Exelon Generation
Byron Generating Station
4450 North German Church Road
Byron, IL 61010-9794
Tel 815-234-5441

www.exeloncorp.com

Exelon SM
Nuclear

April 26, 2003

10 CFR 50.36a

LTR: BYRON 2003-0036
File: 2.12.1522

United States Nuclear Regulatory Commission
Attention: 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: 2002 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 2002, through December 2002.

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

Respectfully,

Richard P. Lopriore
Site Vice President
Byron Nuclear Generating Station

RPL/ES/dd/rah

Attachment

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Byron Station

IE48

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
January, 2002 THROUGH December, 2002
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, 2002 THROUGH December, 2002
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 = 144
2. Total time period for batch releases = 14,600 minutes
3. Maximum time period for a batch release = 1560 minutes
4. Average time period for a batch release = 102 minutes
5. Minimum time period for a batch release = 38 minutes
6. Average stream flow during periods of release of effluent into a flowing stream = 171.2 m^3/sec, based on information from the National Weather Service or Army Corps of Engineers for the Rock River.

b. Gaseous:

1. Number of batch releases = 334
2. Total time period for batch releases = 66,200 minutes
3. Maximum time period for a batch release = 9540 minutes
4. Average time period for batch releases = 198 minutes
5. Minimum time period for a batch release = 4 minutes

6. Abnormal Releases:

a. Liquid - None

b. Gaseous – None

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1A
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	4.81E-01	2.44E-01	7.34E-01	1.00E-01	1.56E+00
2. Avg. Release Rate	uCi/sec	6.19E-02	3.14E-02	9.44E-02	1.29E-02	4.95E-02
Iodine-131						
1. Total Release	Ci	5.82E-06	8.28E-07	3.21E-06	0.00E+00	9.86E-06
2. Avg. Release Rate	uCi/sec	7.48E-07	1.06E-07	4.13E-07	0.00E+00	3.13E-07
Particulates Half Life >= 8 days						
1. Total Release	Ci	1.22E-06	0.00E+00	0.00E+00	0.00E+00	1.22E-06
2. Avg. Release Rate	uCi/sec	1.57E-07	0.00E+00	0.00E+00	0.00E+00	3.87E-08
Others						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulates and Others Combined						
1. Total Release	Ci	1.22E-06	0.00E+00	0.00E+00	0.00E+00	1.22E-06
2. Avg. Release Rate	uCi/sec	1.57E-07	0.00E+00	0.00E+00	0.00E+00	3.87E-08
Tritium						
1. Total Release	Ci	5.57E-01	5.15E-01	6.02E-01	4.30E-01	2.10E+00
2. Avg. Release Rate	uCi/sec	7.16E-02	6.62E-02	7.74E-08	5.53E-02	6.66E-02
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1C
GASEOUS EFFLUENTS - GROUND RELEASES - CONTINUOUS MODE
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
XE-133	Ci	0.00E+00	5.07E-02	3.32E-01	7.98E-02	4.63E-01
Totals for Period...	Ci	0.00E+00	5.07E-02	3.32E-01	7.98E-02	4.63E-01
Iodines						
I-131	Ci	5.82E-06	8.28E-07	3.21E-06	0.00E+00	9.86E-06
I-132	Ci	0.00E+00	0.00E+00	8.77E-05	0.00E+00	8.77E-05
I-133	Ci	7.76E-06	0.00E+00	1.78E-05	0.00E+00	2.55E-05
Totals for Period...	Ci	1.36E-05	8.28E-07	1.09E-04	0.00E+00	1.23E-04
Particulates Half Life >= 8 days						
CO-58	Ci	1.22E-06	0.00E+00	0.00E+00	0.00E+00	1.22E-06
Totals for Period...	Ci	1.22E-06	0.00E+00	0.00E+00	0.00E+00	1.22E-06
Others						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Particulates and Others Combined						
Totals for Period...	Ci	1.22E-06	0.00E+00	0.00E+00	0.00E+00	1.22E-06
Tritium						
H-3	Ci	5.57E-01	5.15E-01	6.02E-01	4.30E-01	2.10E+00
Totals for Period...	Ci	5.57E-01	5.15E-01	6.02E-01	4.30E-01	2.10E+00
Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1C
GASEOUS EFFLUENTS - GROUND RELEASES - BATCH MODE
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
AR-41	Ci	2.52E-03	3.16E-03	4.56E-02	2.00E-03	5.33E-02
KR-85M	Ci	6.87E-04	0.00E+00	1.22E-03	1.13E-03	3.05E-03
KR-87	Ci	0.00E+00	5.88E-05	0.00E+00	0.00E+00	5.88E-05
KR-88	Ci	0.00E+00	0.00E+00	8.70E-04	2.84E-03	3.71E-03
XE-133	Ci	4.55E-01	1.85E-01	3.14E-01	1.46E-02	9.68E-01
XE-133M	Ci	6.82E-03	2.84E-03	4.96E-03	4.03E-05	1.47E-02
XE-135	Ci	1.58E-02	2.71E-03	3.52E-02	0.00E+00	5.37E-02
Totals for Period...	Ci	4.81E-01	1.94E-01	4.02E-01	2.06E-02	1.10E+00
Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Others						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Particulates and Others Combined						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Tritium						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

Date/Time: 04/09/2003 16:33 retdas

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2A
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	1.40E-01	3.48E-02	1.37E-02	3.16E-02	2.20E-01
2. Avg. Diluted Conc.	uCi/ml	1.28E-09	1.53E-10	1.18E-10	2.64E-10	3.76E-10
Tritium						
1. Total Release	Ci	2.21E+02	3.26E+02	2.02E+02	2.00E+02	9.49E+02
2. Avg. Diluted Conc.	uCi/ml	1.17E-05	2.40E-06	3.11E-06	8.82E-06	6.15E-06
Dissolved and Entrained Gases						
1. Total Release	Ci	4.89E-03	3.94E-03	2.92E-03	1.53E-03	1.33E-02
2. Avg. Diluted Conc.	uCi/ml	4.45E-11	1.72E-11	2.50E-11	1.28E-11	2.27E-11
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	2.97E+09	3.52E+09	3.81E+09	3.38E+09	1.37E+10
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

RETDAS v3.6.3 <BYR> VSSI

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2A - Rock River
LIQUID EFFLUENTS - SUMMATION BY RELEASE POINT
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	1.40E-01	3.48E-02	1.37E-02	3.16E-02	2.20E-01
2. Avg. Diluted Conc.	uCi/ml	2.32E-06	2.87E-07	2.49E-07	6.75E-07	7.77E-07
Tritium						
1. Total Release	Ci	1.91E+02	3.23E+02	1.97E+02	1.75E+02	8.85E+02
2. Avg. Diluted Conc.	uCi/ml	3.15E-03	2.66E-03	3.58E-03	3.75E-03	3.12E-03
Dissolved and Entrained Gases						
1. Total Release	Ci	4.89E-03	3.94E-03	2.92E-03	1.53E-03	1.33E-02
2. Avg. Diluted Conc.	uCi/ml	8.07E-08	3.24E-08	5.31E-08	3.26E-08	4.68E-08
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	1.64E+06	1.87E+06	1.80E+06	1.32E+06	6.63E+06
Volume of dil. water	liters	5.89E+07	1.20E+08	5.32E+07	4.54E+07	2.77E+08

Date/Time: 04/09/2003 16:33 retdas

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2A - Circulating Water Blowdown
LIQUID EFFLUENTS - SUMMATION BY RELEASE POINT
Unit-1, 2002

REPORT FOR 2002	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	2.97E+01	3.47E+00	5.41E+00	2.49E+01	6.34E+01
2. Avg. Diluted Conc.	uCi/ml	1.00E-05	9.87E-07	1.42E-06	7.36E-06	4.64E-06
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	2.97E+09	3.52E+09	3.81E+09	3.38E+09	1.37E+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
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....
Tritium						
H-3	Ci	2.97E+01	3.47E+00	5.41E+00	2.49E+01	6.34E+01
Totals for Period...	Ci	2.97E+01	3.47E+00	5.41E+00	2.49E+01	6.34E+01
Dissolved and Entrained Gases						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....
Gross Alpha Radioactivity						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2B
LIQUID EFFLUENTS - BATCH MODE
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
AG-110M	Ci	9.85E-04	0.00E+00	0.00E+00	0.00E+00	9.85E-04
BA-140	Ci	0.00E+00	0.00E+00	4.80E-06	0.00E+00	4.80E-06
CE-144	Ci	1.44E-04	0.00E+00	0.00E+00	0.00E+00	1.44E-04
CO-57	Ci	5.04E-04	1.70E-05	1.47E-05	0.00E+00	5.35E-04
CO-58	Ci	3.54E-02	1.30E-02	6.66E-03	2.38E-03	5.74E-02
CO-60	Ci	4.89E-02	7.62E-04	7.03E-04	2.78E-04	5.06E-02
CR-51	Ci	1.39E-02	2.62E-04	0.00E+00	0.00E+00	1.41E-02
CS-137	Ci	1.65E-06	0.00E+00	0.00E+00	0.00E+00	1.65E-06
CS-138	Ci	0.00E+00	1.67E-05	0.00E+00	0.00E+00	1.67E-05
FE-55	Ci	1.93E-02	0.00E+00	0.00E+00	0.00E+00	1.93E-02
FE-59	Ci	3.43E-04	2.43E-05	2.93E-06	6.19E-05	4.33E-04
I-131	Ci	0.00E+00	6.30E-06	2.01E-06	0.00E+00	8.31E-06
I-132	Ci	1.30E-04	1.57E-05	1.03E-04	7.99E-05	3.29E-04
LA-140	Ci	0.00E+00	0.00E+00	0.00E+00	3.54E-06	3.54E-06
MN-54	Ci	3.89E-03	3.00E-05	2.43E-05	6.50E-06	3.95E-03
NA-24	Ci	0.00E+00	9.29E-06	0.00E+00	5.42E-06	1.47E-05
NB-95	Ci	1.08E-03	1.42E-05	0.00E+00	1.25E-06	1.10E-03
SB-122	Ci	8.23E-05	0.00E+00	0.00E+00	0.00E+00	8.23E-05
SB-124	Ci	1.19E-03	6.79E-04	1.68E-04	1.93E-04	2.22E-03
SB-125	Ci	1.16E-02	6.70E-03	1.90E-03	9.11E-04	2.11E-02
SB-126	Ci	7.36E-06	2.07E-06	0.00E+00	0.00E+00	9.42E-06
SR-85	Ci	0.00E+00	1.31E-05	6.63E-06	5.74E-06	2.54E-05
SR-92	Ci	1.77E-04	0.00E+00	0.00E+00	0.00E+00	1.77E-04
TE-123M	Ci	1.18E-04	3.96E-04	9.49E-05	3.24E-04	9.33E-04
TE-125M	Ci	1.23E-03	1.29E-02	3.95E-03	2.72E-02	4.53E-02
TE-132	Ci	1.02E-04	1.36E-05	7.74E-05	6.93E-05	2.62E-04
ZN-65	Ci	5.73E-04	0.00E+00	0.00E+00	0.00E+00	5.73E-04
ZR-95	Ci	6.84E-04	0.00E+00	0.00E+00	0.00E+00	6.84E-04
Totals for Period...	Ci	1.40E-01	3.49E-02	1.37E-02	3.15E-02	2.20E-01
Tritium						
H-3	Ci	1.91E+02	3.23E+02	1.97E+02	1.75E+02	8.85E+02
Totals for Period...	Ci	1.91E+02	3.23E+02	1.97E+02	1.75E+02	8.85E+02
Dissolved and Entrained Gases						
KR-85	Ci	4.22E-03	2.94E-03	1.49E-03	1.29E-03	9.94E-03
XE-131M	Ci	0.00E+00	6.10E-05	0.00E+00	0.00E+00	6.10E-05
XE-133	Ci	6.50E-04	9.25E-04	1.37E-03	2.34E-04	3.18E-03
XE-133M	Ci	0.00E+00	0.00E+00	1.69E-05	0.00E+00	1.69E-05
XE-135	Ci	1.70E-05	8.84E-06	3.58E-05	0.00E+00	6.17E-05
Totals for Period...	Ci	4.89E-03	3.93E-03	2.91E-03	1.52E-03	1.33E-02

