

Exelon Generation Company, LLC  
Byron Station  
4450 North German Church Road  
Byron, IL 61010-9794

www.exeloncorp.com

April 30, 2006

10 CFR 50.36a

LTR: BYRON 2006-0045  
File: 1.10.0101

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

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

Subject: 2005 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 2005, through December 2005.

An investigation is being performed as part of an Exelon Generation Company, LLC fleetwide environmental assessment project relating to previously identified leaks from the Circulating Water System vacuum breaker vaults. The results will be fully reported in the 2006 Annual Radioactive Effluent Release Report (issued in 2007).

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

Respectfully,



David M. Hoots  
Site Vice President  
Byron Nuclear Generating Station

DMH/ES/TF/rah

Attachment

BYRON NUCLEAR POWER STATION  
UNIT 1/2 DOCKET NUMBER STN-50-454/455  
RADIOACTIVE EFFLUENT RELEASE REPORT  
January, 2005 THROUGH December, 2005  
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, 2005 THROUGH December, 2005  
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 = 102
    - 2. Total time period for batch releases = 15,300 minutes
    - 3. Maximum time period for a batch release = 476 minutes
    - 4. Average time period for a batch release = 150 minutes
    - 5. Minimum time period for a batch release = 50 minutes
    - 6. Average stream flow during periods of release of effluent into a flowing stream = 115.8 m<sup>3</sup>/sec, based on information from the U.S. Geological Survey Byron Gauging Station.
  - b. Gaseous:
    - 1. Number of batch releases = 311
    - 2. Total time period for batch releases = 69,700 minutes
    - 3. Maximum time period for a batch release = 20,600 minutes
    - 4. Average time period for batch releases = 217 minutes
    - 5. Minimum time period for a batch release = 3 minutes
6. Abnormal Releases:
- a. Liquid - None
  - b. Gaseous – None

EFFLUENT AND WASTE DISPOSAL REPORT  
TABLE 1A  
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES  
Unit One 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
1. Total Release	Ci	4.48E+01	2.43E-01	3.28E-01	1.32E+00	4.67E+01
2. Avg. Release Rate	uCi/sec	5.76E+00	3.09E-02	4.13E-02	1.66E-01	1.48E+00
Iodine-131						
1. Total Release	Ci	3.03E-03	2.90E-05	1.29E-05	1.27E-05	3.09E-03
2. Avg. Release Rate	uCi/sec	3.90E-04	3.69E-06	1.62E-06	1.60E-06	9.80E-05
Particulates Half Life >= 8 days						
1. Total Release	Ci	6.57E-06	0.00E+00	0.00E+00	0.00E+00	6.57E-06
2. Avg. Release Rate	uCi/sec	8.45E-07	0.00E+00	0.00E+00	0.00E+00	2.08E-07
Tritium						
1. Total Release	Ci	1.94E-01	7.92E-02	7.86E-02	1.45E-01	4.97E-01
2. Avg. Release Rate	uCi/sec	2.50E-02	1.01E-02	9.89E-03	1.82E-02	1.58E-02



EFFLUENT AND WASTE DISPOSAL REPORT  
TABLE 1C  
GASEOUS EFFLUENTS - GROUND RELEASES - CONTINUOUS MODE  
Unit One 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
XE-133	Ci	8.49E+00	3.96E-03	9.39E-02	1.21E+00	9.80E+00
		-----	-----	-----	-----	-----
Totals for Period...	Ci	8.49E+00	3.96E-03	9.39E-02	1.21E+00	9.80E+00
		-----	-----	-----	-----	-----
Iodines						
I-131	Ci	3.03E-03	2.90E-05	1.29E-05	1.27E-05	3.09E-03
I-132	Ci	1.06E-03	0.00E+00	0.00E+00	0.00E+00	1.06E-03
I-133	Ci	2.60E-03	2.40E-05	3.71E-05	8.60E-06	2.67E-03
I-135	Ci	1.04E-03	0.00E+00	0.00E+00	0.00E+00	1.04E-03
		-----	-----	-----	-----	-----
Totals for Period...	Ci	7.73E-03	5.30E-05	5.00E-05	2.13E-05	7.86E-03
		-----	-----	-----	-----	-----
Particulates Half Life >= 8 days						
CO-58	Ci	3.22E-06	0.00E+00	0.00E+00	0.00E+00	3.22E-06
CR-51	Ci	3.35E-06	0.00E+00	0.00E+00	0.00E+00	3.35E-06
		-----	-----	-----	-----	-----
Totals for Period...	Ci	6.57E-06	0.00E+00	0.00E+00	0.00E+00	6.57E-06
		-----	-----	-----	-----	-----
Tritium						
H-3	Ci	1.94E-01	7.92E-02	7.86E-02	1.45E-01	4.97E-01
		-----	-----	-----	-----	-----
Totals for Period...	Ci	1.94E-01	7.92E-02	7.86E-02	1.45E-01	4.97E-01
		-----	-----	-----	-----	-----

EFFLUENT AND WASTE DISPOSAL REPORT  
TABLE 1C  
GASEOUS EFFLUENTS - GROUND RELEASES - BATCH MODE  
Unit One 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
AR-41	Ci	1.57E-03	2.05E-03	9.67E-04	2.23E-03	6.81E-03
KR-85	Ci	2.94E-01	1.28E-01	1.59E-01	7.43E-03	5.89E-01
XE-131M	Ci	4.74E-02	6.35E-03	1.08E-03	2.17E-04	5.51E-02
XE-133	Ci	3.58E+01	1.03E-01	7.28E-02	9.85E-02	3.61E+01
XE-133M	Ci	1.51E-01	0.00E+00	2.12E-04	9.73E-06	1.51E-01
XE-135	Ci	2.07E-03	0.00E+00	4.23E-04	6.41E-04	3.14E-03
		-----	-----	-----	-----	-----
Totals for Period...	Ci	3.63E+01	2.39E-01	2.34E-01	1.09E-01	3.69E+01
Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Tritium						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT  
TABLE 2A  
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES  
Unit One 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----						
Fission and Activation Gases						
1. Total Release	Ci	1.13E-02	4.90E-03	1.27E-03	4.55E-03	2.20E-02
2. Avg. Diluted Conc.	uCi/ml	3.58E-09	1.27E-09	3.55E-10	1.65E-09	1.65E-09
Tritium						
1. Total Release	Ci	4.95E+02	2.21E+02	3.88E+02	1.56E+02	1.26E+03
2. Avg. Diluted Conc.	uCi/ml	1.57E-04	5.74E-05	1.08E-04	5.65E-05	9.47E-05
Dissolved and Entrained Gases						
1. Total Release	Ci	1.65E-02	2.67E-04	2.62E-04	1.00E-03	1.80E-02
2. Avg. Diluted Conc.	uCi/ml	5.24E-09	6.94E-11	7.32E-11	3.63E-10	1.35E-09
Volume of liquid waste	liters	3.15E+09	3.85E+09	3.58E+09	2.76E+09	1.33E+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 One 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
1. Total Release	Ci	1.13E-02	4.90E-03	1.27E-03	4.55E-03	2.20E-02
2. Avg. Diluted Conc.	uCi/ml	8.52E-06	6.94E-06	1.23E-06	4.04E-06	5.25E-06
Tritium						
1. Total Release	Ci	4.93E+02	2.03E+02	3.12E+02	1.43E+02	1.15E+03
2. Avg. Diluted Conc.	uCi/ml	3.72E-01	2.87E-01	3.03E-01	1.27E-01	2.74E-01
Dissolved and Entrained Gases						
1. Total Release	Ci	1.65E-02	2.67E-04	2.62E-04	1.00E-03	1.80E-02
2. Avg. Diluted Conc.	uCi/ml	1.25E-05	3.79E-07	2.53E-07	8.85E-07	4.30E-06
Volume of liquid waste	liters	1.32E+06	7.06E+05	1.03E+06	1.13E+06	4.19E+06
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL REPORT  
 TABLE 2A - Circulating Water Blowdown  
 LIQUID EFFLUENTS - SUMMATION BY RELEASE POINT  
 Unit One 2005

REPORT FOR 2005	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	2.60E+00	1.80E+01	7.62E+01	1.27E+01	1.10E+02
2. Avg. Diluted Conc.	uCi/ml	8.25E-07	4.69E-06	2.13E-05	4.60E-06	8.27E-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
Volume of liquid waste	liters	3.15E+09	3.84E+09	3.58E+09	2.76E+09	1.33E+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 One 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
 Tritium						
H-3	Ci	2.60E+00	1.80E+01	7.62E+01	1.27E+01	1.10E+02
		-----	-----	-----	-----	-----
Totals for Period...	Ci	2.60E+00	1.80E+01	7.62E+01	1.27E+01	1.10E+02
 Dissolved and Entrained Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT  
TABLE 2B  
LIQUID EFFLUENTS - BATCH MODE  
Unit One 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
AG-110M	Ci	0.00E+00	0.00E+00	0.00E+00	8.20E-06	8.20E-06
BR-82	Ci	1.06E-06	0.00E+00	0.00E+00	0.00E+00	1.06E-06
CE-144	Ci	0.00E+00	0.00E+00	7.55E-06	0.00E+00	7.55E-06
CO-57	Ci	0.00E+00	0.00E+00	3.79E-06	3.32E-06	7.11E-06
CO-58	Ci	1.52E-03	1.39E-03	7.98E-04	3.00E-03	6.70E-03
CO-60	Ci	2.98E-04	1.99E-04	3.68E-04	3.10E-04	1.17E-03
CR-51	Ci	5.68E-05	0.00E+00	2.61E-05	8.65E-04	9.48E-04
CS-134	Ci	1.60E-05	1.28E-05	7.80E-06	0.00E+00	3.66E-05
CS-136	Ci	1.74E-06	0.00E+00	0.00E+00	0.00E+00	1.74E-06
CS-137	Ci	2.33E-05	1.24E-05	8.99E-06	0.00E+00	4.47E-05
FE-59	Ci	6.81E-06	0.00E+00	0.00E+00	2.34E-04	2.41E-04
HG-203	Ci	3.92E-06	0.00E+00	0.00E+00	0.00E+00	3.92E-06
I-131	Ci	1.13E-03	3.13E-06	0.00E+00	0.00E+00	1.14E-03
I-132	Ci	4.95E-04	0.00E+00	0.00E+00	2.01E-05	5.15E-04
I-133	Ci	3.20E-06	0.00E+00	0.00E+00	0.00E+00	3.20E-06
LA-140	Ci	2.23E-05	7.93E-06	0.00E+00	0.00E+00	3.02E-05
MN-54	Ci	2.19E-05	1.34E-05	3.46E-05	4.13E-06	7.41E-05
NB-95	Ci	3.05E-05	3.34E-06	1.66E-05	4.62E-06	5.50E-05
PR-144	Ci	0.00E+00	9.15E-04	0.00E+00	0.00E+00	9.15E-04
SB-125	Ci	0.00E+00	1.61E-04	0.00E+00	1.03E-05	1.72E-04
SB-126	Ci	3.21E-05	1.32E-05	0.00E+00	0.00E+00	4.53E-05
TE-123M	Ci	6.07E-05	5.21E-05	1.41E-06	2.21E-05	1.36E-04
TE-125M	Ci	3.41E-03	3.02E-04	0.00E+00	0.00E+00	3.72E-03
TE-129	Ci	3.80E-03	1.33E-03	0.00E+00	0.00E+00	5.13E-03
TE-129M	Ci	1.48E-04	4.93E-04	0.00E+00	6.21E-05	7.04E-04
TE-132	Ci	1.98E-04	0.00E+00	0.00E+00	1.31E-05	2.11E-04
		-----	-----	-----	-----	-----
Totals for Period...	Ci	1.13E-02	4.91E-03	1.27E-03	4.56E-03	2.20E-02
Tritium						
H-3	Ci	4.93E+02	2.03E+02	3.12E+02	1.43E+02	1.15E+03
		-----	-----	-----	-----	-----
Totals for Period...	Ci	4.93E+02	2.03E+02	3.12E+02	1.43E+02	1.15E+03
Dissolved and Entrained Gases						
KR-85	Ci	3.14E-04	0.00E+00	0.00E+00	9.88E-04	1.30E-03
XE-131M	Ci	2.78E-04	0.00E+00	0.00E+00	0.00E+00	2.78E-04
XE-133	Ci	1.58E-02	2.67E-04	2.60E-04	1.54E-05	1.64E-02
XE-133M	Ci	5.04E-05	0.00E+00	0.00E+00	0.00E+00	5.04E-05
XE-135	Ci	1.34E-05	0.00E+00	1.75E-06	0.00E+00	1.51E-05
		-----	-----	-----	-----	-----
Totals for Period...	Ci	1.65E-02	2.67E-04	2.62E-04	1.00E-03	1.80E-02

EFFLUENT AND WASTE DISPOSAL REPORT  
TABLE 1A  
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES  
Unit Two 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
1. Total Release	Ci	8.08E+00	1.93E-01	2.94E-01	1.23E+00	9.80E+00
2. Avg. Release Rate	uCi/sec	1.04E+00	2.45E-02	3.70E-02	1.55E-01	3.11E-01
Iodine-131						
1. Total Release	Ci	4.01E-03	5.51E-05	2.89E-06	1.15E-05	4.08E-03
2. Avg. Release Rate	uCi/sec	5.16E-04	7.01E-06	3.64E-07	1.45E-06	1.30E-04
Particulates Half Life >= 8 days						
1. Total Release	Ci	8.74E-06	0.00E+00	0.00E+00	0.00E+00	8.74E-06
2. Avg. Release Rate	uCi/sec	1.12E-06	0.00E+00	0.00E+00	0.00E+00	2.77E-07
Tritium						
1. Total Release	Ci	6.51E-01	3.26E+00	4.64E-01	9.02E-01	5.28E+00
2. Avg. Release Rate	uCi/sec	8.37E-02	4.15E-01	5.84E-02	1.13E-01	1.67E-01



EFFLUENT AND WASTE DISPOSAL REPORT  
TABLE 1C  
GASEOUS EFFLUENTS - GROUND RELEASES - CONTINUOUS MODE  
Unit Two 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
XE-133	Ci	6.21E+00	3.96E-03	9.39E-02	1.21E+00	7.52E+00
		-----	-----	-----	-----	-----
Totals for Period...	Ci	6.21E+00	3.96E-03	9.39E-02	1.21E+00	7.52E+00
Iodines						
I-131	Ci	4.01E-03	5.51E-05	2.89E-06	1.15E-05	4.08E-03
I-132	Ci	1.08E-03	0.00E+00	0.00E+00	0.00E+00	1.08E-03
I-133	Ci	7.07E-04	1.41E-05	5.86E-06	1.70E-05	7.44E-04
I-135	Ci	3.68E-04	0.00E+00	0.00E+00	0.00E+00	3.68E-04
		-----	-----	-----	-----	-----
Totals for Period...	Ci	6.17E-03	6.92E-05	8.75E-06	2.85E-05	6.27E-03
Particulates Half Life >= 8 days						
CO-58	Ci	2.57E-06	0.00E+00	0.00E+00	0.00E+00	2.57E-06
CR-51	Ci	6.16E-06	0.00E+00	0.00E+00	0.00E+00	6.16E-06
		-----	-----	-----	-----	-----
Totals for Period...	Ci	8.73E-06	0.00E+00	0.00E+00	0.00E+00	8.73E-06
Tritium						
H-3	Ci	6.51E-01	3.26E+00	4.64E-01	9.02E-01	5.28E+00
		-----	-----	-----	-----	-----
Totals for Period...	Ci	6.51E-01	3.26E+00	4.64E-01	9.02E-01	5.28E+00

