
XE-131M	6.00E-02
XE-133	9.69E+01

Qtr 3 - T.Spc. Beta 4.37E-05 1.00E+01 4.37E-04

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	3.11E-01
KR-85	5.51E+00
XE-135	5.85E-02
XE-131M	1.39E-01
XE-133	9.40E+01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

==== I&P DOSE LIMIT ANALYSIS ===== QUARTER 4 =====

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 4 - Admin. Any Organ	INFANT	THYROID	6.86E-03	5.63E+00	1.22E-01
Qtr 4 - Admin. Total Body	CHILD	TBODY	8.15E-05	5.25E+00	1.55E-03

Qtr 4 - T.Spc. Any Organ INFANT THYROID 6.86E-03 7.50E+00 9.15E-02

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.65E-01
I-131	9.64E+01
I-133	2.71E+00

Qtr 4 - T.Spc. Total Body CHILD TBODY 8.15E-05 7.50E+00 1.09E-03

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.36E+01
I-131	6.13E+00
I-133	2.40E-01

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GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

==== NG DOSE LIMIT ANALYSIS ===== QUARTER 4 =====

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 4 - Admin. Gamma	8.77E-05	3.75E+00	2.34E-03
Qtr 4 - Admin. Beta	7.09E-05	7.50E+00	9.46E-04

Qtr 4 - T.Spc. Gamma 8.77E-05 5.00E+00 1.75E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	3.27E+00
KR-85	3.62E-01
XE-135	4.96E-02
XE-133M	2.30E-03
XE-131M	1.02E-01
XE-133	9.62E+01

Qtr 4 - T.Spc. Beta 7.09E-05 1.00E+01 7.09E-04

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	3.50E-01
KR-85	1.25E+01
XE-135	1.93E-02
XE-133M	3.16E-03
XE-131M	2.21E-01
XE-133	8.70E+01

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GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

==== I&P DOSE LIMIT ANALYSIS ===== ANNUAL 2004 =====

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2004 - Admin. Any Organ	INFANT	THYROID	4.65E-02	1.13E+01	4.13E-01
2004 - Admin. Total Body	CHILD	TBODY	2.59E-04	1.05E+01	2.47E-03

2004 - T.Spc. Any Organ INFANT THYROID 4.65E-02 1.50E+01 3.10E-01

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.75E-01
CR-51	4.62E-06
I-131	9.86E+01
I-133	1.04E+00

2004 - T.Spc. Total Body CHILD TBODY 2.59E-04 1.50E+01 1.73E-03

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.65E+01
CR-51	8.51E-04
I-131	1.33E+01
I-133	1.96E-01

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GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004

Unit Range - From: 1 To: 1

==== NG DOSE LIMIT ANALYSIS ===== ANNUAL 2004 =====

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
2004 - Admin. Gamma	3.24E-04	7.50E+00	4.32E-03
2004 - Admin. Beta	2.52E-04	1.50E+01	1.68E-03

2004 - T.Spc. Gamma 3.24E-04 1.00E+01 3.24E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.04E+00
KR-85	2.26E-01
XE-135	4.16E-01
XE-133M	2.91E-02
XE-131M	1.90E-01
XE-133	9.71E+01

2004 - T.Spc. Beta 2.52E-04 2.00E+01 1.26E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.27E-01
KR-85	8.06E+00
XE-135	1.68E-01
XE-133M	4.15E-02
XE-131M	4.26E-01
XE-133	9.11E+01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Byron Station Unit One 2004

Report for: 2004
Unit Range - From: 1 To: 1

=== MAXIMUM DOSE ANALYSIS === ANNUAL 2004 ===

Dose Type Age Group Organ Dose (mrem)
Any Organ INFANT THYROID 4.85E-02
Liquid Receptor: 0 Liquid Receptor
Gaseous Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Liquid Dose: 2.03E-03 % of Total: 4.19E+00

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

Table with 2 columns: Nuclide, Percentage. Lists nuclides like H-3, CR-51, MN-54, CO-58, CO-60, ZR-95, NB-95, TE-125M, TE-132, I-131, I-132, CS-137 with their respective percentages.

Gaseous Dose: 4.65E-02 % of Total: 9.58E+01

Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Table with 2 columns: Nuclide, Percentage. Lists nuclides like H-3, CR-51, I-131, I-133 with their respective percentages.