Date/Time: 04/09/2003 16:33 retdas

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2B
LIQUID EFFLUENTS - BATCH MODE
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2B
LIQUID EFFLUENTS - BATCH MODE
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Gross Alpha Radioactivity						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1A
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES
Unit-2, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	1.70E-01	5.70E-02	3.69E-01	8.40E-02	6.80E-01
2. Avg. Release Rate	uCi/sec	2.19E-02	7.33E-03	4.75E-02	1.08E-02	2.16E-02
Iodine-131						
1. Total Release	Ci	1.64E-06	1.11E-06	1.83E-05	0.00E+00	2.10E-05
2. Avg. Release Rate	uCi/sec	2.11E-07	1.43E-07	2.35E-06	0.00E+00	6.66E-07
Particulates Half Life >= 8 days						
1. Total Release	Ci	0.00E+00	0.00E+00	1.51E-06	5.73E-07	2.08E-06
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	1.94E-07	7.37E-08	6.60E-08
Others						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulates and Others Combined						
1. Total Release	Ci	0.00E+00	0.00E+00	1.51E-06	5.73E-07	2.08E-06
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	1.94E-07	7.37E-08	6.60E-08
Tritium						
1. Total Release	Ci	7.25E-01	5.59E-01	6.99E-01	8.72E-01	2.85E+00
2. Avg. Release Rate	uCi/sec	9.32E-02	7.19E-02	8.99E-02	1.12E-01	9.04E-02
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1C
GASEOUS EFFLUENTS - GROUND RELEASES - CONTINUOUS MODE
Unit-2, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
XE-133	Ci	1.68E-01	5.07E-02	3.33E-01	7.98E-02	6.32E-01
Totals for Period...	Ci	1.68E-01	5.07E-02	3.33E-01	7.98E-02	6.32E-01
Iodines						
I-131	Ci	1.64E-06	1.11E-06	1.83E-05	0.00E+00	2.10E-05
I-132	Ci	0.00E+00	0.00E+00	2.24E-04	0.00E+00	2.24E-04
Totals for Period...	Ci	1.64E-06	1.11E-06	2.42E-04	0.00E+00	2.45E-04
Particulates Half Life >= 8 days						
CO-58	Ci	0.00E+00	0.00E+00	1.51E-06	5.73E-07	2.08E-06
Totals for Period...	Ci	0.00E+00	0.00E+00	1.51E-06	5.73E-07	2.08E-06
Others						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Particulates and Others Combined						
Totals for Period...	Ci	0.00E+00	0.00E+00	1.51E-06	5.73E-07	2.08E-06
Tritium						
H-3	Ci	7.25E-01	5.59E-01	6.99E-01	8.72E-01	2.85E+00
Totals for Period...	Ci	7.25E-01	5.59E-01	6.99E-01	8.72E-01	2.85E+00
Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1C
GASEOUS EFFLUENTS - GROUND RELEASES - BATCH MODE
Unit-2, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
AR-41	Ci	0.00E+00	2.11E-03	0.00E+00	1.24E-03	3.35E-03
XE-133	Ci	1.82E-03	1.23E-03	3.57E-02	2.98E-03	4.17E-02
XE-138	Ci	0.00E+00	2.97E-03	0.00E+00	0.00E+00	2.97E-03
Totals for Period...	Ci	1.82E-03	6.31E-03	3.57E-02	4.22E-03	4.80E-02
Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Others						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Particulates and Others Combined						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Tritium						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

Date/Time: 04/09/2003 16:56 retdas

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2A
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES
Unit-2, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	1.40E-01	3.48E-02	1.37E-02	3.16E-02	2.20E-01
2. Avg. Diluted Conc.	uCi/ml	1.28E-09	1.53E-10	1.18E-10	2.64E-10	3.76E-10
Tritium						
1. Total Release	Ci	2.21E+02	3.26E+02	2.02E+02	2.00E+02	9.49E+02
2. Avg. Diluted Conc.	uCi/ml	1.17E-05	2.40E-06	3.11E-06	8.82E-06	6.15E-06
Dissolved and Entrained Gases						
1. Total Release	Ci	4.89E-03	3.94E-03	2.92E-03	1.53E-03	1.33E-02
2. Avg. Diluted Conc.	uCi/ml	4.45E-11	1.72E-11	2.50E-11	1.28E-11	2.27E-11
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	2.97E+09	3.52E+09	3.81E+09	3.38E+09	1.37E+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
Unit-2, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	1.40E-01	3.48E-02	1.37E-02	3.16E-02	2.20E-01
2. Avg. Diluted Conc.	uCi/ml	2.32E-06	2.87E-07	2.49E-07	6.75E-07	7.77E-07
Tritium						
1. Total Release	Ci	1.91E+02	3.23E+02	1.97E+02	1.75E+02	8.85E+02
2. Avg. Diluted Conc.	uCi/ml	3.15E-03	2.66E-03	3.58E-03	3.75E-03	3.12E-03
Dissolved and Entrained Gases						
1. Total Release	Ci	4.89E-03	3.94E-03	2.92E-03	1.53E-03	1.33E-02
2. Avg. Diluted Conc.	uCi/ml	8.07E-08	3.24E-08	5.31E-08	3.26E-08	4.68E-08
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	1.64E+06	1.87E+06	1.80E+06	1.32E+06	6.63E+06
Volume of dil. water	liters	5.89E+07	1.20E+08	5.32E+07	4.54E+07	2.77E+08

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2A - Circulating Water Blowdown
LIQUID EFFLUENTS - SUMMATION BY RELEASE POINT
Unit-2, 2002

REPORT FOR 2002	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	2.97E+01	3.47E+00	5.41E+00	2.49E+01	6.34E+01
2. Avg. Diluted Conc.	uCi/ml	1.00E-05	9.87E-07	1.42E-06	7.36E-06	4.64E-06
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	2.97E+09	3.52E+09	3.81E+09	3.38E+09	1.37E+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
Unit-2, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Tritium						
H-3	Ci	2.97E+01	3.47E+00	5.41E+00	2.49E+01	6.34E+01
Totals for Period...	Ci	2.97E+01	3.47E+00	5.41E+00	2.49E+01	6.34E+01
Dissolved and Entrained Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2B
LIQUID EFFLUENTS - BATCH MODE
Unit-2, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
AG-110M	Ci	9.85E-04	0.00E+00	0.00E+00	0.00E+00	9.85E-04
BA-140	Ci	0.00E+00	0.00E+00	4.80E-06	0.00E+00	4.80E-06
CE-144	Ci	1.44E-04	0.00E+00	0.00E+00	0.00E+00	1.44E-04
CO-57	Ci	5.04E-04	1.70E-05	1.47E-05	0.00E+00	5.35E-04
CO-58	Ci	3.54E-02	1.30E-02	6.66E-03	2.38E-03	5.74E-02
CO-60	Ci	4.89E-02	7.62E-04	7.03E-04	2.78E-04	5.06E-02
CR-51	Ci	1.39E-02	2.62E-04	0.00E+00	0.00E+00	1.41E-02
CS-137	Ci	1.65E-06	0.00E+00	0.00E+00	0.00E+00	1.65E-06
CS-138	Ci	0.00E+00	1.67E-05	0.00E+00	0.00E+00	1.67E-05
FE-55	Ci	1.93E-02	0.00E+00	0.00E+00	0.00E+00	1.93E-02
FE-59	Ci	3.43E-04	2.43E-05	2.93E-06	6.19E-05	4.33E-04
I-131	Ci	0.00E+00	6.30E-06	2.01E-06	0.00E+00	8.31E-06
I-132	Ci	1.30E-04	1.57E-05	1.03E-04	7.99E-05	3.29E-04
LA-140	Ci	0.00E+00	0.00E+00	0.00E+00	3.54E-06	3.54E-06
MN-54	Ci	3.89E-03	3.00E-05	2.43E-05	6.50E-06	3.95E-03
NA-24	Ci	0.00E+00	9.29E-06	0.00E+00	5.42E-06	1.47E-05
NB-95	Ci	1.08E-03	1.42E-05	0.00E+00	1.25E-06	1.10E-03
SB-122	Ci	8.23E-05	0.00E+00	0.00E+00	0.00E+00	8.23E-05
SB-124	Ci	1.19E-03	6.79E-04	1.68E-04	1.93E-04	2.22E-03
SB-125	Ci	1.16E-02	6.70E-03	1.90E-03	9.11E-04	2.11E-02
SB-126	Ci	7.36E-06	2.07E-06	0.00E+00	0.00E+00	9.42E-06
SR-85	Ci	0.00E+00	1.31E-05	6.63E-06	5.74E-06	2.54E-05
SR-92	Ci	1.77E-04	0.00E+00	0.00E+00	0.00E+00	1.77E-04
TE-123M	Ci	1.18E-04	3.96E-04	9.49E-05	3.24E-04	9.33E-04
TE-125M	Ci	1.23E-03	1.29E-02	3.95E-03	2.72E-02	4.53E-02
TE-132	Ci	1.02E-04	1.36E-05	7.74E-05	6.93E-05	2.62E-04
ZN-65	Ci	5.73E-04	0.00E+00	0.00E+00	0.00E+00	5.73E-04
ZR-95	Ci	6.84E-04	0.00E+00	0.00E+00	0.00E+00	6.84E-04
Totals for Period...	Ci	1.40E-01	3.49E-02	1.37E-02	3.15E-02	2.20E-01
Tritium						
H-3	Ci	1.91E+02	3.23E+02	1.97E+02	1.75E+02	8.85E+02
Totals for Period...	Ci	1.91E+02	3.23E+02	1.97E+02	1.75E+02	8.85E+02
Dissolved and Entrained Gases						
KR-85	Ci	4.22E-03	2.94E-03	1.49E-03	1.29E-03	9.94E-03
XE-131M	Ci	0.00E+00	6.10E-05	0.00E+00	0.00E+00	6.10E-05
XE-133	Ci	6.50E-04	9.25E-04	1.37E-03	2.34E-04	3.18E-03
XE-133M	Ci	0.00E+00	0.00E+00	1.69E-05	0.00E+00	1.69E-05
XE-135	Ci	1.70E-05	8.84E-06	3.58E-05	0.00E+00	6.17E-05
Totals for Period...	Ci	4.89E-03	3.93E-03	2.91E-03	1.52E-03	1.33E-02

Date/Time: 04/09/2003 16:33 retdas

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2B
LIQUID EFFLUENTS - BATCH MODE
Unit-2, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2B
LIQUID EFFLUENTS - BATCH MODE
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Gross Alpha Radioactivity						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....

BYRON NUCLEAR POWER STATION
UNIT 1/2, DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY, 2002 THROUGH DECEMBER, 2002

SOLID RADIOACTVE WASTE FOR BURIAL 1ST QUARTER, 2002

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
01/20/2002	MIXED BED ION-EXCHANGE MEDIA, RADIOACTIVE MATERIAL, nos, 7, UN2982, RQ, CLASS B, TYPE B CONTAINER, NONE	EXCLUSIVE-USE	BARNWELL, SC	3 41E+00	3 40E+02
02/21/2002	DRY ACTIVE WASTE, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAK RIDGE, TN	4 44E+01	1 94E-01
03/14/2002	DRY ACTIVE WASTE, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	KINGSTON, TN	3 63E+01	1 28E-03
Quarterly Totals	Number of Shipments:	3		8 41E+01	3 40E+02
				CUBIC M	CURIES

* Calculated using measured ratios

BYRON NUCLEAR POWER STATION
UNIT 1/2, DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY, 2002 THROUGH DECEMBER, 2002

SOLID RADIOACTVE WASTE FOR BURIAL 2ND QUARTER, 2002

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
04/09/2002	DRY ACTIVE WASTE, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAK RIDGE, TN	3 63E+01	7.87E-02
04/17/2002	OIL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAK RIDGE, TN	3 63E+01	8 75E-03
04/24/2002	MIXED BED ION-EXCHANGE MEDIA, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS B,STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	ERWIN, TN	5 83E+00	1 19E+01
05/15/2002	MIXED BED ION-EXCHANGE MEDIA, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, RQ, CLASS B, TYPE A CONTAINER, NONE	EXCLUSIVE-USE	BARNWELL, SC	4 84E+00	2 96E+02
05/30/2002	MIXED BED ION-EXCHANGE MEDIA, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, RQ,CLASS B,STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	ERWIN, TN	4 84E+00	2 26E+01
06/17/2002	DRY ACTIVE WASTE, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAK RIDGE, TN	7 25E+01	7 65E-01
				1 61E+02	3 31E+02
				CUBIC M	CURIES

Quarterly Totals Number of Shipments: 6

* Calculated using measured ratios

BYRON NUCLEAR POWER STATION
UNIT 1/2, DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY, 2002 THROUGH DECEMBER, 2002