EFFLUENT AND WASTE DISPOSAL REPORT  
TABLE 1C  
GASEOUS EFFLUENTS - GROUND RELEASES - BATCH MODE  
Unit Two 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----						
Fission and Activation Gases						
AR-41	Ci	2.42E-03	3.78E-03	0.00E+00	2.34E-03	8.54E-03
Kr-85	Ci	2.94E-01	1.28E-01	1.59E-01	7.43E-03	5.89E-01
KR-88	Ci	0.00E+00	1.47E-03	0.00E+00	0.00E+00	1.47E-03
XE-131M	Ci	4.74E-02	6.35E-03	1.08E-03	2.17E-04	5.51E-02
XE-133	Ci	1.52E+00	4.90E-02	3.97E-02	6.01E-03	1.61E+00
XE133M	Ci	5.51E-03	0.00E+00	2.12E-04	9.73E-06	5.73E-03
XE-135	Ci	1.28E-03	0.00E+00	4.23E-04	0.00E+00	1.71E-03
-----						
Totals for Period...	Ci	1.87E+00	1.89E-01	2.00E-01	1.60E-02	2.28E+00
-----						
Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
Tritium						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT  
TABLE 2A  
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES  
Unit Two 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
1. Total Release	Ci	1.13E-02	4.90E-03	1.27E-03	4.55E-03	2.20E-02
2. Avg. Diluted Conc.	uCi/ml	3.58E-09	1.27E-09	3.55E-10	1.65E-09	1.65E-09
Tritium						
1. Total Release	Ci	4.95E+02	2.21E+02	3.88E+02	1.56E+02	1.26E+03
2. Avg. Diluted Conc.	uCi/ml	1.57E-04	5.74E-05	1.08E-04	5.65E-05	9.47E-05
Dissolved and Entrained Gases						
1. Total Release	Ci	1.65E-02	2.67E-04	2.62E-04	1.00E-03	1.80E-02
2. Avg. Diluted Conc.	uCi/ml	5.24E-09	6.94E-11	7.32E-11	3.63E-10	1.35E-09
Volume of liquid waste	liters	3.15E+09	3.85E+09	3.58E+09	2.76E+09	1.33E+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 Two 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
1. Total Release	Ci	1.13E-02	4.90E-03	1.27E-03	4.55E-03	2.20E-02
2. Avg. Diluted Conc.	uCi/ml	8.52E-06	6.94E-06	1.23E-06	4.04E-06	5.25E-06
Tritium						
1. Total Release	Ci	4.93E+02	2.03E+02	3.12E+02	1.43E+02	1.15E+03
2. Avg. Diluted Conc.	uCi/ml	3.72E-01	2.87E-01	3.03E-01	1.27E-01	2.74E-01
Dissolved and Entrained Gases						
1. Total Release	Ci	1.65E-02	2.67E-04	2.62E-04	1.00E-03	1.80E-02
2. Avg. Diluted Conc.	uCi/ml	1.25E-05	3.79E-07	2.53E-07	8.85E-07	4.30E-06
Volume of liquid waste	liters	1.32E+06	7.06E+05	1.03E+06	1.13E+06	4.19E+06
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL REPORT  
 TABLE 2A - Circulating Water Blowdown  
 LIQUID EFFLUENTS - SUMMATION BY RELEASE POINT  
 Unit Two 2005

REPORT FOR 2005	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	2.60E+00	1.80E+01	7.62E+01	1.27E+01	1.10E+02
2. Avg. Diluted Conc.	uCi/ml	8.25E-07	4.69E-06	2.13E-05	4.60E-06	8.27E-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
Volume of liquid waste	liters	3.15E+09	3.84E+09	3.58E+09	2.76E+09	1.33E+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 Two 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
 Tritium						
H-3	Ci	2.60E+00	1.80E+01	7.62E+01	1.27E+01	1.10E+02
		-----	-----	-----	-----	-----
Totals for Period...	Ci	2.60E+00	1.80E+01	7.62E+01	1.27E+01	1.10E+02
 Dissolved and Entrained Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....

EFFLUENT AND WASTE DISPOSAL REPORT  
TABLE 2B  
LIQUID EFFLUENTS - BATCH MODE  
Unit Two 2005

REPORT FOR 2005	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
AG-110M	Ci	0.00E+00	0.00E+00	0.00E+00	8.20E-06	8.20E-06
BR-82	Ci	1.06E-06	0.00E+00	0.00E+00	0.00E+00	1.06E-06
CE-144	Ci	0.00E+00	0.00E+00	7.55E-06	0.00E+00	7.55E-06
CO-57	Ci	0.00E+00	0.00E+00	3.79E-06	3.32E-06	7.11E-06
CO-58	Ci	1.52E-03	1.39E-03	7.98E-04	3.00E-03	6.70E-03
CO-60	Ci	2.98E-04	1.99E-04	3.68E-04	3.10E-04	1.17E-03
CR-51	Ci	5.68E-05	0.00E+00	2.61E-05	8.65E-04	9.48E-04
CS-134	Ci	1.60E-05	1.28E-05	7.80E-06	0.00E+00	3.66E-05
CS-136	Ci	1.74E-06	0.00E+00	0.00E+00	0.00E+00	1.74E-06
CS-137	Ci	2.33E-05	1.24E-05	8.99E-06	0.00E+00	4.47E-05
FE-59	Ci	6.81E-06	0.00E+00	0.00E+00	2.34E-04	2.41E-04
HG-203	Ci	3.92E-06	0.00E+00	0.00E+00	0.00E+00	3.92E-06
I-131	Ci	1.13E-03	3.13E-06	0.00E+00	0.00E+00	1.14E-03
I-132	Ci	4.95E-04	0.00E+00	0.00E+00	2.01E-05	5.15E-04
I-133	Ci	3.20E-06	0.00E+00	0.00E+00	0.00E+00	3.20E-06
LA-140	Ci	2.23E-05	7.93E-06	0.00E+00	0.00E+00	3.02E-05
MN-54	Ci	2.19E-05	1.34E-05	3.46E-05	4.13E-06	7.41E-05
NB-95	Ci	3.05E-05	3.34E-06	1.66E-05	4.62E-06	5.50E-05
PR-144	Ci	0.00E+00	9.15E-04	0.00E+00	0.00E+00	9.15E-04
SB-125	Ci	0.00E+00	1.61E-04	0.00E+00	1.03E-05	1.72E-04
SB-126	Ci	3.21E-05	1.32E-05	0.00E+00	0.00E+00	4.53E-05
TE-123M	Ci	6.07E-05	5.21E-05	1.41E-06	2.21E-05	1.36E-04
TE-125M	Ci	3.41E-03	3.02E-04	0.00E+00	0.00E+00	3.72E-03
TE-129	Ci	3.80E-03	1.33E-03	0.00E+00	0.00E+00	5.13E-03
TE-129M	Ci	1.48E-04	4.93E-04	0.00E+00	6.21E-05	7.04E-04
TE-132	Ci	1.98E-04	0.00E+00	0.00E+00	1.31E-05	2.11E-04
		-----	-----	-----	-----	-----
Totals for Period...	Ci	1.13E-02	4.91E-03	1.27E-03	4.56E-03	2.20E-02
Tritium						
H-3	Ci	4.93E+02	2.03E+02	3.12E+02	1.43E+02	1.15E+03
		-----	-----	-----	-----	-----
Totals for Period...	Ci	4.93E+02	2.03E+02	3.12E+02	1.43E+02	1.15E+03
Dissolved and Entrained Gases						
KR-85	Ci	3.14E-04	0.00E+00	0.00E+00	9.88E-04	1.30E-03
XE-131M	Ci	2.78E-04	0.00E+00	0.00E+00	0.00E+00	2.78E-04
XE-133	Ci	1.58E-02	2.67E-04	2.60E-04	1.54E-05	1.64E-02
XE-133M	Ci	5.04E-05	0.00E+00	0.00E+00	0.00E+00	5.04E-05
XE-135	Ci	1.34E-05	0.00E+00	1.75E-06	0.00E+00	1.51E-05
		-----	-----	-----	-----	-----
Totals for Period...	Ci	1.65E-02	2.67E-04	2.62E-04	1.00E-03	1.80E-02

BYRON NUCLEAR POWER STATION  
UNIT 1/2 DOCKET NUMBER STN-50-454/455  
RADIOACTIVE EFFLUENT RELEASE REPORT  
January, 2005 THROUGH December, 2005

**SOLID RADIOACTIVE WASTE FOR BURIAL 1<sup>ST</sup> QUARTER 2005**

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
1/18/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS B, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	BARNWELL, SC.	3.41E+00	8.98E-02
2/01/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	KINGSTON, TN.	3.63E+01	1.40E-06
2/24/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	1.57E-05
2/24/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	1.13E-04
3/31/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG-TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	3.70E-04
Quarterly Totals		Number of Shipments:	5	1.49E+02	9.03E-02
* Calculated using measured ratios				CUBIC M	CURIES



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RADIOACTIVE EFFLUENT RELEASE REPORT  
January, 2005 THROUGH December, 2005

**SOLID RADIOACTIVE WASTE FOR BURIAL 2<sup>ND</sup> QUARTER 2005**

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
4/05/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA.	3.63E+01	4.53E-05
4/05/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA.	3.63E+01	1.05E-04
4/23/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS B, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	BARNWELL, SC.	3.41E+00	1.26E-01
5/24/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	5.91E-05
5/24/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	5.57E-05
6/21/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	9.44E-05
6/21/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	2.50E-04
Quarterly Totals		Number of Shipments:	7	2.21E+02	1.27E-01
* Calculated using measured ratios					

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January, 2005 THROUGH December, 2005

**SOLID RADIOACTIVE WASTE FOR BURIAL 3<sup>RD</sup> QUARTER 2005**

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
7/19/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	CLIVE, UT	5.83E+00	1.63E-06
7/19/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	CLIVE, UT	5.83E+00	1.65E-06
7/25/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	CLIVE, UT	5.83E+00	8.77E-03
8/01/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAKRIDGE, TN	3.63E+01	1.19E-05
8/02/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	CLIVE, UT	5.83E+00	8.08E-03
8/15/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAKRIDGE, TN	2.72E+00	7.51E-08
8/15/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAKRIDGE, TN	2.72E+00	6.93E-08
8/15/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAKRIDGE, TN	2.72E+00	6.76E-08
8/15/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAKRIDGE, TN	2.72E+00	5.64E-08
8/15/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAKRIDGE, TN	2.72E+00	4.73E-08
8/15/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAKRIDGE, TN	2.72E+00	5.44E-08
8/15/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	OAKRIDGE, TN	2.72E+00	4.27E-08
8/22/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	CLIVE, UT	5.83E+00	7.91E-03
8/29/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	5.94E-04
8/30/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	CLIVE, UT	5.83E+00	9.26E-03
Quarterly Totals		Number of Shipments:	15	1.21E+02	3.50E-02
* Calculated using measured ratios				CUBIC M	CURIES

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January, 2005 THROUGH December, 2005

**SOLID RADIOACTIVE WASTE FOR BURIAL 4<sup>TH</sup> QUARTER 2005**

DATE	DISPOSITION OF MATERIAL (DESCRIPTION, CLASS, TYPE AND SOLIDIFYING AGENT)	MODE OF TRANSPORT	DESTINATION	VOLUME PER SHIPMENT	Curies* Per Shipment
10/20/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	3.08E-04
10/27/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	2.32E-04
10/27/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	2.39E-04
11/02/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS B, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	BARNWELL, SC	5.83E+00	6.59E-02
12/07/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	6.91E-05
12/07/2005	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY, nos, 7, UN2912, CLASS A, STRONG- TIGHT CONTAINER, NONE	EXCLUSIVE-USE	WAMPUM, PA	3.63E+01	1.82E-04
Quarterly Totals		Number of Shipments:	6	1.87E+02	6.70E-02
* Calculated using measured ratios				CUBIC M	CURIES

BYRON NUCLEAR POWER STATION  
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RADIOACTIVE EFFLUENT RELEASE REPORT  
January 2005 THROUGH December 2005

A. There were no changes to the Radioactive Waste Process Control Program that would affect dose to the public, dose to the worker, or curie content of any releases for 2005. This is in accordance with Exelon Corporation procedure CY-AA-170-2000.

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%  
Stdce/Smplcse=5%  
qme=N/A  

---

Total error = 7.8%

2. Liquid Effluents  
Qme=3.33%  
RM=N/A  
ECe=N/A  
Stdce/Smplcse=5%  
qme=2.22%  

---

Total error = 6.4%

3. Waste Resin  
Qme=10.0%  
RM=N/A  
ECe=5%  
Stdce/Smplcse=5%  
qme=1.0%  

---

Total error = 12.3%

4. DAW, Mechanical Filters, and Contaminated Metal  
Qme=10.0%  
RM=N/A  
ECe=N/A  
Stdce/Smplcse=5%  
qme=N/A  
  
Instrument calibration error = 10%  

---

Total error = 11.2%

BYRON NUCLEAR POWER STATION  
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RADIOACTIVE EFFLUENT RELEASE REPORT  
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- 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. There were no REMP issues in 2005.
- H. Attached are Offsite Dose Calculations for January through December of 2005.
- I. On 9/17/05 at 00:54 OPR02J entered LCOAR 0BOL 11.b due to a loss of sample flow to the monitor during 0A WGDT release number 50360 and 0C WGDT release number 50367. Trouble shooting efforts failed to identify the cause of the loss of sample flow. The inoperability window is limited to fourteen days. This was exceeded and Attachment D of the LCOAR was entered at 9/30/05 at 20:46. This was captured in the Corrective Action Program under Issue Report numbers 374496 and 380500. The repairs were completed under Work Order number 848466.