=== MAXIMUM DOSE ANALYSIS === ANNUAL 2004 ===

Dose Type Age Group Organ Dose (mrem)
Total Body ADULT TBODY 5.77E-03
Liquid Receptor: 0 Liquid Receptor
Gaseous Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

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Liquid Dose: 5.62E-03 % of Total: 9.74E+01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.76E+01
CR-51	1.04E-04
MN-54	6.55E-02
CO-58	7.61E-01
CO-60	3.33E-01
ZR-95	4.18E-06
NB-95	1.56E-02
TE-125M	1.02E+00
TE-132	5.26E-02
I-131	8.11E-04
I-132	2.69E-04
CS-137	1.71E-01

Gaseous Dose: 1.49E-04 % of Total: 2.58E+00

Critical Pathway: Vegetation (VEG)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.15E+01
CR-51	1.44E-03
I-131	8.36E+00
I-133	1.29E-01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

Liquid Receptor

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	1.28E-06	2.09E-03	2.08E-03	2.09E-03	2.08E-03	2.23E-03	0.00E+00	2.09E-03
TEEN	1.35E-06	1.57E-03	1.56E-03	1.57E-03	1.56E-03	1.66E-03	0.00E+00	1.57E-03
CHILD	1.69E-06	1.74E-03	1.74E-03	1.75E-03	1.74E-03	1.77E-03	0.00E+00	1.75E-03
INFANT	4.50E-09	7.70E-04	7.70E-04	7.70E-04	7.70E-04	7.70E-04	0.00E+00	7.70E-04

SITE DOSE LIMIT ANALYSIS QUARTER 1

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 1 - Admin. Any Organ	ADULT	GILLI	2.23E-03	3.75E+00	5.95E-02
Qtr 1 - Admin. Total Body	ADULT	TBODY	2.09E-03	1.13E+00	1.86E-01

Qtr 1 - T.Spc. Any Organ ADULT GILLI 2.23E-03 5.00E+00 4.46E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.33E+01
CR-51	8.12E-03
CO-58	3.80E+00
CO-60	1.10E+00
TE-132	1.75E+00
I-132	9.84E-05

Qtr 1 - T.Spc. Total Body ADULT TBODY 2.09E-03 1.50E+00 1.40E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.94E+01
CR-51	3.44E-05
CO-58	4.47E-01
CO-60	1.38E-01
TE-132	3.70E-02
I-132	1.95E-04

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LIQUID DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

							Liquid Receptor	
=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ===							QUARTER 2	
Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	3.36E-04	5.90E-04	5.86E-04	1.83E-03	4.57E-04	2.05E-03	0.00E+00	5.21E-04
TEEN	3.65E-04	4.85E-04	4.71E-04	3.66E-04	3.43E-04	1.59E-03	0.00E+00	4.12E-04
CHILD	4.69E-04	5.18E-04	5.41E-04	4.01E-04	3.82E-04	8.88E-04	0.00E+00	4.66E-04
INFANT	1.15E-06	1.69E-04	1.71E-04	1.69E-04	1.69E-04	1.70E-04	0.00E+00	1.69E-04

=== SITE DOSE LIMIT ANALYSIS ===						QUARTER 2
Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit	
Qtr 2 - Admin. Any Organ	ADULT	GILLI	2.05E-03	3.75E+00	5.48E-02	
Qtr 2 - Admin. Total Body	ADULT	TBODY	5.21E-04	1.13E+00	4.63E-02	

Qtr 2 - T.Spc. Any Organ ADULT GILLI 2.05E-03 5.00E+00 4.11E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	2.22E+01
MN-54	3.62E-01
CO-58	6.28E+00
CO-60	1.33E+00
TE-125M	6.46E+01
TE-132	5.23E+00
I-131	9.99E-04
I-132	2.82E-04

Qtr 2 - T.Spc. Total Body ADULT TBODY 5.21E-04 1.50E+00 3.47E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.76E+01
MN-54	8.88E-02
CO-58	2.74E+00
CO-60	6.17E-01
TE-125M	8.54E+00
TE-132	4.09E-01
I-131	8.55E-03
I-132	2.07E-03