SOLID RADIOACTVE WASTE FOR BURIAL 3RD QUARTER, 2002

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
08/29/2002	DRY ACTIVE WASTE, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAK RIDGE, TN	3 63E+01	5 65E-03
09/12/2002	MIXED BED ION-EXCHANGE MEDIA, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	KINGSTON, TN	3 63E+01	5 26E-04
09/13/2002	DRY ACTIVE WASTE, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAK RIDGE, TN	3 63E+01	4 91E-02
				1 09E+02	5 53E-02
Quarterly Totals		Number of Shipments:	3	CUBIC M	CURIES

* Calculated using measured ratios

BYRON NUCLEAR POWER STATION
UNIT 1/2, DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY, 2002 THROUGH DECEMBER, 2002

SOLID RADIOACTVE WASTE FOR BURIAL 4TH QUARTER, 2002

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
10/08/2002	DRY ACTIVE WASTE/METAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAK RIDGE, TN	3 63E+01	1.30E-01
10/11/2002	DRY ACTIVE WASTE, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3 63E+01	1.24E-01
10/15/2002	OIL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAK RIDGE, TN	3 63E+01	6 25E-03
10/18/2002	DRY ACTIVE WASTE/METAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAK RIDGE, TN	7.25E+01	5 64E-02
10/28/2002	MIXED BED ION-EXCHANGE MEDIA, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG TIGHT CONTAINER, NONE	EXCLUSIVE-USE	CLIVE, UT	4 84E+00	6 02E+00
11/12/2002	DRY ACTIVE WASTE/METAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAK RIDGE, TN	7.25E+01	2 27E-02
				2 59E+02	6 36E+00
Quarterly Totals		Number of Shipments:	6	CUBIC M	CURIES

* Calculated using measured ratios

BYRON NUCLEAR POWER STATION
UNIT 1/2 DOCKET NUMBER STN-50-454/455
RADIOACTIVE EFFLUENT RELEASE REPORT
January, 2002 THROUGH December, 2002

A. Changes to Radioactive Waste Process Control Program for 2002 were primarily administrative in nature. Operationally, the Process Control Program was improved upon. A Duratek Advanced Liquid Processing System was installed to improve the curie discharge to the public.

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 = 11.2%

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, 2002 THROUGH December, 2002

C. Meteorological and environmental impact information is reported in the Station Annual Radiological Environmental Operating Report as required by Technical Specification 5.6.2.

D. 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.

E. There were no irradiated fuel shipments during this period.

F. There were no elevated releases. All releases are considered vent or ground level releases.

G. 0PR01J entered LCOAR on 9/28/02 at 08:10 through 10/19/02 at 00:15 exceeding 14 days. This was due to a parts availability issue. No other liquid or gaseous effluent monitor exceeded the specified LCO time limit.

H. There were no REMP issues in 2002.

J. Attached are Offsite Dose Calculations for January through December of 2002.

Solid Radioactive Waste for Burial, Addendum

A. Estimated Solid Waste Composition

Resins, Filters, Evap Bottoms		
Nuclide	Percent Abundance	uCi/ml
H-3	2 15E+01	3 40E-01
C-14	1.37E-01	2 17E-03
Mn-54	6.94E-01	1.10E-02
Fe-55	1.42E+01	2.25E-01
Co-57	6.42E-01	1.02E-02
Co-58	4 72E+01	7 48E-01
Co-60	7.02E+00	1.11E-01
Ni-63	7.65E+00	1 21E-01
Sr-90	5 57E-03	8 83E-05
I-129	1.13E-04	1.79E-06
Cs-137	3 43E-01	5 43E-03
Ce-144	6 95E-01	1.10E-02
Pu-238	6 65E-05	1 05E-06
Pu-239	3 33E-05	5 27E-07
Pu-241	3 89E-03	6 17E-05
Am-241	4 16E-05	6.59E-07
Cm-242	2.33E-05	3.69E-07
Tc-99	9.65E-05	1.53E-06
Cm-243	1.08E-04	1.71E-06

Dry Active Waste		
Nuclide	Percent Abundance	uCi/ml
H-3	1.62E+00	8 76E-05
C-14	6 60E-02	3 60E-06
Cr-51	2.45E+01	1.34E-03
Mn-54	1 99E+00	1.09E-04
Fe-55	7 71E+00	4 20E-04
Fe-59	1.39E+00	7.58E-05
Co-57	1.15E-01	6 29E-06
Co-58	4 75E+01	2 59E-03
Co-60	3 61E+00	1.96E-04
Ni-63	3 72E+00	2 02E-04
Sr-90	8 04E-05	4 38E-09
Zr-95	2.94E+00	1.60E-04
Nb-95	3.95E+00	2.16E-04
Tc-99	8 04E-05	4 38E-09
I-129	8 04E-05	4 38E-09
Cs-137	3 53E-01	1.92E-05
Ce-144	6 50E-01	3.54E-05
Pu-238	0 00E+00	0 00E+00
Pu-239	0.00E+00	0 00E+00
Pu-241	1.90E-03	1.05E-07
Am-241	0 00E+00	0.00E+00
Cm-242	0 00E+00	0.00E+00
Cm-243	8.05E-05	4 38E-09

Other (Contaminated Oil)		
Nuclide	Percent Abundance	uCi/ml
H-3	9 76E+01	1.10E-03
C-14	5.00E-03	5.84E-05
Mn-54	1.50E-02	1.71E-07
Fe-55	6 05E-01	6.80E-06
Co-57	1.00E-03	1 34E-08
Co-58	5 00E-03	5 27E-08
Co-60	2 83E-01	3 18E-06
Ni-63	2 92E-01	3 28E-06
Sr-90	0 00E+00	7.52E-11
Sr-92	0.00E+00	7.58E-22
Nb-95	3 00E-03	2 89E-08
Tc-99	0.00E+00	4 14E-11
Ag-110m	4.00E-03	4 36E-08
Sb-122	3.00E-03	3.10E-08
Sb-125	2.10E-02	2.35E-07
I-129	0.00E+00	4.78E-11
Cs-134	8 10E-02	9 15E-07
Cs-137	1.04E+00	1.17E-05
Ce-144	7.00E-03	8.12E-08
Pu-238	0 00E+00	2 83E-11
Pu-239	0 00E+00	1.40E-11
Pu-241	0.00E+00	1.70E-09
Am-241	0 00E+00	1.81E-11
Cm-242	0 00E+00	1.99E-11
Cm-243	0 00E+00	4 65E-11

Lower Limit of Detection
Gaseous Effluents

Nuclides	LLD (Ci/ml)
H3	2.85E-16
Ar41	5.82E-13
Cr51	2.98E-12
Mn54	5.15E-13
Co58	1.31E-13
Fe59	3.06E-13
Co60	2.06E-13
Zn65	9.41E-13
Kr85m	2.56E-13
Kr87	5.47E-13
Kr88	7.17E-13
Sr89	5.76E-21
Sr-90	1.23E-21
Mo99	2.17E-13
I131	2.79E-13
Xe131m	9.21E-12
I133	3.42E-13
Xe133	6.39E-13
Xe133m	2.15E-13
Cs134	5.97E-13
I135	1.89E-12
Xe135	2.92E-13
Cs137	5.01E-13
Xe138	1.01E-12
Ba140	1.42E-12
La140	2.57E-13
Ce141	2.69E-13
Ce144	1.66E-12
Gross Alpha	1.21E-21

Lower Limit of Detection
Aqueous Effluents

Nuclides	LLD (Ci/ml)
H3	1.61E-12
Na24	4.72E-14
Cr51	3.23E-13
Mn54	5.01E-14
Fe55	4.27E-13
Co57	2.90E-14
Co58	4.05E-14
Fe59	8.34E-14
Co60	7.63E-14
Zn65	1.53E-13
Sr85	3.02E-14
Sr89	4.67E-14
Sr-90	8.96E-15
Sr92	1.01E-13
Nb95	4.97E-14
Zr95	8.85E-14
Mo99	3.06E-14
Ag110m	5.03E-14
Sb122	5.82E-14
Te123m	3.04E-14
Sb124	1.20E-13
Sb125	1.11E-13
Te125m	9.01E-12
Sb126	4.86E-14
I131	3.48E-14
I132	4.58E-14
Te132	3.69E-14
I133	3.94E-14
Xe133	7.91E-14
Cs134	4.57E-14
Xe135	3.44E-14
Cs137	6.15E-14
Ba140	1.66E-13
La140	6.84E-14
Ce141	5.22E-14
Ce144	9.29E-14
Gross Alpha	2.90E-14

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

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

Total Release Duration (minutes)	6.174E+05
Total Release Volume (cf)	6.628E+10
Average Release Flowrate (cfm)	1.074E+05
Average Period Flowrate (cfm)	1.261E+05

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

Nuclide	uCi	Average uCi/cc	EC Ratio	EC
AR-41	3.28E+04	1.75E-11	1.75E-03	1.00E-08
KR-85M	2.30E+03	1.23E-12	1.23E-05	1.00E-07
KR-87	2.94E+01	1.57E-14	7.84E-07	2.00E-08
KR-88	3.28E+03	1.75E-12	1.94E-04	9.00E-09
XE-133M	7.33E+03	3.90E-12	6.51E-06	6.00E-07
XE-133	9.65E+05	5.14E-10	1.03E-03	5.00E-07
XE-135	2.71E+04	1.44E-11	2.06E-04	7.00E-08
F&AG	1.04E+06	5.53E-10	3.20E-03	
I-131	9.86E+00	5.25E-15	2.63E-05	2.00E-10
I-132	8.77E+01	4.67E-14	2.34E-06	2.00E-08
I-133	2.55E+01	1.36E-14	1.36E-05	1.00E-09
Iodine	1.23E+02	6.56E-14	4.22E-05	
H-3	2.10E+06	1.12E-09	1.12E-02	1.00E-07
H-3	2.10E+06	1.12E-09	1.12E-02	
CO-58	1.22E+00	6.51E-16	6.51E-07	1.00E-09
P>=8	1.22E+00	6.51E-16	6.51E-07	
Total	3.14E+06	1.67E-09	1.44E-02	

Date/Time: 04/09/2003 16:48 retdas

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

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

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
Admin	Any Organ	INFANT	THYROID	3.06E-03	31-day	2.25E-01	1.36E+00
					Quarter	5.63E+00	5.45E-02
					Annual	1.13E+01	2.72E-02
T.Spec	Any Organ	INFANT	THYROID	3.06E-03	31-day	3.00E-01	1.02E+00
					Quarter	7.50E+00	4.09E-02
					Annual	1.50E+01	2.04E-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	8.99E+00
CO-58	1.81E-03
I-131	8.89E+01
I-132	7.33E-03
I-133	2.14E+00