## Solid Radioactive Waste for Burial, Addendum

## A. Estimated Solid Waste Composition

Resins, Filters, Evap Bottoms		
Nuclide	Percent Abundance	uCi/ml
H-3	38.391	1.56E-01
C-14	0.155	6.28E-04
Ar-41	0.000	1.48E-18
Cr-51	0.507	2.05E-03
Mn-54	0.734	2.98E-03
Fe-55	7.649	3.10E-02
Fe-59	0.021	8.67E-05
Co-57	0.246	9.99E-04
Co-58	31.337	1.28E-01
Co-60	5.278	2.15E-02
Ni-63	4.586	1.86E-02
Zn-65	0.010	4.21E-05
Sr-90	0.001	3.62E-06
Zr-95	0.231	9.38E-04
Zr-97	0.000	3.08E-07
Nb-95	0.400	1.62E-03
Mo-99	2.451	9.94E-03
Tc-99	0.000	2.79E-07
Ru-103	0.004	1.66E-05
Ag-110m	0.001	4.62E-06
Sn-113	0.019	7.82E-05
Sb-122	0.163	6.62E-04
Sb-124	0.018	7.10E-05
Sb-125	0.693	2.81E-03
Sb-126	0.010	4.06E-05
Te-123m	0.007	2.67E-05
Te-132	0.017	6.79E-05
I-129	0.000	3.22E-07
I-131	3.489	1.42E-02
I-133	0.000	7.28E-08
Xe-133	0.004	1.50E-05
Cs-134	1.145	4.65E-03
Cs-136	0.002	6.81E-06
Cs-137	2.041	8.27E-03
La-140	0.004	1.66E-05
Ce-141	0.002	7.32E-06
Ce-144	0.308	1.25E-03
Hf-181	0.001	4.23E-06
Hg-203	0.002	6.15E-06
Pu-238	0.000	3.74E-07
Pu-239	0.000	1.43E-07
Pu-241	0.072	2.91E-04
Am-241	0.000	1.49E-07
Cm-242	0.000	1.90E-07
Cm-243	0.000	5.32E-07

Dry Active Waste		
Nuclide	Percent Abundance	uCi/ml
H-3	13.455	6.54E-04
C-14	0.255	1.24E-05
Cr-51	13.271	6.45E-04
Mn-54	2.469	1.20E-04
Fe-55	12.025	5.84E-04
Fe-59	2.428	1.18E-04
Co-57	0.117	5.67E-06
Co-58	29.315	1.42E-03
Co-60	8.257	4.01E-04
Ni-63	7.527	3.66E-04
Zn-65	0.015	7.03E-07
Sr-90	0.001	6.82E-08
Zr-95	3.959	1.92E-04
Zr-97	0.115	5.58E-06
Nb-95	4.905	2.38E-04
Mo-99	0.010	4.64E-07
Tc-99	0.000	5.51E-09
Ru-103	0.077	3.75E-06
Ag-110m	0.375	1.83E-05
Cd-109	0.003	1.65E-07
Sn-113	0.194	9.41E-06
Sb-122	0.000	2.29E-08
Sb-125	0.037	1.79E-06
Te-123m	0.144	7.00E-06
Te-132	0.001	6.25E-08
I-129	0.000	6.36E-09
I-131	0.131	6.36E-06
I-132	0.000	6.80E-28
Cs-134	0.051	2.47E-06
Cs-136	0.003	1.67E-07
Cs-137	0.162	7.85E-06
Ce-141	0.076	3.71E-06
Ce-144	0.601	2.91E-05
Hf-181	0.005	2.38E-07
Hg-203	0.000	2.34E-09
Pu-238	0.000	3.91E-09
Pu-239	0.000	1.59E-09
Pu-241	0.016	7.60E-07
Am-241	0.000	1.85E-09
Cm-242	0.000	1.65E-09
Cm-243	0.000	1.20E-08

Other Contaminated Oil		
Nuclide	Percent Abundance	uCi/ml
H-3	99.907	3.29E-04
C-14	0.000	1.04E-09
Fe-55	0.016	5.14E-08
Co-60	0.011	3.54E-08
Ni-63	0.009	2.82E-08
Sr-90	0.000	5.99E-12
Tc-99	0.000	4.61E-13
I-129	0.000	5.33E-13
Cs-137	0.052	1.72E-07
Ce-144	0.005	1.77E-08
Pu-238	0.000	6.19E-13
Pu-239	0.000	2.37E-13
Pu-241	0.000	1.17E-11
Am-241	0.000	2.47E-13
Cm-242	0.000	3.12E-13
Cm-243	0.000	2.70E-12

# Attachment A, 2005 Radioactive Effluent Release Report

## Lower Limit of Detection Gaseous Effluents

Nuclides	LLD (Ci/ml)
H-3	6.23E-17
Ar-41	2.15E-13
Cr-51	5.62E-18
Mn-54	1.09E-18
Co-58	7.89E-19
Fe-59	2.12E-18
Co-60	1.12E-18
Zn-65	1.23E-18
Br-82	2.27E-19
Kr-85m	3.13E-13
Kr-87	8.28E-13
Kr-88	8.76E-13
Sr-89	4.61E-20
Sr-90	2.49E-21
Mo-99	4.11E-19
I-131	8.36E-19
Xe-131m	1.16E-11
I-133	1.09E-18
Xe-133	8.37E-13
Xe-133m	2.11E-12
Cs-134	1.28E-18
I-135	5.80E-18
Xe-135	2.39E-13
Cs-137	8.30E-19
Xe-138	1.13E-12
Ba-140	2.72E-18
La-140	1.63E-18
Ce-141	9.09E-19
Ce-144	4.30E-18
Gross Alpha	1.16E-19

## Lower Limit of Detection Aqueous Effluents

Nuclides	LLD (Ci/ml)
H-3	1.96E-12
Na-24	4.68E-14
Cr-51	3.28E-13
Mn-54	4.97E-14
Fe-55	6.52E-13
Co-57	3.15E-14
Co-58	4.22E-14
Fe-59	8.22E-14
Co-60	4.47E-14
Zn-65	1.51E-13
Sr-85	4.02E-14
Sr-89	4.10E-14
Sr-90	2.53E-14
Sr-92	5.74E-14
Nb-95	4.25E-14
Zr-95	9.35E-14
Mo-99	3.11E-14
Ag-110m	5.26E-14
Sb-122	6.54E-14
Te-123m	3.57E-14
Sb-124	1.19E-13
Sb-125	1.33E-13
Te-125m	1.07E-11
Sb-126	5.15E-14
I-131	5.01E-14
I-132	4.56E-14
Te-132	3.40E-14
I-133	4.82E-14
Xe-133	1.08E-13
Cs-134	4.88E-14
Xe-135	3.13E-14
Cs-137	5.22E-14
Ba-140	1.20E-13
La-140	5.61E-14
Ce-141	5.72E-14
Ce-144	2.59E-13
Gross Alpha	3.98E-14

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1

=== RELEASE DATA ===  
 Total Release Duration (minutes)..... 5.922E+05  
 Total Release Volume (cf)..... 6.163E+10  
 Average Release Flowrate (cfm)..... 1.041E+05  
  
 Average Period Flowrate (cfm)..... 1.173E+05

=== NUCLIDE DATA ===

Nuclide	uCi	Average uCi/cc	EC Ratio	EC
AR-41	6.81E+03	3.90E-12	3.90E-04	1.00E-08
KR-85	5.89E+05	3.37E-10	4.82E-04	7.00E-07
XE-131M	5.51E+04	3.16E-11	1.58E-05	2.00E-06
XE-133M	1.51E+05	8.63E-11	1.44E-04	6.00E-07
XE-133	4.59E+07	2.63E-08	5.26E-02	5.00E-07
XE-135	3.14E+03	1.80E-12	2.57E-05	7.00E-08
F&AG	4.67E+07	2.68E-08	5.37E-02	
I-131	3.09E+03	1.77E-12	8.85E-03	2.00E-10
I-132	1.06E+03	6.05E-13	3.02E-05	2.00E-08
I-133	2.67E+03	1.53E-12	1.53E-03	1.00E-09
I-135	1.04E+03	5.98E-13	9.96E-05	6.00E-09
Iodine	7.86E+03	4.50E-12	1.05E-02	
H-3	4.97E+05	2.85E-10	2.85E-03	1.00E-07
H-3	4.97E+05	2.85E-10	2.85E-03	
CR-51	3.35E+00	1.92E-15	6.40E-08	3.00E-08
CO-58	3.22E+00	1.85E-15	1.85E-06	1.00E-09
P>=8	6.57E+00	3.77E-15	1.91E-06	
Total	4.72E+07	2.70E-08	6.70E-02	



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

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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
					31-day	2.25E-01	3.82E+02
					Quarter	5.63E+00	1.53E+01
Admin	Any Organ	INFANT	THYROID	8.61E-01	Annual	1.13E+01	7.65E+00
					31-day	3.00E-01	2.87E+02
					Quarter	7.50E+00	1.15E+01
T.Spec	Any Organ	INFANT	THYROID	8.61E-01	Annual	1.50E+01	5.74E+00

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

Nuclide	Percentage
H-3	3.71E-03
CR-51	2.22E-07
CO-58	1.70E-05
I-131	9.92E+01
I-132	3.14E-04
I-133	7.98E-01
I-135	1.88E-03

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 1

=== PERIOD ORGAN DOSE BY AGE GROUP AND PATHWAY (mrem) =====								
Age/Path	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
-----								
AGPD	7.73E-06	7.73E-06	7.73E-06	7.73E-06	7.73E-06	7.73E-06	0.00E+00	7.73E-06
AINHL	1.50E-06	7.38E-06	6.20E-04	9.02E-06	5.14E-06	5.80E-06	0.00E+00	6.22E-06
AVEG	3.04E-05	5.28E-05	1.41E-02	8.41E-05	9.14E-06	2.17E-05	0.00E+00	3.39E-05
AGMILK	1.32E-04	1.96E-04	6.17E-02	3.32E-04	6.30E-06	5.80E-05	0.00E+00	1.14E-04
ACMEAT	3.95E-06	6.97E-06	1.85E-03	1.10E-05	1.31E-06	2.95E-06	0.00E+00	4.57E-06
ACMILK	1.10E-04	1.61E-04	5.14E-02	2.74E-04	3.09E-06	4.62E-05	0.00E+00	9.31E-05
TGPD	7.73E-06	7.73E-06	7.73E-06	7.73E-06	7.73E-06	7.73E-06	0.00E+00	7.73E-06
TINHL	2.10E-06	8.29E-06	7.72E-04	1.05E-05	5.20E-06	5.94E-06	0.00E+00	6.61E-06
TVEG	2.89E-05	5.11E-05	1.17E-02	8.05E-05	1.05E-05	1.93E-05	0.00E+00	3.21E-05
TGMILK	2.40E-04	3.45E-04	9.76E-02	5.89E-04	8.19E-06	7.74E-05	0.00E+00	1.88E-04
TCMEAT	3.28E-06	5.39E-06	1.34E-03	8.70E-06	7.83E-07	1.77E-06	0.00E+00	3.27E-06
TCMILK	2.00E-04	2.85E-04	8.13E-02	4.88E-04	4.02E-06	6.17E-05	0.00E+00	1.54E-04
CGPD	7.73E-06	7.73E-06	7.73E-06	7.73E-06	7.73E-06	7.73E-06	0.00E+00	7.73E-06
CINHL	2.85E-06	7.62E-06	8.81E-04	9.59E-06	4.59E-06	4.99E-06	0.00E+00	6.12E-06
CVEG	5.38E-05	7.06E-05	1.78E-02	1.05E-04	1.62E-05	2.17E-05	0.00E+00	4.69E-05
CGMILK	5.82E-04	6.00E-04	1.93E-01	9.77E-04	1.30E-05	6.78E-05	0.00E+00	3.45E-04
CCMEAT	6.09E-06	7.08E-06	2.03E-03	1.10E-05	9.49E-07	1.53E-06	0.00E+00	4.45E-06
CCMILK	4.85E-04	4.96E-04	1.61E-01	8.10E-04	6.36E-06	5.21E-05	0.00E+00	2.83E-04
IGPD	7.73E-06	7.73E-06	7.73E-06	7.73E-06	7.73E-06	7.73E-06	0.00E+00	7.73E-06
IINHL	2.26E-06	5.46E-06	8.04E-04	5.93E-06	2.65E-06	2.80E-06	0.00E+00	3.75E-06
IGMILK	1.22E-03	1.46E-03	4.69E-01	1.70E-03	1.97E-05	7.37E-05	0.00E+00	6.48E-04
ICMILK	1.01E-03	1.21E-03	3.91E-01	1.41E-03	9.65E-06	5.47E-05	0.00E+00	5.34E-04
----- TOTALS -----								
ADULT	2.86E-04	4.32E-04	1.30E-01	7.18E-04	3.27E-05	1.42E-04	0.00E+00	2.60E-04
TEEN	4.82E-04	7.02E-04	1.93E-01	1.18E-03	3.64E-05	1.74E-04	0.00E+00	3.92E-04
CHILD	1.14E-03	1.19E-03	3.75E-01	1.92E-03	4.89E-05	1.56E-04	0.00E+00	6.94E-04
INFANT	2.24E-03	2.68E-03	8.61E-01	3.12E-03	3.97E-05	1.39E-04	0.00E+00	1.19E-03

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

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

Release ID.....: 1 All Gas Release Types  
Period Start Date....: 01/01/2005 00:00  
Period End Date.....: 01/01/2006 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.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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
			31-day	1.50E-01	6.32E-01
			Quarter	3.75E+00	2.53E-02
Admin	Gamma	9.48E-04	Annual	7.50E+00	1.26E-02
			31-day	3.00E-01	2.36E-01
			Quarter	7.50E+00	9.44E-03
Admin	Beta	7.08E-04	Annual	1.50E+01	4.72E-03
			31-day	2.00E-01	4.74E-01
			Quarter	5.00E+00	1.90E-02
T.Spec	Gamma	9.48E-04	Annual	1.00E+01	9.48E-03

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

Nuclide	Percentage
AR-41	3.88E-01
KR-85	6.20E-02
XE-131M	5.26E-02
XE-133M	3.01E-01
XE-133	9.92E+01
XE-135	3.69E-02

			31-day	4.00E-01	1.77E-01
			Quarter	1.00E+01	7.08E-03
T.Spec	Beta	7.08E-04	Annual	2.00E+01	3.54E-03

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

Nuclide	Percentage
AR-41	4.50E-02
KR-85	2.31E+00
XE-131M	1.23E-01

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

Release ID.....: 1 All Gas Release Types  
Period Start Date.....: 01/01/2005 00:00  
Period End Date.....: 01/01/2006 00:00  
Period Duration (min): 5.256E+05  
Coefficient Type.....: Historical  
Unit.....: 1

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

Nuclide	Percentage
-----	-----
XE-133M	4.49E-01
XE-133	9.71E+01
XE-135	1.55E-02

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

Release ID.....: 1 All Liquid Releases  
Period Start Date.....: 01/01/2005 00:00  
Period End Date.....: 01/01/2006 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)..... 5.409E+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      7.11E+00  
BR-82      1.06E+00  
SB-125      1.72E+02  
HG-203      3.92E+00  
TE-123M      1.36E+02  
SB-126      4.53E+01  
CR-51      9.48E+02  
MN-54      7.41E+01  
FE-59      2.41E+02  
CO-58      6.70E+03  
CO-60      1.17E+03  
NB-95      5.50E+01  
AG-110M      8.20E+00  
TE-125M      3.72E+03  
TE-129      5.13E+03  
TE-129M      7.04E+02  
TE-132      2.11E+02  
I-131      1.14E+03  
I-132      5.15E+02  
I-133      3.20E+00  
CS-134      3.66E+01  
CS-136      1.74E+00  
CS-137      4.47E+01  
LA-140      3.02E+01  
CE-144      7.55E+00  
PR-144      9.15E+02  
-----  
Gamma      2.20E+04  
  
KR-85      1.30E+03

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

Release ID.....: 1 All Liquid Releases  
Period Start Date.....: 01/01/2005 00:00  
Period End Date.....: 01/01/2006 00:00  
Period Duration (mins): 5.256E+05

=== NUCLIDE DATA =====

Nuclide	uCi
-----	-----
XE-131M	2.78E+02
XE-133M	5.04E+01
XE-133	1.64E+04
XE-135	1.51E+01
-----	-----
D&EG	1.80E+04
H-3	1.26E+09
-----	-----
Beta	1.26E+09
-----	-----
Total	1.26E+09

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

Release ID.....: 1 All Liquid Releases  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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      8.89E-06 2.02E-02 2.09E-02 2.02E-02 2.02E-02 2.03E-02 0.00E+00 2.02E-02
AFWFSp     1.63E-02 7.28E-02 8.24E-02 8.46E-02 5.43E-02 1.22E-01 0.00E+00 6.70E-02
TPWtr      8.76E-06 1.42E-02 1.48E-02 1.43E-02 1.42E-02 1.43E-02 0.00E+00 1.42E-02
TFWFSp     1.73E-02 6.13E-02 6.85E-02 5.99E-02 4.25E-02 9.20E-02 0.00E+00 4.94E-02
CPWtr      2.58E-05 2.74E-02 2.87E-02 2.74E-02 2.73E-02 2.74E-02 0.00E+00 2.74E-02
CFWFSp     2.18E-02 5.19E-02 6.30E-02 5.07E-02 3.51E-02 5.74E-02 0.00E+00 3.84E-02
IPWtr      3.29E-05 2.69E-02 2.89E-02 2.69E-02 2.68E-02 2.69E-02 0.00E+00 2.69E-02