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

Liquid Receptor

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	4.16E-05	9.86E-04	9.62E-04	1.12E-03	9.50E-04	8.25E-03	0.00E+00	9.80E-04
TEEN	4.51E-05	7.50E-04	7.25E-04	7.17E-04	7.13E-04	5.88E-03	0.00E+00	7.44E-04
CHILD	5.78E-05	8.26E-04	8.10E-04	7.97E-04	7.94E-04	2.65E-03	0.00E+00	8.29E-04
INFANT	1.35E-07	3.52E-04	3.52E-04	3.52E-04	3.52E-04	3.52E-04	0.00E+00	3.52E-04

SITE DOSE LIMIT ANALYSIS QUARTER 3

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 3 - Admin. Any Organ	ADULT	GILLI	8.25E-03	3.75E+00	2.20E-01
Qtr 3 - Admin. Total Body	ADULT	TBODY	9.80E-04	1.13E+00	8.72E-02

Qtr 3 - T.Spc. Any Organ ADULT GILLI 8.25E-03 5.00E+00 1.65E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	1.15E+01
CR-51	1.56E-02
MN-54	3.80E-01
CO-58	1.61E+00
CO-60	7.85E-01
ZR-95	9.90E-03
NB-95	8.38E+01
TE-125M	1.92E+00

Qtr 3 - T.Spc. Total Body ADULT TBODY 9.80E-04 1.50E+00 6.54E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.69E+01
CR-51	5.21E-04
MN-54	1.99E-01
CO-58	1.50E+00
CO-60	7.75E-01
ZR-95	1.78E-05
NB-95	6.24E-02
TE-125M	5.40E-01

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LIQUID DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

Liquid Receptor

==== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ===== QUARTER 4 =====

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	6.15E-05	2.08E-03	2.05E-03	2.24E-03	2.03E-03	5.31E-03	0.00E+00	2.06E-03
TEEN	6.66E-05	1.57E-03	1.54E-03	1.53E-03	1.53E-03	3.86E-03	0.00E+00	1.55E-03
CHILD	8.53E-05	1.74E-03	1.72E-03	1.70E-03	1.70E-03	2.54E-03	0.00E+00	1.72E-03
INFANT	1.76E-07	7.52E-04	7.52E-04	7.52E-04	7.52E-04	7.52E-04	0.00E+00	7.52E-04

==== SITE DOSE LIMIT ANALYSIS ===== QUARTER 4 =====

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 4 - Admin. Any Organ	ADULT	GILLI	5.31E-03	3.75E+00	1.41E-01
Qtr 4 - Admin. Total Body	ADULT	TBODY	2.06E-03	1.13E+00	1.83E-01

Qtr 4 - T.Spc. Any Organ ADULT GILLI 5.31E-03 5.00E+00 1.06E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.83E+01
MN-54	3.81E-01
CO-58	6.95E-01
CO-60	7.91E-01
ZR-95	5.33E-03
NB-95	5.61E+01
TE-125M	3.75E+00
CS-137	5.39E-03

Qtr 4 - T.Spc. Total Body ADULT TBODY 2.06E-03 1.50E+00 1.37E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.87E+01
MN-54	6.11E-02
CO-58	1.98E-01
CO-60	2.40E-01
ZR-95	2.94E-06
NB-95	1.28E-02
TE-125M	3.24E-01
CS-137	4.71E-01

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LIQUID DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

Agegrp	Liquid Receptor							
	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	4.47E-04	5.71E-03	5.64E-03	7.27E-03	5.49E-03	1.78E-02	0.00E+00	5.62E-03
TEEN	4.86E-04	4.35E-03	4.27E-03	4.16E-03	4.12E-03	1.30E-02	0.00E+00	4.25E-03
CHILD	6.24E-04	4.80E-03	4.78E-03	4.62E-03	4.58E-03	7.84E-03	0.00E+00	4.74E-03
INFANT	1.49E-06	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03	0.00E+00	2.03E-03

=== SITE DOSE LIMIT ANALYSIS === ANNUAL 2004 ===

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2004 - Admin. Any Organ	ADULT	GILLI	1.78E-02	7.50E+00	2.38E-01
2004 - Admin. Total Body	ADULT	TBODY	5.62E-03	2.25E+00	2.50E-01