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

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

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
AGPD	9.60E-08	9.60E-08	9.60E-08	9.60E-08	9.60E-08	9.60E-08	0.00E+00	9.60E-08
AINHL	8.13E-09	4.39E-05	4.65E-05	4.40E-05	4.39E-05	4.39E-05	0.00E+00	4.39E-05
AVEG	1.01E-07	7.90E-05	1.25E-04	7.91E-05	7.88E-05	7.90E-05	0.00E+00	7.89E-05
AGMILK	4.32E-07	5.49E-05	2.54E-04	5.53E-05	5.43E-05	5.45E-05	0.00E+00	5.46E-05
ACMEAT	1.26E-08	1.14E-05	1.72E-05	1.14E-05	1.13E-05	1.14E-05	0.00E+00	1.13E-05
ACMILK	3.60E-07	2.71E-05	1.93E-04	2.75E-05	2.66E-05	2.68E-05	0.00E+00	2.69E-05
TGPD	9.60E-08	9.60E-08	9.60E-08	9.60E-08	9.60E-08	9.60E-08	0.00E+00	9.60E-08
TINHL	1.14E-08	4.43E-05	4.76E-05	4.44E-05	4.43E-05	4.43E-05	0.00E+00	4.43E-05
TVEG	9.61E-08	9.03E-05	1.28E-04	9.04E-05	9.02E-05	9.03E-05	0.00E+00	9.03E-05
TGMILK	7.83E-07	7.17E-05	3.86E-04	7.25E-05	7.06E-05	7.09E-05	0.00E+00	7.12E-05
TCMEAT	1.05E-08	6.77E-06	1.10E-05	6.78E-06	6.75E-06	6.78E-06	0.00E+00	6.76E-06
TCMILK	6.53E-07	3.55E-05	2.98E-04	3.62E-05	3.46E-05	3.48E-05	0.00E+00	3.51E-05
CGPD	9.60E-08	9.60E-08	9.60E-08	9.60E-08	9.60E-08	9.60E-08	0.00E+00	9.60E-08
CINHL	1.54E-08	3.92E-05	4.31E-05	3.92E-05	3.92E-05	3.91E-05	0.00E+00	3.91E-05
CVEG	1.79E-07	1.40E-04	1.98E-04	1.40E-04	1.40E-04	1.40E-04	0.00E+00	1.40E-04
CGMILK	1.90E-06	1.14E-04	7.37E-04	1.15E-04	1.12E-04	1.12E-04	0.00E+00	1.13E-04
CCMEAT	1.94E-08	8.20E-06	1.46E-05	8.21E-06	8.18E-06	8.20E-06	0.00E+00	8.20E-06
CCMILK	1.58E-06	5.65E-05	5.76E-04	5.75E-05	5.49E-05	5.50E-05	0.00E+00	5.58E-05
IGPD	9.60E-08	9.60E-08	9.60E-08	9.60E-08	9.60E-08	9.60E-08	0.00E+00	9.60E-08
IINHL	1.23E-08	2.25E-05	2.61E-05	2.25E-05	2.25E-05	2.25E-05	0.00E+00	2.25E-05
IGMILK	3.97E-06	1.75E-04	1.69E-03	1.75E-04	1.70E-04	1.70E-04	0.00E+00	1.72E-04
ICMILK	3.31E-06	8.71E-05	1.35E-03	8.78E-05	8.32E-05	8.34E-05	0.00E+00	8.49E-05
TOTALS								
ADULT	1.01E-06	2.16E-04	6.35E-04	2.17E-04	2.15E-04	2.16E-04	0.00E+00	2.16E-04
TEEN	1.65E-06	2.49E-04	8.71E-04	2.50E-04	2.47E-04	2.47E-04	0.00E+00	2.48E-04
CHILD	3.79E-06	3.58E-04	1.57E-03	3.60E-04	3.54E-04	3.55E-04	0.00E+00	3.56E-04
INFANT	7.38E-06	2.84E-04	3.06E-03	2.86E-04	2.76E-04	2.76E-04	0.00E+00	2.79E-04

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

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

Date/Time: 04/09/2003 16:48 retdas

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

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

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

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

=== MAXIMUM NG DOSE FOR PERIOD ===

Limit Type	Dose Type	Dose (mrad)	Limit Period	Limit (mrad)	Percent of Limit
Admin	Gamma	4.37E-05	31-day	1.50E-01	2.91E-02
			Quarter	3.75E+00	1.16E-03
			Annual	7.50E+00	5.82E-04
Admin	Beta	1.73E-05	31-day	3.00E-01	5.76E-03
			Quarter	7.50E+00	2.30E-04
			Annual	1.50E+01	1.15E-04
T.Spec	Gamma	4.37E-05	31-day	2.00E-01	2.18E-02
			Quarter	5.00E+00	8.74E-04
			Annual	1.00E+01	4.37E-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	4.05E+01
KR-85M	3.76E-01
KR-87	2.41E-02
KR-88	6.62E+00
XE-133M	3.18E-01
XE-133	4.52E+01
XE-135	6.90E+00

T.Spec	Beta	1.73E-05	31-day	4.00E-01	4.32E-03
			Quarter	1.00E+01	1.73E-04
			Annual	2.00E+01	8.64E-05

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	8.88E+00
KR-85M	3.74E-01

Date/Time: 04/09/2003 16:48 retdas

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 1

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

Nuclide	Percentage
KR-87	2.50E-02
KR-88	7.92E-01
XE-133M	8.95E-01
XE-133	8.36E+01
XE-135	5.49E+00

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

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

Total Release Duration (minutes)	6.364E+05
Total Release Volume (cf)	9.283E+10
Average Release Flowrate (cfm)	1.459E+05
Average Period Flowrate (cfm)	1.766E+05

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

Nuclide	uCi	Average uCi/cc	EC Ratio	EC
AR-41	2.38E+04	9.05E-12	9.05E-04	1.00E-08
KR-85M	7.46E+02	2.84E-13	2.84E-06	1.00E-07
KR-87	2.94E+01	1.12E-14	5.60E-07	2.00E-08
KR-88	4.35E+02	1.65E-13	1.84E-05	9.00E-09
XE-133M	7.33E+03	2.79E-12	4.65E-06	6.00E-07
XE-133	1.14E+06	4.34E-10	8.67E-04	5.00E-07
XE-135	2.66E+04	1.01E-11	1.45E-04	7.00E-08
XE-138	2.97E+03	1.13E-12	5.66E-05	2.00E-08
F&AG	1.20E+06	4.57E-10	2.00E-03	
I-131	2.10E+01	8.00E-15	4.00E-05	2.00E-10
I-132	2.24E+02	8.54E-14	4.27E-06	2.00E-08
Iodine	2.45E+02	9.34E-14	4.43E-05	
H-3	2.85E+06	1.09E-09	1.09E-02	1.00E-07
H-3	2.85E+06	1.09E-09	1.09E-02	
CO-58	2.08E+00	7.93E-16	7.93E-07	1.00E-09
P>=8	2.08E+00	7.93E-16	7.93E-07	
Total	4.05E+06	1.55E-09	1.29E-02	

Date/Time: 04/09/2003 16:52 retdas

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

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

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
Admin	Any Organ	INFANT	THYROID	6.00E-03	31-day	2.25E-01	2.67E+00
					Quarter	5.63E+00	1.07E-01
					Annual	1.13E+01	5.34E-02
T.Spec	Any Organ	INFANT	THYROID	6.00E-03	31-day	3.00E-01	2.00E+00
					Quarter	7.50E+00	8.01E-02
					Annual	1.50E+01	4.00E-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	3.17E+00
CO-58	1.57E-03
I-131	9.68E+01
I-132	9.58E-03

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

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

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
AGPD	1.71E-07	1.71E-07	1.71E-07	1.71E-07	1.71E-07	1.71E-07	0.00E+00	1.71E-07
AINHL	1.13E-08	3.04E-05	3.43E-05	3.04E-05	3.04E-05	3.04E-05	0.00E+00	3.04E-05
AVEG	2.02E-07	5.48E-05	1.49E-04	5.50E-05	5.45E-05	5.47E-05	0.00E+00	5.47E-05
AGMILK	8.91E-07	3.88E-05	4.55E-04	3.97E-05	3.75E-05	3.79E-05	0.00E+00	3.83E-05
ACMEAT	2.69E-08	7.87E-06	2.04E-05	7.90E-06	7.83E-06	7.93E-06	0.00E+00	7.86E-06
ACMILK	7.42E-07	1.95E-05	3.66E-04	2.02E-05	1.84E-05	1.87E-05	0.00E+00	1.90E-05
TGPD	1.71E-07	1.71E-07	1.71E-07	1.71E-07	1.71E-07	1.71E-07	0.00E+00	1.71E-07
TINHL	1.57E-08	3.07E-05	3.55E-05	3.07E-05	3.07E-05	3.06E-05	0.00E+00	3.06E-05
TVEG	1.93E-07	6.26E-05	1.41E-04	6.28E-05	6.23E-05	6.25E-05	0.00E+00	6.25E-05
TGMILK	1.62E-06	5.11E-05	7.09E-04	5.27E-05	4.88E-05	4.93E-05	0.00E+00	5.00E-05
TCMEAT	2.24E-08	4.70E-06	1.38E-05	4.72E-06	4.67E-06	4.72E-06	0.00E+00	4.69E-06
TCMILK	1.35E-06	2.58E-05	5.74E-04	2.72E-05	2.39E-05	2.43E-05	0.00E+00	2.50E-05
CGPD	1.71E-07	1.71E-07	1.71E-07	1.71E-07	1.71E-07	1.71E-07	0.00E+00	1.71E-07
CINHL	2.12E-08	2.71E-05	3.25E-05	2.71E-05	2.71E-05	2.71E-05	0.00E+00	2.71E-05
CVEG	3.58E-07	9.72E-05	2.16E-04	9.74E-05	9.68E-05	9.69E-05	0.00E+00	9.70E-05
CGMILK	3.92E-06	8.13E-05	1.38E-03	8.38E-05	7.73E-05	7.77E-05	0.00E+00	7.96E-05
CCMEAT	4.15E-08	5.70E-06	1.95E-05	5.72E-06	5.65E-06	5.68E-06	0.00E+00	5.69E-06
CCMILK	3.27E-06	4.12E-05	1.12E-03	4.33E-05	3.79E-05	3.82E-05	0.00E+00	3.98E-05
IGPD	1.71E-07	1.71E-07	1.71E-07	1.71E-07	1.71E-07	1.71E-07	0.00E+00	1.71E-07
IINHL	1.68E-08	1.56E-05	2.06E-05	1.56E-05	1.56E-05	1.56E-05	0.00E+00	1.56E-05
IGMILK	8.18E-06	1.27E-04	3.28E-03	1.29E-04	1.17E-04	1.18E-04	0.00E+00	1.22E-04
ICMILK	6.82E-06	6.56E-05	2.70E-03	6.69E-05	5.75E-05	5.78E-05	0.00E+00	6.11E-05
TOTALS								
ADULT	2.04E-06	1.51E-04	1.03E-03	1.53E-04	1.49E-04	1.50E-04	0.00E+00	1.50E-04
TEEN	3.37E-06	1.75E-04	1.47E-03	1.78E-04	1.71E-04	1.72E-04	0.00E+00	1.73E-04
CHILD	7.78E-06	2.53E-04	2.77E-03	2.57E-04	2.45E-04	2.46E-04	0.00E+00	2.49E-04
INFANT	1.52E-05	2.08E-04	6.00E-03	2.11E-04	1.91E-04	1.91E-04	0.00E+00	1.98E-04

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

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

Date/Time: 04/09/2003 16:52 retdas

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

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

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

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

=== MAXIMUM NG DOSE FOR PERIOD ===

Limit Type	Dose Type	Dose (mrad)	Limit Period	Limit (mrad)	Percent of Limit
Admin	Gamma	4.13E-05	31-day	1.50E-01	2.76E-02
			Quarter	3.75E+00	1.10E-03
			Annual	7.50E+00	5.51E-04
Admin	Beta	1.95E-05	31-day	3.00E-01	6.50E-03
			Quarter	7.50E+00	2.60E-04
			Annual	1.50E+01	1.30E-04
T.Spec	Gamma	4.13E-05	31-day	2.00E-01	2.07E-02
			Quarter	5.00E+00	8.27E-04
			Annual	1.00E+01	4.13E-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	3.11E+01
KR-85M	1.29E-01
KR-87	2.55E-02
KR-88	9.28E-01
XE-133M	3.36E-01
XE-133	5.65E+01
XE-135	7.18E+00
XE-138	3.84E+00

T.Spec	Beta	1.95E-05	31-day	4.00E-01	4.88E-03
			Quarter	1.00E+01	1.95E-04
			Annual	2.00E+01	9.76E-05

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

Nuclide	Percentage
AR-41	5.70E+00

Date/Time: 04/09/2003 16:52 retdas

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (min): 5.256E+05
Coefficient Type.....: Historical
Unit.....: 2

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

Nuclide	Percentage
KR-85M	1.07E-01
KR-87	2.21E-02
KR-88	9.31E-02
XE-133M	7.92E-01
XE-133	8.75E+01
XE-135	4.79E+00
XE-138	1.03E+00

RETDAS v3.6.3 <BYR> VSSI

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05
Unit.....: 1

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

=== RELEASE DATA ==========
Total Release Duration (minutes)..... 5.402E+05
Total Undiluted Volume Released (gallons)..... NA
Average Undiluted Flowrate (gpm)..... NA

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

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

Nuclide	uCi
CO-57	5.35E+02
SB-122	8.23E+01
SB-124	2.22E+03
SB-125	2.11E+04
TE-123M	9.33E+02
SB-126	9.42E+00
NA-24	1.47E+01
CR-51	1.41E+04
MN-54	3.95E+03
FE-59	4.33E+02
CO-58	5.74E+04
CO-60	5.06E+04
ZN-65	5.73E+02
ZR-95	6.84E+02
NB-95	1.10E+03
AG-110M	9.85E+02
TE-125M	4.53E+04
TE-132	2.62E+02
I-131	8.31E+00
I-132	3.29E+02
CS-137	1.65E+00
CS-138	1.67E+01
BA-140	4.80E+00
LA-140	3.54E+00
CE-144	1.44E+02
Gamma	2.01E+05
KR-85	9.94E+03
XE-131M	6.10E+01