----- TOTALS -----
ADULT      1.63E-02 9.30E-02 1.03E-01 1.05E-01 7.45E-02 1.42E-01 0.00E+00 8.73E-02
TEEN       1.73E-02 7.55E-02 8.33E-02 7.42E-02 5.68E-02 1.06E-01 0.00E+00 6.37E-02
CHILD      2.18E-02 7.92E-02 9.17E-02 7.81E-02 6.25E-02 8.48E-02 0.00E+00 6.57E-02
INFANT     3.29E-05 2.69E-02 2.89E-02 2.69E-02 2.68E-02 2.69E-02 0.00E+00 2.69E-02
  
```

```

=== AGE GROUP / PATHWAY DESCRIPTIONS =====
Abbreviation Age Group Pathway
-----
APWtr         ADULT      Potable Water (PWtr)
AFWFSp        ADULT      Fresh Water Fish - Sport (FFSP)
TPWtr         TEEN       Potable Water (PWtr)
TFWFSp        TEEN       Fresh Water Fish - Sport (FFSP)
CPWtr         CHILD      Potable Water (PWtr)
CFWFSp        CHILD      Fresh Water Fish - Sport (FFSP)
IPWtr         INFANT     Potable Water (PWtr)
  
```



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

Release ID.....: 1 All Liquid Releases  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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	7.25E-02	7.25E-02	7.25E-02	7.25E-02	7.25E-02	0.00E+00	7.25E-02
CR-51	0.00E+00	0.00E+00	2.53E-07	9.34E-08	5.63E-07	1.07E-04	0.00E+00	4.24E-07
MN-54	0.00E+00	1.14E-04	0.00E+00	3.38E-05	0.00E+00	3.49E-04	0.00E+00	2.17E-05
FE-59	8.81E-05	2.07E-04	0.00E+00	0.00E+00	5.79E-05	6.90E-04	0.00E+00	7.94E-05
CO-58	0.00E+00	2.11E-04	0.00E+00	0.00E+00	0.00E+00	4.27E-03	0.00E+00	4.72E-04
CO-60	0.00E+00	1.06E-04	0.00E+00	0.00E+00	0.00E+00	2.00E-03	0.00E+00	2.34E-04
NB-95	8.62E-06	4.79E-06	0.00E+00	4.74E-06	0.00E+00	2.91E-02	0.00E+00	2.58E-06
AG-110M	2.91E-09	2.70E-09	0.00E+00	5.30E-09	0.00E+00	1.10E-06	0.00E+00	1.60E-09
TE-125M	3.35E-03	1.21E-03	1.01E-03	1.36E-02	0.00E+00	1.34E-02	0.00E+00	4.48E-04
TE-129	5.41E-05	2.03E-05	4.15E-05	2.27E-04	0.00E+00	4.09E-05	0.00E+00	1.32E-05
TE-129M	2.72E-03	1.01E-03	9.34E-04	1.13E-02	0.00E+00	1.37E-02	0.00E+00	4.30E-04
TE-132	1.79E-04	1.16E-04	1.28E-04	1.11E-03	0.00E+00	5.47E-03	0.00E+00	1.08E-04
I-131	6.08E-05	8.70E-05	2.85E-02	1.49E-04	0.00E+00	2.30E-05	0.00E+00	4.99E-05
I-132	1.35E-06	3.60E-06	1.26E-04	5.74E-06	0.00E+00	6.77E-07	0.00E+00	1.26E-06
I-133	5.86E-08	1.02E-07	1.50E-05	1.78E-07	0.00E+00	9.16E-08	0.00E+00	3.11E-08
CS-134	3.82E-03	9.09E-03	0.00E+00	2.94E-03	9.77E-04	1.59E-04	0.00E+00	7.43E-03
CS-136	1.90E-05	7.50E-05	0.00E+00	4.17E-05	5.72E-06	8.52E-06	0.00E+00	5.40E-05
CS-137	5.98E-03	8.18E-03	0.00E+00	2.78E-03	9.23E-04	1.58E-04	0.00E+00	5.36E-03
LA-140	1.61E-09	8.10E-10	0.00E+00	0.00E+00	0.00E+00	5.95E-05	0.00E+00	2.14E-10
CE-144	4.17E-09	1.74E-09	0.00E+00	1.03E-09	0.00E+00	1.41E-06	0.00E+00	2.24E-10
PR-144	5.85E-10	2.43E-10	0.00E+00	1.37E-10	0.00E+00	8.42E-17	0.00E+00	2.98E-11

## TEEN

H-3	0.00E+00	5.44E-02	5.44E-02	5.44E-02	5.44E-02	5.44E-02	0.00E+00	5.44E-02
CR-51	0.00E+00	0.00E+00	2.43E-07	9.58E-08	6.24E-07	7.35E-05	0.00E+00	4.37E-07
MN-54	0.00E+00	1.12E-04	0.00E+00	3.34E-05	0.00E+00	2.29E-04	0.00E+00	2.22E-05
FE-59	9.08E-05	2.12E-04	0.00E+00	0.00E+00	6.68E-05	5.01E-04	0.00E+00	8.18E-05
CO-58	0.00E+00	2.09E-04	0.00E+00	0.00E+00	0.00E+00	2.89E-03	0.00E+00	4.83E-04
CO-60	0.00E+00	1.06E-04	0.00E+00	0.00E+00	0.00E+00	1.38E-03	0.00E+00	2.39E-04
NB-95	8.68E-06	4.81E-06	0.00E+00	4.67E-06	0.00E+00	2.06E-02	0.00E+00	2.65E-06
AG-110M	2.81E-09	2.66E-09	0.00E+00	5.08E-09	0.00E+00	7.48E-07	0.00E+00	1.62E-09
TE-125M	3.64E-03	1.31E-03	1.02E-03	0.00E+00	0.00E+00	1.07E-02	0.00E+00	4.87E-04
TE-129	5.88E-05	2.19E-05	4.20E-05	2.47E-04	0.00E+00	3.22E-04	0.00E+00	1.43E-05
TE-129M	2.94E-03	1.09E-03	9.47E-04	1.23E-02	0.00E+00	1.10E-02	0.00E+00	4.65E-04
TE-132	1.88E-04	1.19E-04	1.26E-04	1.15E-03	0.00E+00	3.78E-03	0.00E+00	1.12E-04
I-131	6.51E-05	9.11E-05	2.66E-02	1.57E-04	0.00E+00	1.80E-05	0.00E+00	4.89E-05
I-132	1.41E-06	3.68E-06	1.24E-04	5.80E-06	0.00E+00	1.60E-06	0.00E+00	1.32E-06
I-133	6.31E-08	1.07E-07	1.49E-05	1.88E-07	0.00E+00	8.10E-08	0.00E+00	3.26E-08
CS-134	3.92E-03	9.22E-03	0.00E+00	2.93E-03	1.12E-03	1.15E-04	0.00E+00	4.28E-03

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

Release ID.....: 1 All Liquid Releases  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 00:00  
 Period Duration (mins): 5.256E+05

=== PERMIT ORGAN DOSE BY AGE GROUP AND NUCLIDE (mrem) =====								
Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
CS-136	1.91E-05	7.51E-05	0.00E+00	4.09E-05	6.45E-06	6.05E-06	0.00E+00	5.04E-05
CS-137	6.40E-03	8.52E-03	0.00E+00	2.90E-03	1.13E-03	1.21E-04	0.00E+00	2.97E-03
LA-140	1.70E-09	8.37E-10	0.00E+00	0.00E+00	0.00E+00	4.80E-05	0.00E+00	2.23E-10
CE-144	4.43E-09	1.83E-09	0.00E+00	1.10E-09	0.00E+00	1.11E-06	0.00E+00	2.38E-10
PR-144	6.37E-10	2.61E-10	0.00E+00	1.50E-10	0.00E+00	7.02E-13	0.00E+00	3.23E-11

## CHILD

H-3	0.00E+00	6.06E-02	6.06E-02	6.06E-02	6.06E-02	6.06E-02	0.00E+00	6.06E-02
CR-51	0.00E+00	0.00E+00	2.59E-07	7.09E-08	4.73E-07	2.48E-05	0.00E+00	4.67E-07
MN-54	0.00E+00	8.76E-05	0.00E+00	2.46E-05	0.00E+00	7.35E-05	0.00E+00	2.33E-05
FE-59	1.10E-04	1.79E-04	0.00E+00	0.00E+00	5.18E-05	1.86E-04	0.00E+00	8.90E-05
CO-58	0.00E+00	1.69E-04	0.00E+00	0.00E+00	0.00E+00	9.84E-04	0.00E+00	5.16E-04
CO-60	0.00E+00	8.70E-05	0.00E+00	0.00E+00	0.00E+00	4.81E-04	0.00E+00	2.56E-04
NB-95	1.02E-05	3.99E-06	0.00E+00	3.75E-06	0.00E+00	7.38E-03	0.00E+00	2.85E-06
AG-110M	3.70E-09	2.50E-09	0.00E+00	4.66E-09	0.00E+00	2.97E-07	0.00E+00	2.00E-09
TE-125M	4.68E-03	1.27E-03	1.31E-03	0.00E+00	0.00E+00	4.52E-03	0.00E+00	6.24E-04
TE-129	7.60E-05	2.12E-05	5.42E-05	2.22E-04	0.00E+00	4.73E-03	0.00E+00	1.80E-05
TE-129M	3.79E-03	1.06E-03	1.22E-03	1.11E-02	0.00E+00	4.62E-03	0.00E+00	5.88E-04
TE-132	2.36E-04	1.04E-04	1.52E-04	9.68E-04	0.00E+00	1.05E-03	0.00E+00	1.26E-04
I-131	8.47E-05	8.52E-05	2.82E-02	1.40E-04	0.00E+00	7.59E-06	0.00E+00	4.84E-05
I-132	1.79E-06	3.29E-06	1.53E-04	5.03E-06	0.00E+00	3.87E-06	0.00E+00	1.51E-06
I-133	8.23E-08	1.02E-07	1.89E-05	1.70E-07	0.00E+00	4.10E-08	0.00E+00	3.85E-08
CS-134	4.72E-03	7.75E-03	0.00E+00	2.40E-03	8.62E-04	4.18E-05	0.00E+00	1.64E-03
CS-136	2.25E-05	6.19E-05	0.00E+00	3.30E-05	4.92E-06	2.18E-06	0.00E+00	4.01E-05
CS-137	8.06E-03	7.72E-03	0.00E+00	2.52E-03	9.05E-04	4.83E-05	0.00E+00	1.14E-03
LA-140	2.17E-09	7.57E-10	0.00E+00	0.00E+00	0.00E+00	2.11E-05	0.00E+00	2.55E-10
CE-144	7.53E-09	2.36E-09	0.00E+00	1.31E-09	0.00E+00	6.16E-07	0.00E+00	4.02E-10
PR-144	8.37E-10	2.59E-10	0.00E+00	1.37E-10	0.00E+00	5.57E-07	0.00E+00	4.21E-11

## INFANT

H-3	0.00E+00	2.68E-02	2.68E-02	2.68E-02	2.68E-02	2.68E-02	0.00E+00	2.68E-02
CR-51	0.00E+00	0.00E+00	1.15E-09	2.51E-10	2.24E-09	5.14E-08	0.00E+00	1.76E-09
MN-54	0.00E+00	1.94E-07	0.00E+00	4.31E-08	0.00E+00	7.14E-08	0.00E+00	4.41E-08
FE-59	9.79E-07	1.71E-06	0.00E+00	0.00E+00	5.05E-07	8.17E-07	0.00E+00	6.74E-07
CO-58	0.00E+00	3.18E-06	0.00E+00	0.00E+00	0.00E+00	7.92E-06	0.00E+00	7.93E-06
CO-60	0.00E+00	1.67E-06	0.00E+00	0.00E+00	0.00E+00	3.98E-06	0.00E+00	3.95E-06
NB-95	3.05E-10	1.26E-10	0.00E+00	9.00E-11	0.00E+00	1.06E-07	0.00E+00	7.26E-11
AG-110M	1.08E-09	7.86E-10	0.00E+00	1.12E-09	0.00E+00	4.08E-08	0.00E+00	5.20E-10
TE-125M	1.14E-05	3.82E-06	3.84E-06	0.00E+00	0.00E+00	5.44E-06	0.00E+00	1.54E-06
TE-129	1.92E-07	6.62E-08	1.61E-07	4.78E-07	0.00E+00	1.54E-05	0.00E+00	4.48E-08
TE-129M	9.28E-06	3.18E-06	3.56E-06	2.32E-05	0.00E+00	5.54E-06	0.00E+00	1.43E-06

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

Release ID.....: 1 All Liquid Releases  
Period Start Date.....: 01/01/2005 00:00  
Period End Date.....: 01/01/2006 00:00  
Period Duration (mins): 5.256E+05

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

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
TE-132	5.79E-07	2.87E-07	4.23E-07	1.79E-06	0.00E+00	1.06E-06	0.00E+00	2.67E-07
I-131	5.38E-06	6.33E-06	2.08E-03	7.39E-06	0.00E+00	2.26E-07	0.00E+00	2.78E-06
I-132	1.13E-07	2.29E-07	1.07E-05	2.56E-07	0.00E+00	1.86E-07	0.00E+00	8.15E-08
I-133	5.28E-09	7.69E-09	1.40E-06	9.04E-09	0.00E+00	1.30E-09	0.00E+00	2.25E-09
CS-134	1.82E-06	3.39E-06	0.00E+00	8.74E-07	3.58E-07	9.22E-09	0.00E+00	3.43E-07
CS-136	1.05E-08	3.09E-08	0.00E+00	1.23E-08	2.52E-09	4.70E-10	0.00E+00	1.15E-08
CS-137	3.08E-06	3.60E-06	0.00E+00	9.67E-07	3.91E-07	1.13E-08	0.00E+00	2.55E-07
LA-140	8.41E-11	3.32E-11	0.00E+00	0.00E+00	0.00E+00	3.89E-07	0.00E+00	8.53E-12
CE-144	2.97E-09	1.22E-09	0.00E+00	4.91E-10	0.00E+00	1.70E-07	0.00E+00	1.66E-10
PR-144	3.31E-11	1.28E-11	0.00E+00	4.63E-12	0.00E+00	5.95E-07	0.00E+00	1.66E-12

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

Release ID.....: 1 All Liquid Releases  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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
					31-day	1.50E-01	9.47E+01
					Quarter	3.75E+00	3.79E+00
Admin	Any Organ	ADULT	GILLI	1.42E-01	Annual	7.50E+00	1.89E+00
					31-day	4.50E-02	1.94E+02
					Quarter	1.13E+00	7.76E+00
Admin	Tot Body	ADULT	TBODY	8.73E-02	Annual	2.25E+00	3.88E+00
					31-day	2.00E-01	7.10E+01
					Quarter	5.00E+00	2.84E+00
T.Spec	Any Organ	ADULT	GILLI	1.42E-01	Annual	1.00E+01	1.42E+00

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

Nuclide	Percentage
H-3	5.11E+01
CR-51	7.51E-02
MN-54	2.45E-01
FE-59	4.86E-01
CO-58	3.01E+00
CO-60	1.41E+00
NB-95	2.05E+01
AG-110M	7.75E-04
TE-125M	9.41E+00
TE-129	2.88E-02
TE-129M	9.64E+00
TE-132	3.85E+00
I-131	1.62E-02
I-132	4.77E-04
I-133	6.45E-05
CS-134	1.12E-01
CS-136	6.00E-03
CS-137	1.11E-01
LA-140	4.19E-02
CE-144	9.92E-04
PR-144	5.93E-14

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

Release ID.....: 1 All Liquid Releases  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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
					31-day	6.00E-02	1.45E+02
					Quarter	1.50E+00	5.82E+00
T.Spec	Tot Body	ADULT	TBODY	8.73E-02	Annual	3.00E+00	2.91E+00

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

Nuclide	Percentage
H-3	8.31E+01
CR-51	4.86E-04
MN-54	2.49E-02
FE-59	9.10E-02
CO-58	5.41E-01
CO-60	2.69E-01
NB-95	2.95E-03
AG-110M	1.84E-06
TE-125M	5.14E-01
TE-129	1.51E-02
TE-129M	4.93E-01
TE-132	1.24E-01
I-131	5.72E-02
I-132	1.45E-03
I-133	3.56E-05
CS-134	8.52E+00
CS-136	6.18E-02
CS-137	6.14E+00
LA-140	2.45E-07
CE-144	2.56E-07
PR-144	3.41E-08

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 00:00  
 Period Duration (min): 5.256E+05  
 Coefficient Type.....: Historical  
 Unit.....: 2

=== RELEASE DATA ===  
 Total Release Duration (minutes)..... 5.750E+05  
 Total Release Volume (cf)..... 7.917E+10  
 Average Release Flowrate (cfm)..... 1.377E+05

Average Period Flowrate (cfm)..... 1.506E+05

=== NUCLIDE DATA ===

Nuclide	uCi	Average uCi/cc	EC Ratio	EC
AR-41	8.54E+03	3.81E-12	3.81E-04	1.00E-08
KR-85	5.89E+05	2.63E-10	3.75E-04	7.00E-07
KR-88	1.47E+03	6.54E-13	7.27E-05	9.00E-09
XE-131M	5.51E+04	2.46E-11	1.23E-05	2.00E-06
XE-133M	5.73E+03	2.56E-12	4.26E-06	6.00E-07
XE-133	9.14E+06	4.08E-09	8.15E-03	5.00E-07
XE-135	1.71E+03	7.61E-13	1.09E-05	7.00E-08
F&AG	9.80E+06	4.37E-09	9.01E-03	
I-131	4.08E+03	1.82E-12	9.10E-03	2.00E-10
I-132	1.08E+03	4.83E-13	2.42E-05	2.00E-08
I-133	7.44E+02	3.32E-13	3.32E-04	1.00E-09
I-135	3.68E+02	1.64E-13	2.74E-05	6.00E-09
Iodine	6.27E+03	2.80E-12	9.48E-03	
H-3	5.28E+06	2.35E-09	2.35E-02	1.00E-07
H-3	5.28E+06	2.35E-09	2.35E-02	
CR-51	6.16E+00	2.75E-15	9.16E-08	3.00E-08
CO-58	2.57E+00	1.15E-15	1.15E-06	1.00E-09
P>=8	8.74E+00	3.90E-15	1.24E-06	
Total	1.51E+07	6.73E-09	4.20E-02	

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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
					31-day	2.25E-01	5.02E+02
					Quarter	5.63E+00	2.01E+01
Admin	Any Organ	INFANT	THYROID	1.13E+00	Annual	1.13E+01	1.00E+01
					31-day	3.00E-01	3.76E+02
					Quarter	7.50E+00	1.51E+01
T.Spec	Any Organ	INFANT	THYROID	1.13E+00	Annual	1.50E+01	7.53E+00

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

Nuclide	Percentage
H-3	3.00E-02
CR-51	3.11E-07