2004 - T.Spc. Any Organ ADULT GILLI 1.78E-02 1.00E+01 1.78E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.07E+01
CR-51	8.25E-03
MN-54	3.31E-01
CO-58	2.17E+00
CO-60	8.92E-01
ZR-95	6.17E-03
NB-95	5.54E+01
TE-125M	9.60E+00
TE-132	8.35E-01
I-131	1.18E-04
I-132	4.55E-05
CS-137	1.59E-03

2004 - T.Spc. Total Body ADULT TBODY 5.62E-03 3.00E+00 1.87E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.76E+01
CR-51	1.04E-04
MN-54	6.55E-02
CO-58	7.61E-01
CO-60	3.33E-01
ZR-95	4.18E-06

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Nuclide	Percentage
NB-95	1.56E-02
TE-125M	1.02E+00
TE-132	5.26E-02
I-131	8.11E-04
I-132	2.69E-04
CS-137	1.71E-01

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GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

==== I&P DOSE LIMIT ANALYSIS ===== QUARTER 1 =====

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 1 - Admin. Any Organ	INFANT	THYROID	1.73E-02	5.63E+00	3.08E-01
Qtr 1 - Admin. Total Body	CHILD	TBODY	8.31E-05	5.25E+00	1.58E-03

Qtr 1 - T.Spc. Any Organ INFANT THYROID 1.73E-02 7.50E+00 2.31E-01

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.14E-01
I-131	9.95E+01
I-133	1.69E-01

Qtr 1 - T.Spc. Total Body CHILD TBODY 8.31E-05 7.50E+00 1.11E-03

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.43E+01
I-131	1.57E+01
I-133	3.71E-02

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GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

==== NG DOSE LIMIT ANALYSIS ===== QUARTER 1 =====

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 1 - Admin. Gamma	6.96E-05	3.75E+00	1.86E-03
Qtr 1 - Admin. Beta	5.52E-05	7.50E+00	7.35E-04

Qtr 1 - T.Spc. Gamma 6.96E-05 5.00E+00 1.39E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.01E+00
KR-85	2.79E-01
XE-135	1.28E+00
XE-133M	9.16E-02
XE-131M	3.37E-01
XE-133	9.60E+01

Qtr 1 - T.Spc. Beta 5.52E-05 1.00E+01 5.52E-04

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.20E-01
KR-85	9.80E+00
XE-135	5.08E-01
XE-133M	1.29E-01
XE-131M	7.43E-01
XE-133	8.86E+01

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GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

==== I&P DOSE LIMIT ANALYSIS ===== QUARTER 2 =====

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 2 - Admin. Any Organ	INFANT	THYROID	1.18E-02	5.63E+00	2.10E-01
Qtr 2 - Admin. Total Body	CHILD	TBODY	4.07E-05	5.25E+00	7.76E-04

Qtr 2 - T.Spc. Any Organ INFANT THYROID 1.18E-02 7.50E+00 1.57E-01

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	2.10E-01
I-131	9.95E+01
I-133	3.09E-01

Qtr 2 - T.Spc. Total Body CHILD TBODY 4.07E-05 7.50E+00 5.43E-04

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	7.81E+01
I-131	2.18E+01
I-133	9.43E-02

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GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

==== NG DOSE LIMIT ANALYSIS ===== QUARTER 2 =====

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 2 - Admin. Gamma	1.09E-04	3.75E+00	2.90E-03
Qtr 2 - Admin. Beta	8.26E-05	7.50E+00	1.10E-03

Qtr 2 - T.Spc. Gamma 1.09E-04 5.00E+00 2.17E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	7.12E-01
KR-85	1.22E-01
XE-135	3.06E-01
XE-133M	2.62E-02
XE-131M	2.36E-01
XE-133	9.86E+01

Qtr 2 - T.Spc. Beta 8.26E-05 1.00E+01 8.26E-04

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	8.11E-02
KR-85	4.49E+00
XE-135	1.27E-01
XE-133M	3.83E-02
XE-131M	5.41E-01
XE-133	9.47E+01

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GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

==== I&P DOSE LIMIT ANALYSIS ===== QUARTER 3 =====

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 3 - Admin. Any Organ	INFANT	THYROID	1.05E-02	5.63E+00	1.86E-01
Qtr 3 - Admin. Total Body	CHILD	TBODY	5.38E-05	5.25E+00	1.02E-03