Date/Time: 04/09/2003 16:44 retdas

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05

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

Nuclide	uCi
XE-133M	1.69E+01
XE-133	3.18E+03
XE-135	6.17E+01
D&EG	1.33E+04
SR-85	2.54E+01
H-3	9.49E+08
FE-55	1.93E+04
SR-92	1.77E+02
Beta	9.49E+08
Total	9.49E+08

Date/Time: 04/09/2003 16:44 retdas

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05
Unit.....: 1
Receptor.....: 0 Liquid Receptor

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

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
APWtr	5.36E-05	1.58E-02	1.58E-02	1.59E-02	1.58E-02	1.68E-02	0.00E+00	1.59E-02
AFWFSp	5.14E-02	8.75E-02	5.37E-02	2.23E-01	4.27E-02	9.60E-01	0.00E+00	6.99E-02
TOTALS								
ADULT	5.15E-02	1.03E-01	6.95E-02	2.39E-01	5.85E-02	9.77E-01	0.00E+00	8.58E-02

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

Abbreviation	Age Group	Pathway
APWtr	ADULT	Potable Water (PWtr)
AFWFSp	ADULT	Fresh Water Fish - Sport (FFSP)

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05
Unit.....: 1
Receptor.....: 0 Liquid Receptor

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

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
ADULT								
H-3	0.00E+00	5.66E-02	5.66E-02	5.66E-02	5.66E-02	5.66E-02	0.00E+00	5.66E-02
NA-24	2.14E-06	2.14E-06	2.14E-06	2.14E-06	2.14E-06	2.14E-06	0.00E+00	2.14E-06
CR-51	0.00E+00	0.00E+00	3.83E-06	1.41E-06	8.50E-06	1.61E-03	0.00E+00	6.41E-06
MN-54	0.00E+00	6.16E-03	0.00E+00	1.83E-03	0.00E+00	1.89E-02	0.00E+00	1.18E-03
FE-55	4.54E-03	3.14E-03	0.00E+00	0.00E+00	1.75E-03	1.80E-03	0.00E+00	7.32E-04
FE-59	1.60E-04	3.77E-04	0.00E+00	0.00E+00	1.05E-04	1.26E-03	0.00E+00	1.45E-04
CO-58	0.00E+00	1.83E-03	0.00E+00	0.00E+00	0.00E+00	3.72E-02	0.00E+00	4.11E-03
CO-60	0.00E+00	4.65E-03	0.00E+00	0.00E+00	0.00E+00	8.73E-02	0.00E+00	1.02E-02
ZN-65	4.73E-03	1.50E-02	0.00E+00	1.01E-02	0.00E+00	9.48E-03	0.00E+00	6.80E-03
SR-92	9.86E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-04	0.00E+00	4.27E-07
ZR-95	6.46E-08	2.07E-08	0.00E+00	3.25E-08	0.00E+00	6.57E-05	0.00E+00	1.40E-08
NB-95	1.75E-04	9.72E-05	0.00E+00	9.60E-05	0.00E+00	5.90E-01	0.00E+00	5.22E-05
AG-110M	3.55E-07	3.29E-07	0.00E+00	6.46E-07	0.00E+00	1.34E-04	0.00E+00	1.95E-07
TE-125M	4.14E-02	1.50E-02	1.25E-02	1.69E-01	0.00E+00	1.65E-01	0.00E+00	5.55E-03
TE-132	2.25E-04	1.46E-04	1.61E-04	1.40E-03	0.00E+00	6.90E-03	0.00E+00	1.37E-04
I-131	4.52E-07	6.46E-07	2.12E-04	1.11E-06	0.00E+00	1.71E-07	0.00E+00	3.70E-07
I-132	8.73E-07	2.34E-06	8.17E-05	3.72E-06	0.00E+00	4.39E-07	0.00E+00	8.17E-07
CS-137	2.24E-04	3.07E-04	0.00E+00	1.04E-04	3.46E-05	5.93E-06	0.00E+00	2.01E-04
CS-138	1.58E-06	3.11E-06	0.00E+00	2.29E-06	2.26E-07	1.33E-11	0.00E+00	1.54E-06
BA-140	3.61E-07	4.53E-10	0.00E+00	1.54E-10	2.60E-10	7.43E-07	0.00E+00	2.37E-08
LA-140	1.91E-10	9.62E-11	0.00E+00	0.00E+00	0.00E+00	7.06E-06	0.00E+00	2.54E-11
CE-144	8.04E-08	3.36E-08	0.00E+00	1.99E-08	0.00E+00	2.72E-05	0.00E+00	4.32E-09

RETDAS v3.6.3 <BYR> VSSI

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05
Unit.....: 1
Receptor.....: 0 Liquid Receptor

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

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
Admin	Any Organ	ADULT	GILLI	9.77E-01	31-day	1.50E-01	6.51E+02
					Quarter	3.75E+00	2.60E+01
					Annual	7.50E+00	1.30E+01
Admin	Tot Body	ADULT	TBODY	8.58E-02	31-day	4.50E-02	1.91E+02
					Quarter	1.13E+00	7.62E+00
					Annual	2.25E+00	3.81E+00
T.Spec	Any Organ	ADULT	GILLI	9.77E-01	31-day	2.00E-01	4.88E+02
					Quarter	5.00E+00	1.95E+01
					Annual	1.00E+01	9.77E+00

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

Nuclide	Percentage
H-3	5.80E+00
NA-24	2.19E-04
CR-51	1.65E-01
MN-54	1.93E+00
FE-55	1.84E-01
FE-59	1.29E-01
CO-58	3.81E+00
CO-60	8.93E+00
ZN-65	9.70E-01
SR-92	2.00E-02
ZR-95	6.73E-03
NB-95	6.04E+01
AG-110M	1.37E-02
TE-125M	1.69E+01
TE-132	7.06E-01
I-131	1.75E-05
I-132	4.49E-05
CS-137	6.08E-04
CS-138	1.36E-09
BA-140	7.61E-05
LA-140	7.23E-04
CE-144	2.78E-03

Date/Time: 04/09/2003 16:44 retdas

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05

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

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
T.Spec	Tot Body	ADULT	TBODY	8.58E-02	31-day	6.00E-02	1.43E+02
					Quarter	1.50E+00	5.72E+00
					Annual	3.00E+00	2.86E+00

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

Nuclide	Percentage
H-3	6.60E+01
NA-24	2.49E-03
CR-51	7.47E-03
MN-54	1.37E+00
FE-55	8.53E-01
FE-59	1.69E-01
CO-58	4.80E+00
CO-60	1.19E+01
ZN-65	7.93E+00
SR-92	4.97E-04
ZR-95	1.64E-05
NB-95	6.09E-02
AG-110M	2.28E-04
TE-125M	6.47E+00
TE-132	1.60E-01
I-131	4.32E-04
I-132	9.53E-04
CS-137	2.34E-01
CS-138	1.80E-03
BA-140	2.76E-05
LA-140	2.97E-08
CE-144	5.03E-06

RETDAS v3.6.3 <BYR> VSSI

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05
Unit.....: 2

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

=== RELEASE DATA ==========
Total Release Duration (minutes)..... 5.402E+05
Total Undiluted Volume Released (gallons)..... NA
Average Undiluted Flowrate (gpm)..... NA

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

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

Nuclide	uCi
CO-57	5.35E+02
SB-122	8.23E+01
SB-124	2.22E+03
SB-125	2.11E+04
TE-123M	9.33E+02
SB-126	9.42E+00
NA-24	1.47E+01
CR-51	1.41E+04
MN-54	3.95E+03
FE-59	4.33E+02
CO-58	5.74E+04
CO-60	5.06E+04
ZN-65	5.73E+02
ZR-95	6.84E+02
NB-95	1.10E+03
AG-110M	9.85E+02
TE-125M	4.53E+04
TE-132	2.62E+02
I-131	8.31E+00
I-132	3.29E+02
CS-137	1.65E+00
CS-138	1.67E+01
BA-140	4.80E+00
LA-140	3.54E+00
CE-144	1.44E+02
Gamma	2.01E+05
KR-85	9.94E+03
XE-131M	6.10E+01

Date/Time: 04/09/2003 16:46 retdas

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05

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

Nuclide	uCi
XE-133M	1.69E+01
XE-133	3.18E+03
XE-135	6.17E+01
D&EG	1.33E+04
SR-85	2.54E+01
H-3	9.49E+08
FE-55	1.93E+04
SR-92	1.77E+02
Beta	9.49E+08
Total	9.49E+08

Date/Time: 04/09/2003 16:46 retdas

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05
Unit.....: 2
Receptor.....: 0 Liquid Receptor

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

Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
APWtr	5.36E-05	1.58E-02	1.58E-02	1.59E-02	1.58E-02	1.68E-02	0.00E+00	1.59E-02
AFWFSp	5.14E-02	8.75E-02	5.37E-02	2.23E-01	4.27E-02	9.60E-01	0.00E+00	6.99E-02
TOTALS								
ADULT	5.15E-02	1.03E-01	6.95E-02	2.39E-01	5.85E-02	9.77E-01	0.00E+00	8.58E-02

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

Abbreviation	Age Group	Pathway
APWtr	ADULT	Potable Water (PWtr)
AFWFSp	ADULT	Fresh Water Fish - Sport (FFSP)

Date/Time: 04/09/2003 16:46 retdas

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05
Unit.....: 2
Receptor.....: 0 Liquid Receptor

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

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
ADULT								
H-3	0.00E+00	5.66E-02	5.66E-02	5.66E-02	5.66E-02	5.66E-02	0.00E+00	5.66E-02
NA-24	2.14E-06	2.14E-06	2.14E-06	2.14E-06	2.14E-06	2.14E-06	0.00E+00	2.14E-06
CR-51	0.00E+00	0.00E+00	3.83E-06	1.41E-06	8.50E-06	1.61E-03	0.00E+00	6.41E-06
MN-54	0.00E+00	6.16E-03	0.00E+00	1.83E-03	0.00E+00	1.89E-02	0.00E+00	1.18E-03
FE-55	4.54E-03	3.14E-03	0.00E+00	0.00E+00	1.75E-03	1.80E-03	0.00E+00	7.32E-04
FE-59	1.60E-04	3.77E-04	0.00E+00	0.00E+00	1.05E-04	1.26E-03	0.00E+00	1.45E-04
CO-58	0.00E+00	1.83E-03	0.00E+00	0.00E+00	0.00E+00	3.72E-02	0.00E+00	4.11E-03
CO-60	0.00E+00	4.65E-03	0.00E+00	0.00E+00	0.00E+00	8.73E-02	0.00E+00	1.02E-02
ZN-65	4.73E-03	1.50E-02	0.00E+00	1.01E-02	0.00E+00	9.48E-03	0.00E+00	6.80E-03
SR-92	9.86E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-04	0.00E+00	4.27E-07
ZR-95	6.46E-08	2.07E-08	0.00E+00	3.25E-08	0.00E+00	6.57E-05	0.00E+00	1.40E-08
NB-95	1.75E-04	9.72E-05	0.00E+00	9.60E-05	0.00E+00	5.90E-01	0.00E+00	5.22E-05
AG-110M	3.55E-07	3.29E-07	0.00E+00	6.46E-07	0.00E+00	1.34E-04	0.00E+00	1.95E-07
TE-125M	4.14E-02	1.50E-02	1.25E-02	1.69E-01	0.00E+00	1.65E-01	0.00E+00	5.55E-03
TE-132	2.25E-04	1.46E-04	1.61E-04	1.40E-03	0.00E+00	6.90E-03	0.00E+00	1.37E-04
I-131	4.52E-07	6.46E-07	2.12E-04	1.11E-06	0.00E+00	1.71E-07	0.00E+00	3.70E-07
I-132	8.73E-07	2.34E-06	8.17E-05	3.72E-06	0.00E+00	4.39E-07	0.00E+00	8.17E-07
CS-137	2.24E-04	3.07E-04	0.00E+00	1.04E-04	3.46E-05	5.93E-06	0.00E+00	2.01E-04
CS-138	1.58E-06	3.11E-06	0.00E+00	2.29E-06	2.26E-07	1.33E-11	0.00E+00	1.54E-06
BA-140	3.61E-07	4.53E-10	0.00E+00	1.54E-10	2.60E-10	7.43E-07	0.00E+00	2.37E-08
LA-140	1.91E-10	9.62E-11	0.00E+00	0.00E+00	0.00E+00	7.06E-06	0.00E+00	2.54E-11
CE-144	8.04E-08	3.36E-08	0.00E+00	1.99E-08	0.00E+00	2.72E-05	0.00E+00	4.32E-09

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05
Unit.....: 2
Receptor.....: 0 Liquid Receptor