CO-58	1.03E-05
I-131	9.98E+01
I-132	2.46E-04
I-133	1.69E-01
I-135	5.05E-04

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

Release ID.....: 1 All Gas Release Types  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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	8.97E-06	8.97E-06	8.97E-06	8.97E-06	8.97E-06	8.97E-06	0.00E+00	8.97E-06
AINHL	1.59E-06	5.64E-05	7.74E-04	5.80E-05	5.41E-05	5.45E-05	0.00E+00	5.53E-05
AVEG	3.94E-05	1.53E-04	1.85E-02	1.94E-04	9.70E-05	1.12E-04	0.00E+00	1.29E-04
AGMILK	1.73E-04	3.15E-04	8.11E-02	4.92E-04	6.68E-05	1.33E-04	0.00E+00	2.09E-04
ACMEAT	5.22E-06	2.14E-05	2.46E-03	2.67E-05	1.39E-05	1.60E-05	0.00E+00	1.82E-05
ACMILK	1.44E-04	2.39E-04	6.76E-02	3.87E-04	3.27E-05	8.76E-05	0.00E+00	1.51E-04
TGPD	8.97E-06	8.97E-06	8.97E-06	8.97E-06	8.97E-06	8.97E-06	0.00E+00	8.97E-06
TINHL	2.23E-06	5.77E-05	9.42E-04	6.00E-05	5.46E-05	5.51E-05	0.00E+00	5.62E-05
TVEG	3.75E-05	1.64E-04	1.54E-02	2.01E-04	1.11E-04	1.22E-04	0.00E+00	1.39E-04
TGMILK	3.14E-04	5.27E-04	1.28E-01	8.45E-04	8.69E-05	1.75E-04	0.00E+00	3.23E-04
TCMEAT	4.34E-06	1.44E-05	1.78E-03	1.88E-05	8.30E-06	9.57E-06	0.00E+00	1.16E-05
TCMILK	2.62E-04	4.09E-04	1.07E-01	6.74E-04	4.26E-05	1.16E-04	0.00E+00	2.39E-04
CGPD	8.97E-06	8.97E-06	8.97E-06	8.97E-06	8.97E-06	8.97E-06	0.00E+00	8.97E-06
CINHL	3.03E-06	5.13E-05	1.04E-03	5.33E-05	4.82E-05	4.84E-05	0.00E+00	4.99E-05
CVEG	6.98E-05	2.43E-04	2.33E-02	2.88E-04	1.72E-04	1.79E-04	0.00E+00	2.12E-04
CGMILK	7.62E-04	9.05E-04	2.53E-01	1.40E-03	1.38E-04	2.07E-04	0.00E+00	5.73E-04
CCMEAT	8.04E-06	1.82E-05	2.69E-03	2.33E-05	1.01E-05	1.08E-05	0.00E+00	1.47E-05
CCMILK	6.35E-04	7.06E-04	2.11E-01	1.12E-03	6.75E-05	1.25E-04	0.00E+00	4.30E-04
IGPD	8.97E-06	8.97E-06	8.97E-06	8.97E-06	8.97E-06	8.97E-06	0.00E+00	8.97E-06
IINHL	2.39E-06	3.06E-05	9.35E-04	3.10E-05	2.77E-05	2.78E-05	0.00E+00	2.89E-05
IGMILK	1.59E-03	2.08E-03	6.15E-01	2.40E-03	2.09E-04	2.77E-04	0.00E+00	1.03E-03
ICMILK	1.33E-03	1.67E-03	5.13E-01	1.93E-03	1.02E-04	1.59E-04	0.00E+00	7.89E-04
----- TOTALS -----								
ADULT	3.73E-04	7.94E-04	1.71E-01	1.17E-03	2.73E-04	4.12E-04	0.00E+00	5.71E-04
TEEN	6.29E-04	1.18E-03	2.53E-01	1.81E-03	3.12E-04	4.86E-04	0.00E+00	7.78E-04
CHILD	1.49E-03	1.93E-03	4.92E-01	2.89E-03	4.45E-04	5.79E-04	0.00E+00	1.29E-03
INFANT	2.93E-03	3.79E-03	1.13E+00	4.37E-03	3.48E-04	4.72E-04	0.00E+00	1.86E-03

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



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

Release ID.....: 1 All Gas Release Types  
Period Start Date....: 01/01/2005 00:00  
Period End Date.....: 01/01/2006 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....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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
			31-day	1.50E-01	1.30E-01
			Quarter	3.75E+00	5.18E-03
Admin	Gamma	1.94E-04	Annual	7.50E+00	2.59E-03
			31-day	3.00E-01	5.15E-02
			Quarter	7.50E+00	2.06E-03
Admin	Beta	1.55E-04	Annual	1.50E+01	1.03E-03
			31-day	2.00E-01	9.72E-02
			Quarter	5.00E+00	3.89E-03
T.Spec	Gamma	1.94E-04	Annual	1.00E+01	1.94E-03

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

Nuclide	Percentage
AR-41	2.37E+00
KR-85	3.02E-01
KR-88	6.65E-01
XE-131M	2.56E-01
XE-133M	5.60E-02
XE-133	9.63E+01
XE-135	9.78E-02

			31-day	4.00E-01	3.87E-02
			Quarter	1.00E+01	1.55E-03
T.Spec	Beta	1.55E-04	Annual	2.00E+01	7.73E-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	2.58E-01
KR-85	1.06E+01

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

Release ID.....: 1 All Gas Release Types  
Period Start Date....: 01/01/2005 00:00  
Period End Date.....: 01/01/2006 00:00  
Period Duration (min): 5.256E+05  
Coefficient Type.....: Historical  
Unit.....: 2

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

Nuclide	Percentage
-----	-----
KR-88	3.96E-02
XE-131M	5.64E-01
XE-133M	7.82E-02
XE-133	8.84E+01
XE-135	3.87E-02

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

Release ID.....: 1 All Liquid Releases  
Period Start Date.....: 01/01/2005 00:00  
Period End Date.....: 01/01/2006 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)..... 5.409E+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      7.11E+00  
BR-82      1.06E+00  
SB-125      1.72E+02  
HG-203      3.92E+00  
TE-123M      1.36E+02  
SB-126      4.53E+01  
CR-51      9.48E+02  
MN-54      7.41E+01  
FE-59      2.41E+02  
CO-58      6.70E+03  
CO-60      1.17E+03  
NB-95      5.50E+01  
AG-110M      8.20E+00  
TE-125M      3.72E+03  
TE-129      5.13E+03  
TE-129M      7.04E+02  
TE-132      2.11E+02  
I-131      1.14E+03  
I-132      5.15E+02  
I-133      3.20E+00  
CS-134      3.66E+01  
CS-136      1.74E+00  
CS-137      4.47E+01  
LA-140      3.02E+01  
CE-144      7.55E+00  
PR-144      9.15E+02  
-----  
Gamma      2.20E+04  
  
KR-85      1.30E+03

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

Release ID.....: 1 All Liquid Releases  
Period Start Date.....: 01/01/2005 00:00  
Period End Date.....: 01/01/2006 00:00  
Period Duration (mins): 5.256E+05

## === NUCLIDE DATA =====

Nuclide	uCi
-----	-----
XE-131M	2.78E+02
XE-133M	5.04E+01
XE-133	1.64E+04
XE-135	1.51E+01
-----	-----
D&EG	1.80E+04
H-3	1.26E+09
-----	-----
Beta	1.26E+09
-----	-----
Total	1.26E+09

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

Release ID.....: 1 All Liquid Releases  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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	8.89E-06	2.02E-02	2.09E-02	2.02E-02	2.02E-02	2.03E-02	0.00E+00	2.02E-02
AFWFSp	1.63E-02	7.28E-02	8.24E-02	8.46E-02	5.43E-02	1.22E-01	0.00E+00	6.70E-02
TPWtr	8.76E-06	1.42E-02	1.48E-02	1.43E-02	1.42E-02	1.43E-02	0.00E+00	1.42E-02
TFWFSp	1.73E-02	6.13E-02	6.85E-02	5.99E-02	4.25E-02	9.20E-02	0.00E+00	4.94E-02
CPWtr	2.58E-05	2.74E-02	2.87E-02	2.74E-02	2.73E-02	2.74E-02	0.00E+00	2.74E-02
CFWFSp	2.18E-02	5.19E-02	6.30E-02	5.07E-02	3.51E-02	5.74E-02	0.00E+00	3.84E-02
IPWtr	3.29E-05	2.69E-02	2.89E-02	2.69E-02	2.68E-02	2.69E-02	0.00E+00	2.69E-02
----- TOTALS -----								
ADULT	1.63E-02	9.30E-02	1.03E-01	1.05E-01	7.45E-02	1.42E-01	0.00E+00	8.73E-02
TEEN	1.73E-02	7.55E-02	8.33E-02	7.42E-02	5.68E-02	1.06E-01	0.00E+00	6.37E-02
CHILD	2.18E-02	7.92E-02	9.17E-02	7.81E-02	6.25E-02	8.48E-02	0.00E+00	6.57E-02
INFANT	3.29E-05	2.69E-02	2.89E-02	2.69E-02	2.68E-02	2.69E-02	0.00E+00	2.69E-02

=== AGE GROUP / PATHWAY DESCRIPTIONS ===

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

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

Release ID.....: 1 All Liquid Releases  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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	7.25E-02	7.25E-02	7.25E-02	7.25E-02	7.25E-02	0.00E+00	7.25E-02
CR-51	0.00E+00	0.00E+00	2.53E-07	9.34E-08	5.63E-07	1.07E-04	0.00E+00	4.24E-07
MN-54	0.00E+00	1.14E-04	0.00E+00	3.38E-05	0.00E+00	3.49E-04	0.00E+00	2.17E-05
FE-59	8.81E-05	2.07E-04	0.00E+00	0.00E+00	5.79E-05	6.90E-04	0.00E+00	7.94E-05
CO-58	0.00E+00	2.11E-04	0.00E+00	0.00E+00	0.00E+00	4.27E-03	0.00E+00	4.72E-04
CO-60	0.00E+00	1.06E-04	0.00E+00	0.00E+00	0.00E+00	2.00E-03	0.00E+00	2.34E-04
NB-95	8.62E-06	4.79E-06	0.00E+00	4.74E-06	0.00E+00	2.91E-02	0.00E+00	2.58E-06
AG-110M	2.91E-09	2.70E-09	0.00E+00	5.30E-09	0.00E+00	1.10E-06	0.00E+00	1.60E-09
TE-125M	3.35E-03	1.21E-03	1.01E-03	1.36E-02	0.00E+00	1.34E-02	0.00E+00	4.48E-04
TE-129	5.41E-05	2.03E-05	4.15E-05	2.27E-04	0.00E+00	4.09E-05	0.00E+00	1.32E-05
TE-129M	2.72E-03	1.01E-03	9.34E-04	1.13E-02	0.00E+00	1.37E-02	0.00E+00	4.30E-04
TE-132	1.79E-04	1.16E-04	1.28E-04	1.11E-03	0.00E+00	5.47E-03	0.00E+00	1.08E-04
I-131	6.08E-05	8.70E-05	2.85E-02	1.49E-04	0.00E+00	2.30E-05	0.00E+00	4.99E-05
I-132	1.35E-06	3.60E-06	1.26E-04	5.74E-06	0.00E+00	6.77E-07	0.00E+00	1.26E-06
I-133	5.86E-08	1.02E-07	1.50E-05	1.78E-07	0.00E+00	9.16E-08	0.00E+00	3.11E-08
CS-134	3.82E-03	9.09E-03	0.00E+00	2.94E-03	9.77E-04	1.59E-04	0.00E+00	7.43E-03
CS-136	1.90E-05	7.50E-05	0.00E+00	4.17E-05	5.72E-06	8.52E-06	0.00E+00	5.40E-05
CS-137	5.98E-03	8.18E-03	0.00E+00	2.78E-03	9.23E-04	1.58E-04	0.00E+00	5.36E-03
LA-140	1.61E-09	8.10E-10	0.00E+00	0.00E+00	0.00E+00	5.95E-05	0.00E+00	2.14E-10
CE-144	4.17E-09	1.74E-09	0.00E+00	1.03E-09	0.00E+00	1.41E-06	0.00E+00	2.24E-10
PR-144	5.85E-10	2.43E-10	0.00E+00	1.37E-10	0.00E+00	8.42E-17	0.00E+00	2.98E-11

## TEEN

H-3	0.00E+00	5.44E-02	5.44E-02	5.44E-02	5.44E-02	5.44E-02	0.00E+00	5.44E-02
CR-51	0.00E+00	0.00E+00	2.43E-07	9.58E-08	6.24E-07	7.35E-05	0.00E+00	4.37E-07
MN-54	0.00E+00	1.12E-04	0.00E+00	3.34E-05	0.00E+00	2.29E-04	0.00E+00	2.22E-05
FE-59	9.08E-05	2.12E-04	0.00E+00	0.00E+00	6.68E-05	5.01E-04	0.00E+00	8.18E-05
CO-58	0.00E+00	2.09E-04	0.00E+00	0.00E+00	0.00E+00	2.89E-03	0.00E+00	4.83E-04
CO-60	0.00E+00	1.06E-04	0.00E+00	0.00E+00	0.00E+00	1.38E-03	0.00E+00	2.39E-04
NB-95	8.68E-06	4.81E-06	0.00E+00	4.67E-06	0.00E+00	2.06E-02	0.00E+00	2.65E-06
AG-110M	2.81E-09	2.66E-09	0.00E+00	5.08E-09	0.00E+00	7.48E-07	0.00E+00	1.62E-09
TE-125M	3.64E-03	1.31E-03	1.02E-03	0.00E+00	0.00E+00	1.07E-02	0.00E+00	4.87E-04
TE-129	5.88E-05	2.19E-05	4.20E-05	2.47E-04	0.00E+00	3.22E-04	0.00E+00	1.43E-05
TE-129M	2.94E-03	1.09E-03	9.47E-04	1.23E-02	0.00E+00	1.10E-02	0.00E+00	4.65E-04
TE-132	1.88E-04	1.19E-04	1.26E-04	1.15E-03	0.00E+00	3.78E-03	0.00E+00	1.12E-04
I-131	6.51E-05	9.11E-05	2.66E-02	1.57E-04	0.00E+00	1.80E-05	0.00E+00	4.89E-05
I-132	1.41E-06	3.68E-06	1.24E-04	5.80E-06	0.00E+00	1.60E-06	0.00E+00	1.32E-06
I-133	6.31E-08	1.07E-07	1.49E-05	1.88E-07	0.00E+00	8.10E-08	0.00E+00	3.26E-08
CS-134	3.92E-03	9.22E-03	0.00E+00	2.93E-03	1.12E-03	1.15E-04	0.00E+00	4.28E-03

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

Release ID.....: 1 All Liquid Releases  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 00:00  
 Period Duration (mins): 5.256E+05

=== PERMIT ORGAN DOSE BY AGE GROUP AND NUCLIDE (mrem) =====								
Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
CS-136	1.91E-05	7.51E-05	0.00E+00	4.09E-05	6.45E-06	6.05E-06	0.00E+00	5.04E-05
CS-137	6.40E-03	8.52E-03	0.00E+00	2.90E-03	1.13E-03	1.21E-04	0.00E+00	2.97E-03
LA-140	1.70E-09	8.37E-10	0.00E+00	0.00E+00	0.00E+00	4.80E-05	0.00E+00	2.23E-10
CE-144	4.43E-09	1.83E-09	0.00E+00	1.10E-09	0.00E+00	1.11E-06	0.00E+00	2.38E-10
PR-144	6.37E-10	2.61E-10	0.00E+00	1.50E-10	0.00E+00	7.02E-13	0.00E+00	3.23E-11

## CHILD

H-3	0.00E+00	6.06E-02	6.06E-02	6.06E-02	6.06E-02	6.06E-02	0.00E+00	6.06E-02
CR-51	0.00E+00	0.00E+00	2.59E-07	7.09E-08	4.73E-07	2.48E-05	0.00E+00	4.67E-07
MN-54	0.00E+00	8.76E-05	0.00E+00	2.46E-05	0.00E+00	7.35E-05	0.00E+00	2.33E-05
FE-59	1.10E-04	1.79E-04	0.00E+00	0.00E+00	5.18E-05	1.86E-04	0.00E+00	8.90E-05
CO-58	0.00E+00	1.69E-04	0.00E+00	0.00E+00	0.00E+00	9.84E-04	0.00E+00	5.16E-04
CO-60	0.00E+00	8.70E-05	0.00E+00	0.00E+00	0.00E+00	4.81E-04	0.00E+00	2.56E-04
NB-95	1.02E-05	3.99E-06	0.00E+00	3.75E-06	0.00E+00	7.38E-03	0.00E+00	2.85E-06
AG-110M	3.70E-09	2.50E-09	0.00E+00	4.66E-09	0.00E+00	2.97E-07	0.00E+00	2.00E-09
TE-125M	4.68E-03	1.27E-03	1.31E-03	0.00E+00	0.00E+00	4.52E-03	0.00E+00	6.24E-04
TE-129	7.60E-05	2.12E-05	5.42E-05	2.22E-04	0.00E+00	4.73E-03	0.00E+00	1.80E-05
TE-129M	3.79E-03	1.06E-03	1.22E-03	1.11E-02	0.00E+00	4.62E-03	0.00E+00	5.88E-04
TE-132	2.36E-04	1.04E-04	1.52E-04	9.68E-04	0.00E+00	1.05E-03	0.00E+00	1.26E-04
I-131	8.47E-05	8.52E-05	2.82E-02	1.40E-04	0.00E+00	7.59E-06	0.00E+00	4.84E-05
I-132	1.79E-06	3.29E-06	1.53E-04	5.03E-06	0.00E+00	3.87E-06	0.00E+00	1.51E-06
I-133	8.23E-08	1.02E-07	1.89E-05	1.70E-07	0.00E+00	4.10E-08	0.00E+00	3.85E-08
CS-134	4.72E-03	7.75E-03	0.00E+00	2.40E-03	8.62E-04	4.18E-05	0.00E+00	1.64E-03
CS-136	2.25E-05	6.19E-05	0.00E+00	3.30E-05	4.92E-06	2.18E-06	0.00E+00	4.01E-05
CS-137	8.06E-03	7.72E-03	0.00E+00	2.52E-03	9.05E-04	4.83E-05	0.00E+00	1.14E-03