Qtr 3 - T.Spc. Any Organ INFANT THYROID 1.05E-02 7.50E+00 1.39E-01

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.41E-01
CR-51	2.05E-05
I-131	9.75E+01
I-133	2.20E+00

Qtr 3 - T.Spc. Total Body CHILD TBODY 5.38E-05 7.50E+00 7.17E-04

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.52E+01
CR-51	4.10E-03
I-131	1.43E+01
I-133	4.50E-01

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GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

==== NG DOSE LIMIT ANALYSIS ===== QUARTER 3 =====

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 3 - Admin. Gamma	5.80E-05	3.75E+00	1.55E-03
Qtr 3 - Admin. Beta	4.37E-05	7.50E+00	5.83E-04

Qtr 3 - T.Spc. Gamma 5.80E-05 5.00E+00 1.16E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.70E+00
KR-85	1.49E-01
XE-135	1.40E-01
XE-131M	6.00E-02
XE-133	9.69E+01

Qtr 3 - T.Spc. Beta 4.37E-05 1.00E+01 4.37E-04

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	3.11E-01
KR-85	5.51E+00
XE-135	5.85E-02
XE-131M	1.39E-01
XE-133	9.40E+01

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GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

==== I&P DOSE LIMIT ANALYSIS ===== QUARTER 4 =====

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 4 - Admin. Any Organ	INFANT	THYROID	6.86E-03	5.63E+00	1.22E-01
Qtr 4 - Admin. Total Body	CHILD	TBODY	8.15E-05	5.25E+00	1.55E-03

Qtr 4 - T.Spc. Any Organ INFANT THYROID 6.86E-03 7.50E+00 9.15E-02

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.65E-01
I-131	9.64E+01
I-133	2.71E+00

Qtr 4 - T.Spc. Total Body CHILD TBODY 8.15E-05 7.50E+00 1.09E-03

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.36E+01
I-131	6.13E+00
I-133	2.40E-01

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GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

==== NG DOSE LIMIT ANALYSIS ===== QUARTER 4 =====

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 4 - Admin. Gamma	8.77E-05	3.75E+00	2.34E-03
Qtr 4 - Admin. Beta	7.09E-05	7.50E+00	9.46E-04

Qtr 4 - T.Spc. Gamma 8.77E-05 5.00E+00 1.75E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	3.27E+00
KR-85	3.62E-01
XE-135	4.96E-02
XE-133M	2.30E-03
XE-131M	1.02E-01
XE-133	9.62E+01

Qtr 4 - T.Spc. Beta 7.09E-05 1.00E+01 7.09E-04

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	3.50E-01
KR-85	1.25E+01
XE-135	1.93E-02
XE-133M	3.16E-03
XE-131M	2.21E-01
XE-133	8.70E+01

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GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

==== I&P DOSE LIMIT ANALYSIS ===== ANNUAL 2004 =====

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2004 - Admin. Any Organ	INFANT	THYROID	4.65E-02	1.13E+01	4.13E-01
2004 - Admin. Total Body	CHILD	TBODY	2.59E-04	1.05E+01	2.47E-03

2004 - T.Spc. Any Organ INFANT THYROID 4.65E-02 1.50E+01 3.10E-01

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.75E-01
CR-51	4.62E-06
I-131	9.86E+01
I-133	1.04E+00

2004 - T.Spc. Total Body CHILD TBODY 2.59E-04 1.50E+01 1.73E-03

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.65E+01
CR-51	8.51E-04
I-131	1.33E+01
I-133	1.96E-01

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GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004

Unit Range - From: 2 To: 2

==== NG DOSE LIMIT ANALYSIS ===== ANNUAL 2004 =====

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
2004 - Admin. Gamma	3.24E-04	7.50E+00	4.32E-03
2004 - Admin. Beta	2.52E-04	1.50E+01	1.68E-03

2004 - T.Spc. Gamma 3.24E-04 1.00E+01 3.24E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.04E+00
KR-85	2.26E-01
XE-135	4.16E-01
XE-133M	2.91E-02
XE-131M	1.90E-01
XE-133	9.71E+01