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

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
Admin	Any Organ	ADULT	GILLI	9.77E-01	31-day	1.50E-01	6.51E+02
					Quarter	3.75E+00	2.60E+01
					Annual	7.50E+00	1.30E+01
Admin	Tot Body	ADULT	TBODY	8.58E-02	31-day	4.50E-02	1.91E+02
					Quarter	1.13E+00	7.62E+00
					Annual	2.25E+00	3.81E+00
T.Spec	Any Organ	ADULT	GILLI	9.77E-01	31-day	2.00E-01	4.88E+02
					Quarter	5.00E+00	1.95E+01
					Annual	1.00E+01	9.77E+00

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

Nuclide	Percentage
H-3	5.80E+00
NA-24	2.19E-04
CR-51	1.65E-01
MN-54	1.93E+00
FE-55	1.84E-01
FE-59	1.29E-01
CO-58	3.81E+00
CO-60	8.93E+00
ZN-65	9.70E-01
SR-92	2.00E-02
ZR-95	6.73E-03
NB-95	6.04E+01
AG-110M	1.37E-02
TE-125M	1.69E+01
TE-132	7.06E-01
I-131	1.75E-05
I-132	4.49E-05
CS-137	6.08E-04
CS-138	1.36E-09
BA-140	7.61E-05
LA-140	7.23E-04
CE-144	2.78E-03

Date/Time: 04/09/2003 16:46 retdas

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

Release ID.....: 1 All Liquid Releases
Period Start Date.....: 01/01/2002 00:00
Period End Date.....: 01/01/2003 00:00
Period Duration (mins): 5.256E+05

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

Limit Type	Organ Type	Age Group	Organ	Dose (mrem)	Limit Period	Limit (mrem)	Percent of Limit
T.Spec	Tot Body	ADULT	TBODY	8.58E-02	31-day	6.00E-02	1.43E+02
					Quarter	1.50E+00	5.72E+00
					Annual	3.00E+00	2.86E+00

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

Nuclide	Percentage
H-3	6.60E+01
NA-24	2.49E-03
CR-51	7.47E-03
MN-54	1.37E+00
FE-55	8.53E-01
FE-59	1.69E-01
CO-58	4.80E+00
CO-60	1.19E+01
ZN-65	7.93E+00
SR-92	4.97E-04
ZR-95	1.64E-05
NB-95	6.09E-02
AG-110M	2.28E-04
TE-125M	6.47E+00
TE-132	1.60E-01
I-131	4.32E-04
I-132	9.53E-04
CS-137	2.34E-01
CS-138	1.80E-03
BA-140	2.76E-05
LA-140	2.97E-08
CE-144	5.03E-06

Date/Time: 04/09/2003 16:46 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-1, 2002

Report for: 2002
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	2.86E-02	1.12E-01	3.29E-02	7.64E-02	3.66E-02	1.93E+00	0.00E+00	8.81E-02

=== 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	1.93E+00	3.75E+00	5.14E+01
Qtr 1 - Admin. Total Body	ADULT	TBODY	8.81E-02	1.13E+00	7.84E+00
Qtr 1 - T.Spc. Any Organ	ADULT	GILLI	1.93E+00	5.00E+00	3.85E+01

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	1.65E+00
CR-51	2.13E-01
MN-54	2.51E+00
FE-55	2.43E-01
FE-59	1.35E-01
CO-58	3.09E+00
CO-60	1.14E+01
ZN-65	1.28E+00
SR-92	2.64E-02
ZR-95	8.87E-03
NB-95	7.85E+01
AG-110M	1.81E-02
TE-125M	6.04E-01
TE-132	3.62E-01
I-132	2.34E-05
CS-137	8.01E-04
CE-144	3.67E-03

Qtr 1 - T.Spc. Total Body	ADULT	TBODY	8.81E-02	1.50E+00	5.88E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.60E+01
CR-51	1.86E-02
MN-54	3.42E+00
FE-55	2.16E+00

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
FE-59	3.39E-01
CO-58	7.48E+00
CO-60	2.92E+01
ZN-65	2.01E+01
SR-92	1.26E-03
ZR-95	4.14E-05
NB-95	1.52E-01
AG-110M	5.76E-04
TE-125M	4.43E-01
TE-132	1.57E-01
I-132	9.54E-04
CS-137	5.93E-01
CE-144	1.27E-05

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-1, 2002

Report for: 2002
Unit Range - From: 1 To: 1

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ========== QUARTER 2 ==========

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	1.32E-02	2.84E-02	2.72E-02	7.68E-02	2.30E-02	9.58E-02	0.00E+00	2.60E-02

=== 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	9.58E-02	3.75E+00	2.55E+00
Qtr 2 - Admin. Total Body	ADULT	TBODY	2.60E-02	1.13E+00	2.31E+00
Qtr 2 - T.Spc. Any Organ	ADULT	GILLI	9.58E-02	5.00E+00	1.92E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	2.40E+01
NA-24	1.58E-03
CR-51	3.49E-02
MN-54	1.68E-01
FE-59	8.25E-02
CO-58	9.80E+00
CO-60	1.53E+00
NB-95	8.90E+00
TE-125M	5.51E+01
TE-132	4.17E-01
I-131	1.51E-04
I-132	2.44E-05
CS-138	1.55E-08

Qtr 2 - T.Spc. Total Body	ADULT	TBODY	2.60E-02	1.50E+00	1.73E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.84E+01
NA-24	5.81E-03
CR-51	5.12E-04
MN-54	3.84E-02
FE-59	3.50E-02
CO-58	4.00E+00
CO-60	6.63E-01
NB-95	2.91E-03

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
TE-125M	6.80E+00
TE-132	3.05E-02
I-131	1.21E-03
I-132	1.68E-04
CS-138	6.63E-03

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-1, 2002

Report for: 2002
Unit Range - From: 1 To: 1

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ========== QUARTER 3 ==========

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	8.61E-03	3.32E-02	3.21E-02	6.47E-02	2.93E-02	8.10E-02	0.00E+00	3.20E-02

=== 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	8.10E-02	3.75E+00	2.16E+00
Qtr 3 - Admin. Total Body	ADULT	TBODY	3.20E-02	1.13E+00	2.84E+00
Qtr 3 - T.Spc. Any Organ	ADULT	GILLI	8.10E-02	5.00E+00	1.62E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.62E+01
MN-54	3.35E-01
FE-59	2.46E-02
CO-58	1.24E+01
CO-60	3.50E+00
TE-125M	4.16E+01
TE-132	5.87E+00
I-131	1.19E-04
I-132	3.98E-04
BA-140	2.15E-03

Qtr 3 - T.Spc. Total Body	ADULT	TBODY	3.20E-02	1.50E+00	2.13E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.16E+01
MN-54	5.28E-02
FE-59	7.16E-03
CO-58	3.49E+00
CO-60	1.04E+00
TE-125M	3.54E+00
TE-132	2.95E-01
I-131	6.54E-04
I-132	1.88E-03
BA-140	1.73E-04

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-1, 2002

Report for: 2002
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	7.74E-02	6.33E-02	5.81E-02	3.50E-01	3.47E-02	3.57E-01	0.00E+00	4.59E-02

=== 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	3.57E-01	3.75E+00	9.53E+00
Qtr 4 - Admin. Total Body	ADULT	TBODY	4.59E-02	1.13E+00	4.08E+00
Qtr 4 - T.Spc. Any Organ	ADULT	GILLI	3.57E-01	5.00E+00	7.15E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.70E+00
NA-24	6.84E-04
MN-54	2.69E-02
FE-59	1.56E-01
CO-58	1.34E+00
CO-60	4.16E-01
NB-95	5.83E-01
TE-125M	8.62E+01
TE-132	1.58E+00
I-132	9.24E-05
LA-140	6.12E-03

Qtr 4 - T.Spc. Total Body	ADULT	TBODY	4.59E-02	1.50E+00	3.06E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	7.56E+01
NA-24	5.32E-03
MN-54	1.31E-02
FE-59	1.40E-01
CO-58	1.15E+00
CO-60	3.80E-01
NB-95	4.02E-04
TE-125M	2.25E+01
TE-132	2.44E-01
I-132	1.34E-03

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
LA-140	1.72E-07

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-1, 2002

Report for: 2002
Unit Range - From: 1 To: 1

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ========== ANNUAL 2002 =========

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	1.02E-01	2.05E-01	1.38E-01	4.73E-01	1.16E-01	1.94E+00	0.00E+00	1.70E-01

=== SITE DOSE LIMIT ANALYSIS ============================== ANNUAL 2002 =========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2002 - Admin. Any Organ	ADULT	GILLI	1.94E+00	7.50E+00	2.58E+01
2002 - Admin. Total Body	ADULT	TBODY	1.70E-01	2.25E+00	7.55E+00
2002 - T.Spc. Any Organ	ADULT	GILLI	1.94E+00	1.00E+01	1.94E+01

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	5.79E+00
NA-24	2.19E-04
CR-51	1.65E-01
MN-54	1.93E+00
FE-55	1.84E-01
FE-59	1.29E-01
CO-58	3.81E+00
CO-60	8.94E+00
ZN-65	9.70E-01
SR-92	2.00E-02
ZR-95	6.73E-03
NB-95	6.04E+01
AG-110M	1.37E-02
TE-125M	1.69E+01
TE-132	7.06E-01
I-131	1.75E-05
I-132	4.49E-05
CS-137	6.08E-04
CS-138	1.36E-09
BA-140	7.61E-05
LA-140	7.23E-04
CE-144	2.78E-03

2002 - T.Spc. Total Body	ADULT	TBODY	1.70E-01	3.00E+00	5.66E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	6.60E+01
NA-24	2.50E-03
CR-51	7.48E-03
MN-54	1.37E+00
FE-55	8.54E-01
FE-59	1.69E-01
CO-58	4.80E+00
CO-60	1.20E+01
ZN-65	7.94E+00
SR-92	4.98E-04
ZR-95	1.64E-05
NB-95	6.10E-02
AG-110M	2.28E-04
TE-125M	6.48E+00
TE-132	1.60E-01
I-131	4.33E-04
I-132	9.54E-04
CS-137	2.34E-01
CS-138	1.80E-03
BA-140	2.76E-05
LA-140	2.97E-08
CE-144	5.04E-06

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002
Unit Range - From: 1 To: 1

=== 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	2.22E-03	5.63E+00	3.95E-02
Qtr 1 - Admin. Total Body	CHILD	TBODY	1.81E-04	5.25E+00	3.45E-03
Qtr 1 - T.Spc. Any Organ	INFANT	THYROID	2.22E-03	7.50E+00	2.96E-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	6.28E+00
CO-58	2.49E-03
I-131	9.28E+01
I-133	8.99E-01

Qtr 1 - T.Spc. Total Body	CHILD	TBODY	1.81E-04	7.50E+00	2.41E-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	9.91E+01
CO-58	5.39E-02
I-131	8.60E-01
I-133	1.16E-02

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002
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	1.61E-05	3.75E+00	4.29E-04
Qtr 1 - Admin. Beta	1.02E-05	7.50E+00	1.36E-04
Qtr 1 - T.Spc. Gamma	1.61E-05	5.00E+00	3.22E-04

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

Nuclide	Percentage
AR-41	8.44E+00
KR-85M	3.05E-01
XE-135	1.10E+01
XE-133M	8.04E-01
XE-133	7.95E+01

Qtr 1 - T.Spc. Beta	1.02E-05	1.00E+01	1.02E-04

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

Nuclide	Percentage
AR-41	1.16E+00
KR-85M	1.89E-01
XE-135	5.45E+00
XE-133M	1.41E+00
XE-133	9.18E+01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002
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	6.15E-04	5.63E+00	1.09E-02
Qtr 2 - Admin. Total Body	CHILD	TBODY	1.02E-04	5.25E+00	1.94E-03
Qtr 2 - T.Spc. Any Organ	INFANT	THYROID	6.15E-04	7.50E+00	8.19E-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	1.29E+01
I-131	8.71E+01

Qtr 2 - T.Spc. Total Body	CHILD	TBODY	1.02E-04	7.50E+00	1.36E-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	9.96E+01
I-131	3.96E-01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002
Unit Range - From: 1 To: 1

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

Quartr - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
Qtr 2 - Admin. Gamma	1.07E-05	3.75E+00	2.85E-04
Qtr 2 - Admin. Beta	4.91E-06	7.50E+00	6.55E-05
Qtr 2 - T.Spc. Gamma	1.07E-05	5.00E+00	2.14E-04

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

Nuclide	Percentage
AR-41	2.66E+01
XE-138	1.49E+01
KR-87	1.97E-01
XE-135	2.82E+00
XE-133M	5.03E-01
XE-133	5.50E+01