LA-140	2.17E-09	7.57E-10	0.00E+00	0.00E+00	0.00E+00	2.11E-05	0.00E+00	2.55E-10
CE-144	7.53E-09	2.36E-09	0.00E+00	1.31E-09	0.00E+00	6.16E-07	0.00E+00	4.02E-10
PR-144	8.37E-10	2.59E-10	0.00E+00	1.37E-10	0.00E+00	5.57E-07	0.00E+00	4.21E-11

## INFANT

H-3	0.00E+00	2.68E-02	2.68E-02	2.68E-02	2.68E-02	2.68E-02	0.00E+00	2.68E-02
CR-51	0.00E+00	0.00E+00	1.15E-09	2.51E-10	2.24E-09	5.14E-08	0.00E+00	1.76E-09
MN-54	0.00E+00	1.94E-07	0.00E+00	4.31E-08	0.00E+00	7.14E-08	0.00E+00	4.41E-08
FE-59	9.79E-07	1.71E-06	0.00E+00	0.00E+00	5.05E-07	8.17E-07	0.00E+00	6.74E-07
CO-58	0.00E+00	3.18E-06	0.00E+00	0.00E+00	0.00E+00	7.92E-06	0.00E+00	7.93E-06
CO-60	0.00E+00	1.67E-06	0.00E+00	0.00E+00	0.00E+00	3.98E-06	0.00E+00	3.95E-06
NB-95	3.05E-10	1.26E-10	0.00E+00	9.00E-11	0.00E+00	1.06E-07	0.00E+00	7.26E-11
AG-110M	1.08E-09	7.86E-10	0.00E+00	1.12E-09	0.00E+00	4.08E-08	0.00E+00	5.20E-10
TE-125M	1.14E-05	3.82E-06	3.84E-06	0.00E+00	0.00E+00	5.44E-06	0.00E+00	1.54E-06
TE-129	1.92E-07	6.62E-08	1.61E-07	4.78E-07	0.00E+00	1.54E-05	0.00E+00	4.48E-08
TE-129M	9.28E-06	3.18E-06	3.56E-06	2.32E-05	0.00E+00	5.54E-06	0.00E+00	1.43E-06



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

Release ID.....: 1 All Liquid Releases  
Period Start Date.....: 01/01/2005 00:00  
Period End Date.....: 01/01/2006 00:00  
Period Duration (mins): 5.256E+05

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

Agegroup	Bone	Liver	Thyroid	Kidney	Lung	GI-Lli	Skin	TB
TE-132	5.79E-07	2.87E-07	4.23E-07	1.79E-06	0.00E+00	1.06E-06	0.00E+00	2.67E-07
I-131	5.38E-06	6.33E-06	2.08E-03	7.39E-06	0.00E+00	2.26E-07	0.00E+00	2.78E-06
I-132	1.13E-07	2.29E-07	1.07E-05	2.56E-07	0.00E+00	1.86E-07	0.00E+00	8.15E-08
I-133	5.28E-09	7.69E-09	1.40E-06	9.04E-09	0.00E+00	1.30E-09	0.00E+00	2.25E-09
CS-134	1.82E-06	3.39E-06	0.00E+00	8.74E-07	3.58E-07	9.22E-09	0.00E+00	3.43E-07
CS-136	1.05E-08	3.09E-08	0.00E+00	1.23E-08	2.52E-09	4.70E-10	0.00E+00	1.15E-08
CS-137	3.08E-06	3.60E-06	0.00E+00	9.67E-07	3.91E-07	1.13E-08	0.00E+00	2.55E-07
LA-140	8.41E-11	3.32E-11	0.00E+00	0.00E+00	0.00E+00	3.89E-07	0.00E+00	8.53E-12
CE-144	2.97E-09	1.22E-09	0.00E+00	4.91E-10	0.00E+00	1.70E-07	0.00E+00	1.66E-10
PR-144	3.31E-11	1.28E-11	0.00E+00	4.63E-12	0.00E+00	5.95E-07	0.00E+00	1.66E-12

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

Release ID.....: 1 All Liquid Releases  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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
					31-day	1.50E-01	9.47E+01
					Quarter	3.75E+00	3.79E+00
Admin	Any Organ	ADULT	GILLI	1.42E-01	Annual	7.50E+00	1.89E+00
					31-day	4.50E-02	1.94E+02
					Quarter	1.13E+00	7.76E+00
Admin	Tot Body	ADULT	TBODY	8.73E-02	Annual	2.25E+00	3.88E+00
					31-day	2.00E-01	7.10E+01
					Quarter	5.00E+00	2.84E+00
T.Spec	Any Organ	ADULT	GILLI	1.42E-01	Annual	1.00E+01	1.42E+00

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

Nuclide	Percentage
H-3	5.11E+01
CR-51	7.51E-02
MN-54	2.45E-01
FE-59	4.86E-01
CO-58	3.01E+00
CO-60	1.41E+00
NB-95	2.05E+01
AG-110M	7.75E-04
TE-125M	9.41E+00
TE-129	2.88E-02
TE-129M	9.64E+00
TE-132	3.85E+00
I-131	1.62E-02
I-132	4.77E-04
I-133	6.45E-05
CS-134	1.12E-01
CS-136	6.00E-03
CS-137	1.11E-01
LA-140	4.19E-02
CE-144	9.92E-04
PR-144	5.93E-14

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

Release ID.....: 1 All Liquid Releases  
 Period Start Date.....: 01/01/2005 00:00  
 Period End Date.....: 01/01/2006 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
					31-day	6.00E-02	1.45E+02
					Quarter	1.50E+00	5.82E+00
T.Spec	Tot Body	ADULT	TBODY	8.73E-02	Annual	3.00E+00	2.91E+00

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

Nuclide	Percentage
H-3	8.31E+01
CR-51	4.86E-04
MN-54	2.49E-02
FE-59	9.10E-02
CO-58	5.41E-01
CO-60	2.69E-01
NB-95	2.95E-03
AG-110M	1.84E-06
TE-125M	5.14E-01
TE-129	1.51E-02
TE-129M	4.93E-01
TE-132	1.24E-01
I-131	5.72E-02
I-132	1.45E-03
I-133	3.56E-05
CS-134	8.52E+00
CS-136	6.18E-02
CS-137	6.14E+00
LA-140	2.45E-07
CE-144	2.56E-07
PR-144	3.41E-08

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## LIQUID DOSE SUMMARY

Unit One 2005

Report for: 2005

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	6.78E-04	3.18E-03	4.73E-03	3.89E-03	2.48E-03	5.38E-03	0.00E+00	2.95E-03
TEEN	7.24E-04	2.61E-03	3.98E-03	2.34E-03	1.89E-03	4.03E-03	0.00E+00	2.15E-03
CHILD	9.13E-04	2.72E-03	4.34E-03	2.48E-03	2.08E-03	3.11E-03	0.00E+00	2.20E-03
INFANT	1.63E-06	8.93E-04	1.05E-03	8.93E-04	8.91E-04	8.93E-04	0.00E+00	8.92E-04

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

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 1 - Admin. Any Organ	ADULT	GILLI	5.38E-03	3.75E+00	1.44E-01
Qtr 1 - Admin. Total Body	ADULT	TBODY	2.95E-03	1.13E+00	2.62E-01

Qtr 1 - T.Spc. Any Organ	ADULT	GILLI	5.38E-03	5.00E+00	1.08E-01
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Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide Percentage

H-3	4.48E+01
CR-51	9.22E-03
MN-54	1.49E-01
FE-59	2.82E-02
CO-58	1.40E+00
CO-60	7.29E-01
NB-95	2.33E+01
TE-125M	1.77E+01
TE-129	4.37E-02
TE-129M	4.16E+00
TE-132	7.40E+00
I-131	3.30E-02
I-132	9.39E-04
I-133	1.32E-04
CS-134	1.00E-01
CS-136	1.23E-02
CS-137	1.19E-01
LA-140	6.33E-02

Qtr 1 - T.Spc. Total Body	ADULT	TBODY	2.95E-03	1.50E+00	1.97E-01
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## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

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

Nuclide	Percentage
-----	-----
H-3	8.17E+01
CR-51	6.69E-05
MN-54	1.69E-02
FE-59	5.91E-03
CO-58	2.82E-01
CO-60	1.56E-01
NB-95	3.76E-03
TE-125M	1.09E+00
TE-129	2.57E-02
TE-129M	2.39E-01
TE-132	2.68E-01
I-131	1.31E-01
I-132	3.19E-03
I-133	8.19E-05
CS-134	8.55E+00
CS-136	1.42E-01
CS-137	7.36E+00
LA-140	4.16E-07

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## LIQUID DOSE SUMMARY

Unit One 2005

Report for: 2005

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	4.31E-04	1.54E-03	1.11E-03	1.89E-03	1.09E-03	2.12E-03	0.00E+00	1.40E-03
TEEN	4.54E-04	1.29E-03	8.46E-04	1.60E-03	8.37E-04	1.63E-03	0.00E+00	1.00E-03
CHILD	5.68E-04	1.32E-03	9.52E-04	1.60E-03	9.14E-04	1.31E-03	0.00E+00	9.89E-04
INFANT	1.21E-06	3.86E-04	3.86E-04	3.87E-04	3.85E-04	3.86E-04	0.00E+00	3.86E-04

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

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 2 - Admin. Any Organ	ADULT	GILLI	2.12E-03	3.75E+00	5.65E-02
Qtr 2 - Admin. Total Body	ADULT	TBODY	1.40E-03	1.13E+00	1.24E-01

Qtr 2 - T.Spc. Any Organ	ADULT	GILLI	2.12E-03	5.00E+00	4.23E-02
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Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

H-3	4.92E+01
MN-54	2.30E-01
CO-58	3.24E+00
CO-60	1.24E+00
NB-95	6.46E+00
TE-125M	3.97E+00
TE-129	3.87E-02
TE-129M	3.51E+01
I-131	2.32E-04
CS-134	2.04E-01
CS-137	1.61E-01
LA-140	5.71E-02
PR-144	3.08E-13

Qtr 2 - T.Spc. Total Body	ADULT	TBODY	1.40E-03	1.50E+00	9.31E-02
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Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

H-3	7.46E+01
MN-54	2.17E-02

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Nuclide	Percentage
-----	-----
CO-58	5.43E-01
CO-60	2.20E-01
NB-95	8.68E-04
TE-125M	2.02E-01
TE-129	1.89E-02
TE-129M	1.67E+00
I-131	7.64E-04
CS-134	1.44E+01
CS-137	8.25E+00
LA-140	3.11E-07
PR-144	1.65E-07

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## LIQUID DOSE SUMMARY

Unit One 2005

Report for: 2005

Unit Range - From: 1 To: 1

Liquid Receptor

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=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) === QUARTER 3 ===
Agegrp  Bone      Liver      Thyroid  Kidney   Lung      GI-LLI    Skin      TB
-----
ADULT   2.09E-04  2.07E-03  1.78E-03  1.87E-03  1.81E-03  2.57E-03  0.00E+00  2.00E-03
TEEN    2.13E-04  1.63E-03  1.33E-03  1.43E-03  1.37E-03  1.89E-03  0.00E+00  1.46E-03
CHILD   2.59E-04  1.74E-03  1.49E-03  1.57E-03  1.52E-03  1.68E-03  0.00E+00  1.54E-03
INFANT  1.03E-06  6.58E-04  6.58E-04  6.58E-04  6.58E-04  6.58E-04  0.00E+00  6.58E-04

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=== SITE DOSE LIMIT ANALYSIS === QUARTER 3 ===

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Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 3 - Admin. Any Organ	ADULT	GILLI	2.57E-03	3.75E+00	6.84E-02
Qtr 3 - Admin. Total Body	ADULT	TBODY	2.00E-03	1.13E+00	1.77E-01

Qtr 3 - T.Spc. Any Organ ADULT GILLI 2.57E-03 5.00E+00 5.13E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

H-3	6.93E+01
CR-51	8.88E-03
MN-54	4.92E-01
CO-58	1.54E+00
CO-60	1.89E+00
NB-95	2.64E+01
CS-134	1.02E-01
CS-137	9.62E-02
CE-144	4.26E-03

Qtr 3 - T.Spc. Total Body ADULT TBODY 2.00E-03 1.50E+00 1.33E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

H-3	8.90E+01
CR-51	4.54E-05
MN-54	3.94E-02
FE-55	2.58E-02
CO-58	2.18E-01
CO-60	2.85E-01



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Nuclide	Percentage
-----	-----
NB-95	3.01E-03
CS-134	6.15E+00
CS-137	4.18E+00
CE-144	8.68E-07

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## LIQUID DOSE SUMMARY

Unit One 2005

Report for: 2005

Unit Range - From: 1 To: 1

Liquid Receptor

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

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	6.97E-05	7.77E-04	7.50E-04	8.25E-04	7.48E-04	1.30E-03	0.00E+00	7.74E-04
TEEN	6.77E-05	5.93E-04	5.65E-04	6.46E-04	5.64E-04	9.53E-04	0.00E+00	5.90E-04
CHILD	8.03E-05	6.52E-04	6.30E-04	7.00E-04	6.26E-04	7.64E-04	0.00E+00	6.56E-04
INFANT	9.29E-07	2.75E-04	2.75E-04	2.75E-04	2.75E-04	2.75E-04	0.00E+00	2.75E-04

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

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 4 - Admin. Any Organ	ADULT	GILLI	1.30E-03	3.75E+00	3.46E-02
Qtr 4 - Admin. Total Body	ADULT	TBODY	7.74E-04	1.13E+00	6.88E-02

Qtr 4 - T.Spc. Any Organ ADULT GILLI 1.30E-03 5.00E+00 2.59E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
H-3	5.73E+01
CR-51	5.73E-01
MN-54	1.14E-01
FE-59	3.95E+00
CO-58	1.13E+01
CO-60	3.10E+00
NB-95	1.44E+01
AG-110M	6.48E-03
TE-129M	7.11E+00
TE-132	2.00E+00
I-132	1.56E-04

Qtr 4 - T.Spc. Total Body ADULT TBODY 7.74E-04 1.50E+00 5.16E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
H-3	9.59E+01
CR-51	3.82E-03
MN-54	1.19E-02

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
FE-59	7.60E-01
CO-58	2.08E+00
CO-60	6.10E-01
NB-95	2.13E-03
AG-110M	1.58E-05
TE-129M	3.74E-01
TE-132	6.63E-02
I-132	4.86E-04

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## LIQUID DOSE SUMMARY

Unit One 2005

Report for: 2005

Unit Range - From: 1 To: 1

Liquid Receptor

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=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ===== ANNUAL 2005 =====
Agegrp  Bone      Liver      Thyroid  Kidney   Lung      GI-LLI    Skin      TB
-----
ADULT    1.26E-03  7.57E-03  8.37E-03  8.48E-03  6.14E-03  1.14E-02  0.00E+00  7.12E-03
TEEN     1.34E-03  6.12E-03  6.72E-03  6.02E-03  4.67E-03  8.50E-03  0.00E+00  5.21E-03
CHILD    1.69E-03  6.44E-03  7.41E-03  6.35E-03  5.14E-03  6.87E-03  0.00E+00  5.40E-03
INFANT    2.54E-06  2.22E-03  2.38E-03  2.22E-03  2.21E-03  2.22E-03  0.00E+00  2.22E-03

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=== SITE DOSE LIMIT ANALYSIS ===== ANNUAL 2005 =====
Annual - Limit      Age      Dose      Limit      Max % of
                    Group     (mrem)    (mrem)     Limit
-----
2005  - Admin. Any Organ      ADULT     GILLI      1.14E-02  7.50E+00  1.52E-01
2005  - Admin. Total Body     ADULT     TBODY      7.12E-03  2.25E+00  3.17E-01

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2005  - T.Spc. Any Organ      ADULT     GILLI      1.14E-02  1.00E+01  1.14E-01
Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors ( 0% or greater to total)