2004 - T.Spc. Beta 2.52E-04 2.00E+01 1.26E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.27E-01
KR-85	8.06E+00
XE-135	1.68E-01
XE-133M	4.15E-02
XE-131M	4.26E-01
XE-133	9.11E+01

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Byron Station Unit Two 2004

Report for: 2004
Unit Range - From: 2 To: 2

=== MAXIMUM DOSE ANALYSIS ===== ANNUAL 2004 =====

Dose Type Age Group Organ Dose (mrem)
Any Organ INFANT THYROID 4.85E-02
Liquid Receptor: 0 Liquid Receptor
Gaseous Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Liquid Dose: 2.03E-03 % of Total: 4.19E+00

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

Table with 2 columns: Nuclide, Percentage. Lists nuclides like H-3, CR-51, MN-54, CO-58, CO-60, ZR-95, NB-95, TE-125M, TE-132, I-131, I-132, CS-137 with their respective percentages.

Gaseous Dose: 4.65E-02 % of Total: 9.58E+01

Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Table with 2 columns: Nuclide, Percentage. Lists nuclides like H-3, CR-51, I-131, I-133 with their respective percentages.

=== MAXIMUM DOSE ANALYSIS ===== ANNUAL 2004 =====

Dose Type Age Group Organ Dose (mrem)
Total Body ADULT TBODY 5.77E-03
Liquid Receptor: 0 Liquid Receptor
Gaseous Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

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Liquid Dose: 5.62E-03 % of Total: 9.74E+01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.76E+01
CR-51	1.04E-04
MN-54	6.55E-02
CO-58	7.61E-01
CO-60	3.33E-01
ZR-95	4.18E-06
NB-95	1.56E-02
TE-125M	1.02E+00
TE-132	5.26E-02
I-131	8.11E-04
I-132	2.69E-04
CS-137	1.71E-01

Gaseous Dose: 1.49E-04 % of Total: 2.58E+00

Critical Pathway: Vegetation (VEG)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.15E+01
CR-51	1.44E-03
I-131	8.36E+00
I-133	1.29E-01

ADDENDUM

2003 Annual Radioactive Effluent Release Report

Lower Limit of Detection
Gaseous Effluents

Nuclides	LLD (Ci/ml)
H3	5.16E-17
Ar41	2.18E-13
Cr51	2.96E-12
Mn54	1.34E-13
Co58	1.31E-13
Fe59	1.05E-12
Co60	2.06E-13
Zn65	3.46E-13
Kr85m	2.71E-13
Kr87	5.69E-13
Kr88	9.03E-13
Sr89	3.16E-20
Sr-90	3.54E-21
Mo99	2.07E-13
I131	3.50E-13
Xe131m	1.10E-11
I133	4.06E-13
Xe133	9.74E-13
Xe133m	2.41E-12
Cs134	1.50E-13
I135	1.90E-12
Xe135	2.95E-13
Cs137	1.26E-13
Xe138	1.41E-12
Ba140	1.22E-12
La140	6.99E-13
Ce141	4.04E-13
Ce144	2.17E-12
Gross Alpha	5.36E-21

Lower Limit of Detection
Aqueous Effluents

Nuclides	LLD (Ci/ml)
H3	1.70E-12
Na24	5.94E-14
Cr51	3.23E-13
Mn54	4.09E-14
Fe55	8.63E-13
Co57	2.71E-14
Co58	4.17E-14
Fe59	8.25E-14
Co60	4.49E-14
Zn65	1.31E-13
Sr85	4.26E-14
Sr89	5.45E-14
Sr-90	2.26E-14
Sr92	2.13E-14
Nb95	2.57E-14
Zr95	5.80E-14
Mo99	2.85E-14
Ag110m	4.74E-14
Sb122	5.15E-14
Te123m	1.51E-13
Sb124	1.51E-13
Sb125	1.22E-13
Te125m	9.60E-12
Sb126	4.42E-14
I131	3.64E-14
I132	5.59E-14
Te132	2.87E-14
I133	4.66E-14
Xe133	8.33E-14
Cs134	4.09E-14
Xe135	1.96E-14
Cs137	3.54E-14
Ba140	1.65E-13
La140	5.64E-14
Ce141	4.88E-14
Ce144	2.30E-13
Gross Alpha	5.12E-14