Qtr 2 - T.Spc. Beta	4.91E-06	1.00E+01	4.91E-05

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

Nuclide	Percentage
AR-41	5.01E+00
XE-138	4.10E+00
KR-87	1.76E-01
XE-135	1.94E+00
XE-133M	1.22E+00
XE-133	8.76E+01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002
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	6.11E-03	5.63E+00	1.09E-01
Qtr 3 - Admin. Total Body	CHILD	TBODY	1.61E-04	5.25E+00	3.07E-03
Qtr 3 - T.Spc. Any Organ	INFANT	THYROID	6.11E-03	7.50E+00	8.14E-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	1.99E+00
CO-58	1.12E-03
I-131	9.72E+01
I-132	1.31E-02
I-133	7.48E-01

Qtr 3 - T.Spc. Total Body	CHILD	TBODY	1.61E-04	7.50E+00	2.15E-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	9.71E+01
CO-58	7.49E-02
I-131	2.79E+00
I-132	3.40E-02
I-133	2.99E-02

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002
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	5.03E-05	3.75E+00	1.34E-03
Qtr 3 - Admin. Beta	1.87E-05	7.50E+00	2.50E-04
Qtr 3 - T.Spc. Gamma	5.03E-05	5.00E+00	1.01E-03

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

Nuclide	Percentage
AR-41	4.89E+01
KR-85M	1.74E-01
XE-135	7.79E+00
XE-133M	1.87E-01
KR-88	1.53E+00
XE-133	4.14E+01

Qtr 3 - T.Spc. Beta 1.87E-05 1.00E+01 1.87E-04

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

Nuclide	Percentage
AR-41	1.14E+01
KR-85M	1.83E-01
XE-135	6.58E+00
XE-133M	5.58E-01
KR-88	1.94E-01
XE-133	8.11E+01

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002
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	CHILD	GILLI	1.62E-04	5.63E+00	2.87E-03
Qtr 4 - Admin. Total Body	CHILD	TBODY	1.62E-04	5.25E+00	3.08E-03
Qtr 4 - T.Spc. Any Organ	CHILD	GILLI	1.62E-04	7.50E+00	2.15E-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	1.00E+02
CO-58	3.96E-02

Qtr 4 - T.Spc. Total Body	CHILD	TBODY	1.62E-04	7.50E+00	2.15E-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	1.00E+02
CO-58	2.83E-02

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002
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	7.97E-06	3.75E+00	2.12E-04
Qtr 4 - Admin. Beta	2.96E-06	7.50E+00	3.94E-05
Qtr 4 - T.Spc. Gamma	7.97E-06	5.00E+00	1.59E-04

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

Nuclide	Percentage
AR-41	2.20E+01
KR-85M	1.02E+00
XE-133M	9.60E-03
KR-88	3.15E+01
XE-133	4.55E+01

Qtr 4 - T.Spc. Beta	2.96E-06	1.00E+01	2.96E-05

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

Nuclide	Percentage
AR-41	5.13E+00
KR-85M	1.08E+00
XE-133M	2.88E-02
KR-88	4.02E+00
XE-133	8.97E+01

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002
Unit Range - From: 1 To: 1

=== I&P DOSE LIMIT ANALYSIS ========== ANNUAL 2002 =========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2002 - Admin. Any Organ	INFANT	THYROID	9.07E-03	1.13E+01	8.06E-02
2002 - Admin. Total Body	CHILD	TBODY	6.06E-04	1.05E+01	5.77E-03
2002 - T.Spc. Any Organ	INFANT	THYROID	9.07E-03	1.50E+01	6.05E-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	5.14E+00
CO-58	1.65E-03
I-131	9.41E+01
I-132	8.82E-03
I-133	7.24E-01

2002 - T.Spc. Total Body	CHILD	TBODY	6.06E-04	1.50E+01	4.04E-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	9.89E+01
CO-58	4.36E-02
I-131	1.06E+00
I-132	9.03E-03
I-133	1.14E-02

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002
Unit Range - From: 1 To: 1

=== NG DOSE LIMIT ANALYSIS ========== ANNUAL 2002 =========

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
2002 - Admin. Gamma	8.50E-05	7.50E+00	1.13E-03
2002 - Admin. Beta	3.68E-05	1.50E+01	2.45E-04
2002 - T.Spc. Gamma	8.50E-05	1.00E+01	8.50E-04

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

Nuclide	Percentage
AR-41	3.59E+01
XE-138	1.87E+00
KR-87	2.48E-02
KR-85M	2.56E-01
XE-135	7.04E+00
XE-133M	3.27E-01
KR-88	3.85E+00
XE-133	5.07E+01

2002 - T.Spc. Beta 3.68E-05 2.00E+01 1.84E-04

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

Nuclide	Percentage
AR-41	7.19E+00
XE-138	5.47E-01
KR-87	2.35E-02
KR-85M	2.32E-01
XE-135	5.12E+00
XE-133M	8.40E-01
KR-88	4.21E-01
XE-133	8.56E+01

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Unit-1, 2002

Report for: 2002
Unit Range - From: 1 To: 1

=== MAXIMUM DOSE ANALYSIS ================================ ANNUAL 2002 =========

Dose Type	Age Group	Organ	Dose (mrem)
Any Organ	ADULT	GILLI	1.94E+00

Liquid Receptor: 0 Liquid Receptor
Gaseous Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Liquid Dose: 1.94E+00 % of Total: 9.98E+01
Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	5.79E+00
NA-24	2.19E-04
CR-51	1.65E-01
MN-54	1.93E+00
FE-55	1.84E-01
FE-59	1.29E-01
CO-58	3.81E+00
CO-60	8.94E+00
ZN-65	9.70E-01
SR-92	2.00E-02
ZR-95	6.73E-03
NB-95	6.04E+01
AG-110M	1.37E-02
TE-125M	1.69E+01
TE-132	7.06E-01
I-131	1.75E-05
I-132	4.49E-05
CS-137	6.08E-04
CS-138	1.36E-09
BA-140	7.61E-05
LA-140	7.23E-04
CE-144	2.78E-03

Gaseous Dose: 3.65E-04 % of Total: 1.88E-02
Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.95E+01
CO-58	1.61E-01
I-131	3.01E-01
I-132	1.32E-02

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
I-133	1.67E-02

=== MAXIMUM DOSE ANALYSIS ================================ ANNUAL 2002 =========

Dose Type	Age Group	Organ	Dose (mrem)
Total Body	ADULT	TBODY	1.70E-01

Liquid Receptor: 0 Liquid Receptor
Gaseous Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Liquid Dose: 1.70E-01 % of Total: 9.99E+01
Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	6.60E+01
NA-24	2.50E-03
CR-51	7.48E-03
MN-54	1.37E+00
FE-55	8.54E-01
FE-59	1.69E-01
CO-58	4.80E+00
CO-60	1.20E+01
ZN-65	7.94E+00
SR-92	4.98E-04
ZR-95	1.64E-05
NB-95	6.10E-02
AG-110M	2.28E-04
TE-125M	6.48E+00
TE-132	1.60E-01
I-131	4.33E-04
I-132	9.54E-04
CS-137	2.34E-01
CS-138	1.80E-03
BA-140	2.76E-05
LA-140	2.97E-08
CE-144	5.04E-06

Gaseous Dose: 3.66E-04 % of Total: 2.15E-01
Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.93E+01
CO-58	5.40E-02
I-131	6.32E-01
I-132	1.41E-02

Date/Time: 04/09/2003 16:39 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
I-133	7.16E-03

RETDAS v3.6.3 <BYR> VSSI

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-2, 2002

Report for: 2002
Unit Range - From: 2 To: 2

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ========== QUARTER 1 ==========

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	2.86E-02	1.12E-01	3.29E-02	7.64E-02	3.66E-02	1.93E+00	0.00E+00	8.81E-02

=== 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	1.93E+00	3.75E+00	5.14E+01
Qtr 1 - Admin. Total Body	ADULT	TBODY	8.81E-02	1.13E+00	7.84E+00
Qtr 1 - T.Spc. Any Organ	ADULT	GILLI	1.93E+00	5.00E+00	3.85E+01

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	1.65E+00
CR-51	2.13E-01
MN-54	2.51E+00
FE-55	2.43E-01
FE-59	1.35E-01
CO-58	3.09E+00
CO-60	1.14E+01
ZN-65	1.28E+00
SR-92	2.64E-02
ZR-95	8.87E-03
NB-95	7.85E+01
AG-110M	1.81E-02
TE-125M	6.04E-01
TE-132	3.62E-01
I-132	2.34E-05
CS-137	8.01E-04
CE-144	3.67E-03

Qtr 1 - T.Spc. Total Body	ADULT	TBODY	8.81E-02	1.50E+00	5.88E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.60E+01
CR-51	1.86E-02
MN-54	3.42E+00
FE-55	2.16E+00

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
FE-59	3.39E-01
CO-58	7.48E+00
CO-60	2.92E+01
ZN-65	2.01E+01
SR-92	1.26E-03
ZR-95	4.14E-05
NB-95	1.52E-01
AG-110M	5.76E-04
TE-125M	4.43E-01
TE-132	1.57E-01
I-132	9.54E-04
CS-137	5.93E-01
CE-144	1.27E-05

RETDAS v3.6.3 <BYR> VSSI

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-2, 2002

Report for: 2002
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	1.32E-02	2.84E-02	2.72E-02	7.68E-02	2.30E-02	9.58E-02	0.00E+00	2.60E-02

=== 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	9.58E-02	3.75E+00	2.55E+00
Qtr 2 - Admin. Total Body	ADULT	TBODY	2.60E-02	1.13E+00	2.31E+00
Qtr 2 - T.Spc. Any Organ	ADULT	GILLI	9.58E-02	5.00E+00	1.92E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	2.40E+01
NA-24	1.58E-03
CR-51	3.49E-02
MN-54	1.68E-01
FE-59	8.25E-02
CO-58	9.80E+00
CO-60	1.53E+00
NB-95	8.90E+00
TE-125M	5.51E+01
TE-132	4.17E-01
I-131	1.51E-04
I-132	2.44E-05
CS-138	1.55E-08

Qtr 2 - T.Spc. Total Body	ADULT	TBODY	2.60E-02	1.50E+00	1.73E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.84E+01
NA-24	5.81E-03
CR-51	5.12E-04
MN-54	3.84E-02
FE-59	3.50E-02
CO-58	4.00E+00
CO-60	6.63E-01
NB-95	2.91E-03

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
TE-125M	6.80E+00
TE-132	3.05E-02
I-131	1.21E-03
I-132	1.68E-04
CS-138	6.63E-03

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-2, 2002

Report for: 2002
Unit Range - From: 2 To: 2

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ========== QUARTER 3 ==========

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	8.61E-03	3.32E-02	3.21E-02	6.47E-02	2.93E-02	8.10E-02	0.00E+00	3.20E-02

=== 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	8.10E-02	3.75E+00	2.16E+00
Qtr 3 - Admin. Total Body	ADULT	TBODY	3.20E-02	1.13E+00	2.84E+00
Qtr 3 - T.Spc. Any Organ	ADULT	GILLI	8.10E-02	5.00E+00	1.62E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.62E+01
MN-54	3.35E-01
FE-59	2.46E-02
CO-58	1.24E+01
CO-60	3.50E+00
TE-125M	4.16E+01
TE-132	5.87E+00
I-131	1.19E-04
I-132	3.98E-04
BA-140	2.15E-03

Qtr 3 - T.Spc. Total Body	ADULT	TBODY	3.20E-02	1.50E+00	2.13E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.16E+01
MN-54	5.28E-02
FE-59	7.16E-03
CO-58	3.49E+00
CO-60	1.04E+00
TE-125M	3.54E+00
TE-132	2.95E-01
I-131	6.54E-04
I-132	1.88E-03
BA-140	1.73E-04

Date/Time: 04/09/2003 16:42 retdas

RETDAS v3.6.3 <BYR> VSSI

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-2, 2002

Report for: 2002
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	7.74E-02	6.33E-02	5.81E-02	3.50E-01	3.47E-02	3.57E-01	0.00E+00	4.59E-02

=== 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	3.57E-01	3.75E+00	9.53E+00
Qtr 4 - Admin. Total Body	ADULT	TBODY	4.59E-02	1.13E+00	4.08E+00
Qtr 4 - T.Spc. Any Organ	ADULT	GILLI	3.57E-01	5.00E+00	7.15E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.70E+00
NA-24	6.84E-04
MN-54	2.69E-02
FE-59	1.56E-01
CO-58	1.34E+00
CO-60	4.16E-01
NB-95	5.83E-01
TE-125M	8.62E+01
TE-132	1.58E+00
I-132	9.24E-05
LA-140	6.12E-03