```

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Nuclide      Percentage
-----
H-3          5.27E+01
CR-51        7.26E-02
MN-54        2.37E-01
FE-59        4.70E-01
CO-58        2.91E+00
CO-60        1.36E+00
NB-95        1.98E+01
AG-110M      7.49E-04
TE-125M      9.10E+00
TE-129       2.78E-02
TE-129M      9.32E+00
TE-132       3.72E+00
I-131        1.56E-02
I-132        4.61E-04
I-133        6.24E-05
CS-134       1.08E-01
CS-136       5.80E-03
CS-137       1.08E-01
LA-140       4.05E-02
CE-144       9.60E-04
PR-144       5.74E-14

```

```

2005  - T.Spc. Total Body     ADULT     TBODY      7.12E-03  3.00E+00  2.37E-01

```

40CFR190 URANIUM FUEL CYCLE DOSE REPORT  
-----

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide Percentage  
-----

H-3	8.40E+01
CR-51	4.61E-04
MN-54	2.36E-02
FE-59	8.62E-02
CO-58	5.13E-01
CO-60	2.55E-01
NB-95	2.80E-03
AG-110M	1.74E-06
TE-125M	4.87E-01
TE-129	1.43E-02
TE-129M	4.67E-01
TE-132	1.18E-01
I-131	5.42E-02
I-132	1.37E-03
I-133	3.38E-05
CS-134	8.08E+00
CS-136	5.86E-02
CS-137	5.82E+00
LA-140	2.33E-07
CE-144	2.43E-07
PR-144	3.23E-08

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

Unit One 2005

Report for: 2005

Unit Range - From: 1 To: 1

## === I&amp;P DOSE LIMIT ANALYSIS ===== QUARTER 1 =====

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 1 - Admin. Any Organ	INFANT	THYROID	1.96E+00	5.63E+00	3.48E+01
Qtr 1 - Admin. Total Body	INFANT	TBODY	2.69E-03	5.25E+00	5.12E-02

Qtr 1 - T.Spc. Any Organ	INFANT	THYROID	1.96E+00	7.50E+00	2.61E+01
--------------------------	--------	---------	----------	----------	----------

Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

H-3	2.78E-03
-----	----------

CR-51	2.77E-07
-------	----------

CO-58	1.34E-05
-------	----------

I-131	9.96E+01
-------	----------

I-132	2.80E-04
-------	----------

I-133	4.35E-01
-------	----------

I-135	1.12E-03
-------	----------

Qtr 1 - T.Spc. Total Body	INFANT	TBODY	2.69E-03	7.50E+00	3.59E-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	2.02E+00
-----	----------

CR-51	2.04E-04
-------	----------

CO-58	1.15E-02
-------	----------

I-131	9.74E+01
-------	----------

I-132	1.32E-02
-------	----------

I-133	5.45E-01
-------	----------

I-135	1.90E-02
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## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

Unit One 2005

Report for: 2005  
 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	1.07E-03	3.75E+00	2.86E-02
Qtr 1 - Admin. Beta	8.00E-04	7.50E+00	1.07E-02

Qtr 1 - T.Spc. Gamma	1.07E-03	5.00E+00	2.15E-02
----------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 2.01E-01

KR-85 5.47E-02

XE-135 3.49E-02

XE-133M 2.76E-01

XE-131M 8.01E-02

XE-133 9.94E+01

Qtr 1 - T.Spc. Beta	8.00E-04	1.00E+01	8.00E-03
---------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 2.33E-02

KR-85 2.04E+00

XE-135 1.47E-02

XE-133M 4.11E-01

XE-131M 1.88E-01

XE-133 9.73E+01

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

Unit One 2005

Report for: 2005

Unit Range - From: 1 To: 1

## === I&amp;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	2.35E-02	5.63E+00	4.19E-01
Qtr 2 - Admin. Total Body	CHILD	TBODY	2.93E-04	5.25E+00	5.59E-03

Qtr 2 - T.Spc. Any Organ	INFANT	THYROID	2.35E-02	7.50E+00	3.14E-01
--------------------------	--------	---------	----------	----------	----------

Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

-----

H-3	9.11E-01
-----	----------

I-131	9.87E+01
-------	----------

I-133	4.16E-01
-------	----------

Qtr 2 - T.Spc. Total Body	CHILD	TBODY	2.93E-04	7.50E+00	3.91E-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	9.40E+01
-----	----------

I-131	5.98E+00
-------	----------

I-133	3.52E-02
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## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

Unit One 2005

Report for: 2005  
 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	8.07E-06	3.75E+00	2.15E-04
Qtr 2 - Admin. Beta	1.01E-05	7.50E+00	1.34E-04

Qtr 2 - T.Spc. Gamma	8.07E-06	5.00E+00	1.61E-04
----------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 3.89E+01

KR-85 3.17E+00

KR-88 1.60E+01

XE-131M 1.42E+00

XE-133 4.04E+01

Qtr 2 - T.Spc. Beta	1.01E-05	1.00E+01	1.01E-04
---------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 2.71E+00

KR-85 7.10E+01

KR-88 6.09E-01

XE-131M 2.00E+00

XE-133 2.37E+01

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

Unit One 2005

Report for: 2005  
 Unit Range - From: 1 To: 1

## === I&amp;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	4.52E-03	5.63E+00	8.04E-02
Qtr 3 - Admin. Total Body	CHILD	TBODY	4.83E-05	5.25E+00	9.19E-04

Qtr 3 - T.Spc. Any Organ	INFANT	THYROID	4.52E-03	7.50E+00	6.03E-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	7.72E-01
-----	----------

I-131	9.68E+01
-------	----------

I-133	2.44E+00
-------	----------

Qtr 3 - T.Spc. Total Body	CHILD	TBODY	4.83E-05	7.50E+00	6.43E-04
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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	9.29E+01
-----	----------

I-131	6.85E+00
-------	----------

I-133	2.41E-01
-------	----------

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

Unit One 2005

Report for: 2005  
 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	7.11E-06	3.75E+00	1.90E-04
Qtr 3 - Admin. Beta	1.34E-05	7.50E+00	1.79E-04

Qtr 3 - T.Spc. Gamma	7.11E-06	5.00E+00	1.42E-04
----------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 7.34E+00

KR-85 4.46E+00

XE-135 1.32E+00

XE-133M 1.13E-01

XE-131M 2.74E-01

XE-133 8.65E+01

Qtr 3 - T.Spc. Beta	1.34E-05	1.00E+01	1.34E-04
---------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 3.36E-01

KR-85 6.57E+01

XE-135 2.20E-01

XE-133M 6.66E-02

XE-131M 2.54E-01

XE-133 3.34E+01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit One 2005

Report for: 2005  
Unit Range - From: 1 To: 1

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

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 4 - Admin. Any Organ	INFANT	THYROID	6.82E-03	5.63E+00	1.21E-01
Qtr 4 - Admin. Total Body	CHILD	TBODY	9.16E-05	5.25E+00	1.74E-03

Qtr 4 - T.Spc. Any Organ      INFANT      THYROID      6.82E-03      7.50E+00      9.09E-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	9.87E-01
I-131	9.80E+01
I-133	9.67E-01

Qtr 4 - T.Spc. Total Body      CHILD      TBODY      9.16E-05      7.50E+00      1.22E-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	9.44E+01
I-131	5.51E+00
I-133	7.58E-02

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

Unit One 2005

Report for: 2005  
 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	5.44E-05	3.75E+00	1.45E-03
Qtr 4 - Admin. Beta	3.86E-05	7.50E+00	5.14E-04

Qtr 4 - T.Spc. Gamma	5.44E-05	5.00E+00	1.09E-03
----------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41	4.53E+00
KR-85	2.73E-02
XE-135	1.31E-01
XE-133M	6.79E-04
XE-131M	7.22E-03
XE-133	9.53E+01

Qtr 4 - T.Spc. Beta	3.86E-05	1.00E+01	3.86E-04
---------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41	5.54E-01
KR-85	1.07E+00
XE-135	5.83E-02
XE-133M	1.07E-03
XE-131M	1.78E-02
XE-133	9.83E+01

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

Unit One 2005

Report for: 2005

Unit Range - From: 1 To: 1

## === I&amp;P DOSE LIMIT ANALYSIS ===== ANNUAL 2005 =====

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2005 - Admin. Any Organ	INFANT	THYROID	1.99E+00	1.13E+01	1.77E+01
2005 - Admin. Total Body	INFANT	TBODY	3.05E-03	1.05E+01	2.91E-02

2005 - T.Spc. Any Organ	INFANT	THYROID	1.99E+00	1.50E+01	1.33E+01
-------------------------	--------	---------	----------	----------	----------

Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)

Major Contributors ( 0% or greater to total)

Nuclide Percentage

H-3	1.86E-02
CR-51	2.72E-07
CO-58	1.32E-05
I-131	9.95E+01
I-132	2.76E-04
I-133	4.41E-01
I-135	1.10E-03

2005 - T.Spc. Total Body	INFANT	TBODY	3.05E-03	1.50E+01	2.04E-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	1.21E+01
CR-51	1.80E-04
CO-58	1.01E-02
I-131	8.73E+01
I-132	1.17E-02
I-133	4.96E-01
I-135	1.68E-02

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

Unit One 2005

Report for: 2005  
 Unit Range - From: 1 To: 1

## === NG DOSE LIMIT ANALYSIS ===== ANNUAL 2005 =====

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
2005 - Admin. Gamma	1.14E-03	7.50E+00	1.52E-02
2005 - Admin. Beta	8.62E-04	1.50E+01	5.75E-03

2005 - T.Spc. Gamma	1.14E-03	1.00E+01	1.14E-02
---------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 7.25E-01

KR-85 1.03E-01

XE-135 4.72E-02

XE-133M 2.60E-01

KR-88 1.13E-01

XE-131M 8.73E-02

XE-133 9.87E+01

2005 - T.Spc. Beta	8.62E-04	2.00E+01	4.31E-03
--------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 8.32E-02

KR-85 3.80E+00

XE-135 1.97E-02

XE-133M 3.82E-01

KR-88 7.10E-03

XE-131M 2.02E-01

XE-133 9.55E+01

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

-----  
Unit One 2005Report for: 2005  
Unit Range - From: 1 To: 1

## === MAXIMUM DOSE ANALYSIS ===== ANNUAL 2005 =====

Dose Type	Age Group	Organ	Dose (mrem)
Any Organ	INFANT	THYROID	1.99E+00
Liquid Receptor: 0	Liquid Receptor		
Gaseous Receptor: 5	Composite Crit. Receptor - IP		
Distance: 0.00 (meters)	Compass Point: NA		

Liquid Dose: 2.38E-03 % of Total: 1.19E-01

Critical Pathway: Potable Water (PWtr)

Major Contributors ( 0% or greater to total)

Nuclide Percentage

H-3	9.32E+01
CR-51	3.75E-06
MN-54	0.00E+00
FE-59	0.00E+00
CO-58	0.00E+00
CO-60	0.00E+00
NB-95	0.00E+00
AG-110M	0.00E+00
TE-125M	1.25E-02
TE-129	5.24E-04
TE-129M	1.16E-02
TE-132	1.38E-03
I-131	6.77E+00
I-132	3.50E-02
I-133	4.55E-03
CS-134	0.00E+00
CS-136	0.00E+00
CS-137	0.00E+00
LA-140	0.00E+00
CE-144	0.00E+00
PR-144	0.00E+00

Gaseous Dose: 1.99E+00 % of Total: 1.00E+02

Critical Pathway: Grs/Goat/Milk (GMILK)

Major Contributors ( 0% or greater to total)

Nuclide Percentage

H-3	1.86E-02
CR-51	2.72E-07
CO-58	1.32E-05
I-131	9.95E+01
I-132	2.76E-04



## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
I-133	4.41E-01
I-135	1.10E-03

## === MAXIMUM DOSE ANALYSIS ===== ANNUAL 2005 =====

Dose Type	Age Group	Organ	Dose (mrem)
Total Body	ADULT	TBODY	7.96E-03
Liquid Receptor: 0		Liquid Receptor	
Gaseous Receptor: 5		Composite Crit. Receptor - IP	
Distance: 0.00 (meters)		Compass Point: NA	

Liquid Dose: 7.12E-03 % of Total: 8.95E+01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

H-3	8.40E+01
CR-51	4.61E-04
MN-54	2.36E-02
FE-59	8.62E-02
CO-58	5.13E-01
CO-60	2.55E-01
NB-95	2.80E-03
AG-110M	1.74E-06
TE-125M	4.87E-01
TE-129	1.43E-02
TE-129M	4.67E-01
TE-132	1.18E-01
I-131	5.42E-02
I-132	1.37E-03
I-133	3.38E-05
CS-134	8.08E+00
CS-136	5.86E-02
CS-137	5.82E+00
LA-140	2.33E-07
CE-144	2.43E-07
PR-144	3.23E-08

Gaseous Dose: 8.31E-04 % of Total: 1.04E+01

Critical Pathway: Grs/Goat/Milk (GMILK)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

H-3	3.48E+01
CR-51	6.48E-04
CO-58	4.17E-02
I-131	6.46E+01

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
I-132	4.25E-02
I-133	4.22E-01
I-135	5.87E-02

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## LIQUID DOSE SUMMARY

## Unit Two

Report for: 2005

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   6.78E-04  3.18E-03  4.73E-03  3.89E-03  2.48E-03  5.38E-03  0.00E+00  2.95E-03
TEEN    7.24E-04  2.61E-03  3.98E-03  2.34E-03  1.89E-03  4.03E-03  0.00E+00  2.15E-03
CHILD   9.13E-04  2.72E-03  4.34E-03  2.48E-03  2.08E-03  3.11E-03  0.00E+00  2.20E-03
INFANT  1.63E-06  8.93E-04  1.05E-03  8.93E-04  8.91E-04  8.93E-04  0.00E+00  8.92E-04