Qtr 4 - T.Spc. Total Body	ADULT	TBODY	4.59E-02	1.50E+00	3.06E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	7.56E+01
NA-24	5.32E-03
MN-54	1.31E-02
FE-59	1.40E-01
CO-58	1.15E+00
CO-60	3.80E-01
NB-95	4.02E-04
TE-125M	2.25E+01
TE-132	2.44E-01
I-132	1.34E-03

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
LA-140	1.72E-07

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-2, 2002

Report for: 2002
Unit Range - From: 2 To: 2

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ========== ANNUAL 2002 =========

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	1.02E-01	2.05E-01	1.38E-01	4.73E-01	1.16E-01	1.94E+00	0.00E+00	1.70E-01

=== SITE DOSE LIMIT ANALYSIS ============================== ANNUAL 2002 =========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2002 - Admin. Any Organ	ADULT	GILLI	1.94E+00	7.50E+00	2.58E+01
2002 - Admin. Total Body	ADULT	TBODY	1.70E-01	2.25E+00	7.55E+00
2002 - T.Spc. Any Organ	ADULT	GILLI	1.94E+00	1.00E+01	1.94E+01

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	5.79E+00
NA-24	2.19E-04
CR-51	1.65E-01
MN-54	1.93E+00
FE-55	1.84E-01
FE-59	1.29E-01
CO-58	3.81E+00
CO-60	8.94E+00
ZN-65	9.70E-01
SR-92	2.00E-02
ZR-95	6.73E-03
NB-95	6.04E+01
AG-110M	1.37E-02
TE-125M	1.69E+01
TE-132	7.06E-01
I-131	1.75E-05
I-132	4.49E-05
CS-137	6.08E-04
CS-138	1.36E-09
BA-140	7.61E-05
LA-140	7.23E-04
CE-144	2.78E-03

2002 - T.Spc. Total Body	ADULT	TBODY	1.70E-01	3.00E+00	5.66E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	6.60E+01
NA-24	2.50E-03
CR-51	7.48E-03
MN-54	1.37E+00
FE-55	8.54E-01
FE-59	1.69E-01
CO-58	4.80E+00
CO-60	1.20E+01
ZN-65	7.94E+00
SR-92	4.98E-04
ZR-95	1.64E-05
NB-95	6.10E-02
AG-110M	2.28E-04
TE-125M	6.48E+00
TE-132	1.60E-01
I-131	4.33E-04
I-132	9.54E-04
CS-137	2.34E-01
CS-138	1.80E-03
BA-140	2.76E-05
LA-140	2.97E-08
CE-144	5.04E-06

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002
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	2.22E-03	5.63E+00	3.95E-02
Qtr 1 - Admin. Total Body	CHILD	TBODY	1.81E-04	5.25E+00	3.45E-03
Qtr 1 - T.Spc. Any Organ	INFANT	THYROID	2.22E-03	7.50E+00	2.96E-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	6.28E+00
CO-58	2.49E-03
I-131	9.28E+01
I-133	8.99E-01

Qtr 1 - T.Spc. Total Body	CHILD	TBODY	1.81E-04	7.50E+00	2.41E-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	9.91E+01
CO-58	5.39E-02
I-131	8.60E-01
I-133	1.16E-02

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002
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	1.61E-05	3.75E+00	4.29E-04
Qtr 1 - Admin. Beta	1.02E-05	7.50E+00	1.36E-04
Qtr 1 - T.Spc. Gamma	1.61E-05	5.00E+00	3.22E-04

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

Nuclide	Percentage
AR-41	8.44E+00
KR-85M	3.05E-01
XE-135	1.10E+01
XE-133M	8.04E-01
XE-133	7.95E+01

Qtr 1 - T.Spc. Beta	1.02E-05	1.00E+01	1.02E-04

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

Nuclide	Percentage
AR-41	1.16E+00
KR-85M	1.89E-01
XE-135	5.45E+00
XE-133M	1.41E+00
XE-133	9.18E+01

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002
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	6.15E-04	5.63E+00	1.09E-02
Qtr 2 - Admin. Total Body	CHILD	TBODY	1.02E-04	5.25E+00	1.94E-03
Qtr 2 - T.Spc. Any Organ	INFANT	THYROID	6.15E-04	7.50E+00	8.19E-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	1.29E+01
I-131	8.71E+01

Qtr 2 - T.Spc. Total Body	CHILD	TBODY	1.02E-04	7.50E+00	1.36E-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	9.96E+01
I-131	3.96E-01

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002
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	1.07E-05	3.75E+00	2.85E-04
Qtr 2 - Admin. Beta	4.91E-06	7.50E+00	6.55E-05
Qtr 2 - T.Spc. Gamma	1.07E-05	5.00E+00	2.14E-04

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

Nuclide	Percentage
AR-41	2.66E+01
XE-138	1.49E+01
KR-87	1.97E-01
XE-135	2.82E+00
XE-133M	5.03E-01
XE-133	5.50E+01

Qtr 2 - T.Spc. Beta	4.91E-06	1.00E+01	4.91E-05

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

Nuclide	Percentage
AR-41	5.01E+00
XE-138	4.10E+00
KR-87	1.76E-01
XE-135	1.94E+00
XE-133M	1.22E+00
XE-133	8.76E+01

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002
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	6.11E-03	5.63E+00	1.09E-01
Qtr 3 - Admin. Total Body	CHILD	TBODY	1.61E-04	5.25E+00	3.07E-03
Qtr 3 - T.Spc. Any Organ	INFANT	THYROID	6.11E-03	7.50E+00	8.14E-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	1.99E+00
CO-58	1.12E-03
I-131	9.72E+01
I-132	1.31E-02
I-133	7.48E-01

Qtr 3 - T.Spc. Total Body	CHILD	TBODY	1.61E-04	7.50E+00	2.15E-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	9.71E+01
CO-58	7.49E-02
I-131	2.79E+00
I-132	3.40E-02
I-133	2.99E-02

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002
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	5.03E-05	3.75E+00	1.34E-03
Qtr 3 - Admin. Beta	1.87E-05	7.50E+00	2.50E-04
Qtr 3 - T.Spc. Gamma	5.03E-05	5.00E+00	1.01E-03

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

Nuclide	Percentage
AR-41	4.89E+01
KR-85M	1.74E-01
XE-135	7.79E+00
XE-133M	1.87E-01
KR-88	1.53E+00
XE-133	4.14E+01

Qtr 3 - T.Spc. Beta 1.87E-05 1.00E+01 1.87E-04

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

Nuclide	Percentage
AR-41	1.14E+01
KR-85M	1.83E-01
XE-135	6.58E+00
XE-133M	5.58E-01
KR-88	1.94E-01
XE-133	8.11E+01

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002
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	CHILD	GILLI	1.62E-04	5.63E+00	2.87E-03
Qtr 4 - Admin. Total Body	CHILD	TBODY	1.62E-04	5.25E+00	3.08E-03
Qtr 4 - T.Spc. Any Organ	CHILD	GILLI	1.62E-04	7.50E+00	2.15E-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	1.00E+02
CO-58	3.96E-02

Qtr 4 - T.Spc. Total Body	CHILD	TBODY	1.62E-04	7.50E+00	2.15E-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	1.00E+02
CO-58	2.83E-02

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002
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	7.97E-06	3.75E+00	2.12E-04
Qtr 4 - Admin. Beta	2.96E-06	7.50E+00	3.94E-05
Qtr 4 - T.Spc. Gamma	7.97E-06	5.00E+00	1.59E-04

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

Nuclide	Percentage
AR-41	2.20E+01
KR-85M	1.02E+00
XE-133M	9.60E-03
KR-88	3.15E+01
XE-133	4.55E+01

Qtr 4 - T.Spc. Beta 2.96E-06 1.00E+01 2.96E-05

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

Nuclide	Percentage
AR-41	5.13E+00
KR-85M	1.08E+00
XE-133M	2.88E-02
KR-88	4.02E+00
XE-133	8.97E+01

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002
Unit Range - From: 2 To: 2

=== I&P DOSE LIMIT ANALYSIS ========== ANNUAL 2002 =========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2002 - Admin. Any Organ	INFANT	THYROID	9.07E-03	1.13E+01	8.06E-02
2002 - Admin. Total Body	CHILD	TBODY	6.06E-04	1.05E+01	5.77E-03
2002 - T.Spc. Any Organ	INFANT	THYROID	9.07E-03	1.50E+01	6.05E-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	5.14E+00
CO-58	1.65E-03
I-131	9.41E+01
I-132	8.82E-03
I-133	7.24E-01

2002 - T.Spc. Total Body	CHILD	TBODY	6.06E-04	1.50E+01	4.04E-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	9.89E+01
CO-58	4.36E-02
I-131	1.06E+00
I-132	9.03E-03
I-133	1.14E-02

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002
Unit Range - From: 2 To: 2

=== NG DOSE LIMIT ANALYSIS ========== ANNUAL 2002 =========

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
2002 - Admin. Gamma	8.50E-05	7.50E+00	1.13E-03
2002 - Admin. Beta	3.68E-05	1.50E+01	2.45E-04
2002 - T.Spc. Gamma	8.50E-05	1.00E+01	8.50E-04

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

Nuclide	Percentage
AR-41	3.59E+01
XE-138	1.87E+00
KR-87	2.48E-02
KR-85M	2.56E-01
XE-135	7.04E+00
XE-133M	3.27E-01
KR-88	3.85E+00
XE-133	5.07E+01

2002 - T.Spc. Beta	3.68E-05	2.00E+01	1.84E-04

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

Nuclide	Percentage
AR-41	7.19E+00
XE-138	5.47E-01
KR-87	2.35E-02
KR-85M	2.32E-01
XE-135	5.12E+00
XE-133M	8.40E-01
KR-88	4.21E-01
XE-133	8.56E+01

Date/Time: 04/09/2003 16:42 retdas

RETDAS v3.6.3 <BYR> VSSI

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Unit-2, 2002

Report for: 2002
Unit Range - From: 2 To: 2

=== MAXIMUM DOSE ANALYSIS ================================ ANNUAL 2002 =========

Dose Type	Age Group	Organ	Dose (mrem)
Any Organ	ADULT	GILLI	1.94E+00

Liquid Receptor: 0 Liquid Receptor
Gaseous Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Liquid Dose: 1.94E+00 % of Total: 9.98E+01
Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	5.79E+00
NA-24	2.19E-04
CR-51	1.65E-01
MN-54	1.93E+00
FE-55	1.84E-01
FE-59	1.29E-01
CO-58	3.81E+00
CO-60	8.94E+00
ZN-65	9.70E-01
SR-92	2.00E-02
ZR-95	6.73E-03
NB-95	6.04E+01
AG-110M	1.37E-02
TE-125M	1.69E+01
TE-132	7.06E-01
I-131	1.75E-05
I-132	4.49E-05
CS-137	6.08E-04
CS-138	1.36E-09
BA-140	7.61E-05
LA-140	7.23E-04
CE-144	2.78E-03

Gaseous Dose: 3.65E-04 % of Total: 1.88E-02
Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.95E+01
CO-58	1.61E-01
I-131	3.01E-01
I-132	1.32E-02

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
I-133	1.67E-02

=== MAXIMUM DOSE ANALYSIS ================================ ANNUAL 2002 =========

Dose Type	Age Group	Organ	Dose (mrem)
Total Body	ADULT	TBODY	1.70E-01

Liquid Receptor: 0 Liquid Receptor
Gaseous Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA

Liquid Dose: 1.70E-01 % of Total: 9.99E+01
Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	6.60E+01
NA-24	2.50E-03
CR-51	7.48E-03
MN-54	1.37E+00
FE-55	8.54E-01
FE-59	1.69E-01
CO-58	4.80E+00
CO-60	1.20E+01
ZN-65	7.94E+00
SR-92	4.98E-04
ZR-95	1.64E-05
NB-95	6.10E-02
AG-110M	2.28E-04
TE-125M	6.48E+00
TE-132	1.60E-01
I-131	4.33E-04
I-132	9.54E-04
CS-137	2.34E-01
CS-138	1.80E-03
BA-140	2.76E-05
LA-140	2.97E-08
CE-144	5.04E-06

Gaseous Dose: 3.66E-04 % of Total: 2.15E-01
Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.93E+01
CO-58	5.40E-02
I-131	6.32E-01
I-132	1.41E-02

Date/Time: 04/09/2003 16:42 retdas

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
I-133	7.16E-03