```

```

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

```

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 1 - Admin. Any Organ	ADULT	GILLI	5.38E-03	3.75E+00	1.44E-01
Qtr 1 - Admin. Total Body	ADULT	TBODY	2.95E-03	1.13E+00	2.62E-01

```

Qtr 1 - T.Spc. Any Organ      ADULT      GILLI      5.38E-03  5.00E+00  1.08E-01
Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors ( 0% or greater to total)

```

Nuclide	Percentage
H-3	4.48E+01
CR-51	9.22E-03
MN-54	1.49E-01
FE-59	2.82E-02
CO-58	1.40E+00
CO-60	7.29E-01
NB-95	2.33E+01
TE-125M	1.77E+01
TE-129	4.37E-02
TE-129M	4.16E+00
TE-132	7.40E+00
I-131	3.30E-02
I-132	9.39E-04
I-133	1.32E-04
CS-134	1.00E-01
CS-136	1.23E-02
CS-137	1.19E-01
LA-140	6.33E-02

```

Qtr 1 - T.Spc. Total Body      ADULT      TBODY      2.95E-03  1.50E+00  1.97E-01

```

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
H-3	8.17E+01
CR-51	6.69E-05
MN-54	1.69E-02
FE-59	5.91E-03
CO-58	2.82E-01
CO-60	1.56E-01
NB-95	3.76E-03
TE-125M	1.09E+00
TE-129	2.57E-02
TE-129M	2.39E-01
TE-132	2.68E-01
I-131	1.31E-01
I-132	3.19E-03
I-133	8.19E-05
CS-134	8.55E+00
CS-136	1.42E-01
CS-137	7.36E+00
LA-140	4.16E-07

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## LIQUID DOSE SUMMARY

## Unit Two

Report for: 2005

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	4.31E-04	1.54E-03	1.11E-03	1.89E-03	1.09E-03	2.12E-03	0.00E+00	1.40E-03
TEEN	4.54E-04	1.29E-03	8.46E-04	1.60E-03	8.37E-04	1.63E-03	0.00E+00	1.00E-03
CHILD	5.68E-04	1.32E-03	9.52E-04	1.60E-03	9.14E-04	1.31E-03	0.00E+00	9.89E-04
INFANT	1.21E-06	3.86E-04	3.86E-04	3.87E-04	3.85E-04	3.86E-04	0.00E+00	3.86E-04

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

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 2 - Admin. Any Organ	ADULT	GILLI	2.12E-03	3.75E+00	5.65E-02
Qtr 2 - Admin. Total Body	ADULT	TBODY	1.40E-03	1.13E+00	1.24E-01

Qtr 2 - T.Spc. Any Organ ADULT GILLI 2.12E-03 5.00E+00 4.23E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide Percentage

H-3	4.92E+01
MN-54	2.30E-01
CO-58	3.24E+00
CO-60	1.24E+00
NB-95	6.46E+00
TE-125M	3.97E+00
TE-129	3.87E-02
TE-129M	3.51E+01
I-131	2.32E-04
CS-134	2.04E-01
CS-137	1.61E-01
LA-140	5.71E-02
PR-144	3.08E-13

Qtr 2 - T.Spc. Total Body ADULT TBODY 1.40E-03 1.50E+00 9.31E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide Percentage

H-3	7.46E+01
MN-54	2.17E-02

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

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Nuclide	Percentage
-----	-----
CO-58	5.43E-01
CO-60	2.20E-01
NB-95	8.68E-04
TE-125M	2.02E-01
TE-129	1.89E-02
TE-129M	1.67E+00
I-131	7.64E-04
CS-134	1.44E+01
CS-137	8.25E+00
LA-140	3.11E-07
PR-144	1.65E-07

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## LIQUID DOSE SUMMARY

## Unit Two

Report for: 2005

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	2.09E-04	2.07E-03	1.78E-03	1.87E-03	1.81E-03	2.57E-03	0.00E+00	2.00E-03
TEEN	2.13E-04	1.63E-03	1.33E-03	1.43E-03	1.37E-03	1.89E-03	0.00E+00	1.46E-03
CHILD	2.59E-04	1.74E-03	1.49E-03	1.57E-03	1.52E-03	1.68E-03	0.00E+00	1.54E-03
INFANT	1.03E-06	6.58E-04	6.58E-04	6.58E-04	6.58E-04	6.58E-04	0.00E+00	6.58E-04

=== SITE DOSE LIMIT ANALYSIS === QUARTER 3 ===

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 3 - Admin. Any Organ	ADULT	GILLI	2.57E-03	3.75E+00	6.84E-02
Qtr 3 - Admin. Total Body	ADULT	TBODY	2.00E-03	1.13E+00	1.77E-01

Qtr 3 - T.Spc. Any Organ ADULT GILLI 2.57E-03 5.00E+00 5.13E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

H-3	6.93E+01
CR-51	8.88E-03
MN-54	4.92E-01
CO-58	1.54E+00
CO-60	1.89E+00
NB-95	2.64E+01
CS-134	1.02E-01
CS-137	9.62E-02
CE-144	4.26E-03

Qtr 3 - T.Spc. Total Body ADULT TBODY 2.00E-03 1.50E+00 1.33E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

H-3	8.90E+01
CR-51	4.54E-05
MN-54	3.94E-02
FE-55	2.58E-02
CO-58	2.18E-01
CO-60	2.85E-01

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

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Nuclide	Percentage
-----	-----
NB-95	3.01E-03
CS-134	6.15E+00
CS-137	4.18E+00
CE-144	8.68E-07



## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## LIQUID DOSE SUMMARY

## Unit Two

Report for: 2005

Unit Range - From: 2 To: 2

Liquid Receptor

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

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	6.97E-05	7.77E-04	7.50E-04	8.25E-04	7.48E-04	1.30E-03	0.00E+00	7.74E-04
TEEN	6.77E-05	5.93E-04	5.65E-04	6.46E-04	5.64E-04	9.53E-04	0.00E+00	5.90E-04
CHILD	8.03E-05	6.52E-04	6.30E-04	7.00E-04	6.26E-04	7.64E-04	0.00E+00	6.56E-04
INFANT	9.29E-07	2.75E-04	2.75E-04	2.75E-04	2.75E-04	2.75E-04	0.00E+00	2.75E-04

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

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 4 - Admin. Any Organ	ADULT	GILLI	1.30E-03	3.75E+00	3.46E-02
Qtr 4 - Admin. Total Body	ADULT	TBODY	7.74E-04	1.13E+00	6.88E-02

Qtr 4 - T.Spc. Any Organ ADULT GILLI 1.30E-03 5.00E+00 2.59E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide Percentage

H-3	5.73E+01
CR-51	5.73E-01
MN-54	1.14E-01
FE-59	3.95E+00
CO-58	1.13E+01
CO-60	3.10E+00
NB-95	1.44E+01
AG-110M	6.48E-03
TE-129M	7.11E+00
TE-132	2.00E+00
I-132	1.56E-04

Qtr 4 - T.Spc. Total Body ADULT TBODY 7.74E-04 1.50E+00 5.16E-02

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide Percentage

H-3	9.59E+01
CR-51	3.82E-03
MN-54	1.19E-02

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
FE-59	7.60E-01
CO-58	2.08E+00
CO-60	6.10E-01
NB-95	2.13E-03
AG-110M	1.58E-05
TE-129M	3.74E-01
TE-132	6.63E-02
I-132	4.86E-04

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## LIQUID DOSE SUMMARY

## Unit Two

Report for: 2005

Unit Range - From: 2 To: 2

Liquid Receptor

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=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ===== ANNUAL 2005 =====
Agegrp  Bone      Liver      Thyroid  Kidney   Lung      GI-LLI    Skin      TB
-----
ADULT   1.26E-03  7.57E-03  8.37E-03  8.48E-03  6.14E-03  1.14E-02  0.00E+00  7.12E-03
TEEN    1.34E-03  6.12E-03  6.72E-03  6.02E-03  4.67E-03  8.50E-03  0.00E+00  5.21E-03
CHILD   1.69E-03  6.44E-03  7.41E-03  6.35E-03  5.14E-03  6.87E-03  0.00E+00  5.40E-03
INFANT  2.54E-06  2.22E-03  2.38E-03  2.22E-03  2.21E-03  2.22E-03  0.00E+00  2.22E-03

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=== SITE DOSE LIMIT ANALYSIS ===== ANNUAL 2005 =====
Annual - Limit      Age      Dose      Limit      Max % of
                    Group     (mrem)    (mrem)     Limit
-----
2005  - Admin. Any Organ      ADULT     GILLI      1.14E-02  7.50E+00  1.52E-01
2005  - Admin. Total Body     ADULT     TBODY      7.12E-03  2.25E+00  3.17E-01

2005  - T.Spc. Any Organ      ADULT     GILLI      1.14E-02  1.00E+01  1.14E-01
Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors ( 0% or greater to total)

```

```

Nuclide      Percentage
-----
H-3          5.27E+01
CR-51        7.26E-02
MN-54        2.37E-01
FE-59        4.70E-01
CO-58        2.91E+00
CO-60        1.36E+00
NB-95        1.98E+01
AG-110M      7.49E-04
TE-125M      9.10E+00
TE-129       2.78E-02
TE-129M      9.32E+00
TE-132       3.72E+00
I-131        1.56E-02
I-132        4.61E-04
I-133        6.24E-05
CS-134       1.08E-01
CS-136       5.80E-03
CS-137       1.08E-01
LA-140       4.05E-02
CE-144       9.60E-04
PR-144       5.74E-14

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2005  - T.Spc. Total Body      ADULT     TBODY      7.12E-03  3.00E+00  2.37E-01

```

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
H-3	8.40E+01
CR-51	4.61E-04
MN-54	2.36E-02
FE-59	8.62E-02
CO-58	5.13E-01
CO-60	2.55E-01
NB-95	2.80E-03
AG-110M	1.74E-06
TE-125M	4.87E-01
TE-129	1.43E-02
TE-129M	4.67E-01
TE-132	1.18E-01
I-131	5.42E-02
I-132	1.37E-03
I-133	3.38E-05
CS-134	8.08E+00
CS-136	5.86E-02
CS-137	5.82E+00
LA-140	2.33E-07
CE-144	2.43E-07
PR-144	3.23E-08

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

## Unit Two

Report for: 2005  
 Unit Range - From: 2 To: 2

## === I&amp;P DOSE LIMIT ANALYSIS ===== QUARTER 1 =====

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 1 - Admin. Any Organ	INFANT	THYROID	1.96E+00	5.63E+00	3.48E+01
Qtr 1 - Admin. Total Body	INFANT	TBODY	2.69E-03	5.25E+00	5.12E-02

Qtr 1 - T.Spc. Any Organ	INFANT	THYROID	1.96E+00	7.50E+00	2.61E+01
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Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

H-3	2.78E-03
-----	----------

CR-51	2.77E-07
-------	----------

CO-58	1.34E-05
-------	----------

I-131	9.96E+01
-------	----------

I-132	2.80E-04
-------	----------

I-133	4.35E-01
-------	----------

I-135	1.12E-03
-------	----------

Qtr 1 - T.Spc. Total Body	INFANT	TBODY	2.69E-03	7.50E+00	3.59E-02
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Receptor: 5 Composite Crit. Receptor - IP

Distance: 0.00 (meters) Compass Point: NA

Critical Pathway: Grs/Goat/Milk (GMILK)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
---------	------------

H-3	2.02E+00
-----	----------

CR-51	2.04E-04
-------	----------

CO-58	1.15E-02
-------	----------

I-131	9.74E+01
-------	----------

I-132	1.32E-02
-------	----------

I-133	5.45E-01
-------	----------

I-135	1.90E-02
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## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

## Unit Two

Report for: 2005  
 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	1.07E-03	3.75E+00	2.86E-02
Qtr 1 - Admin. Beta	8.00E-04	7.50E+00	1.07E-02

Qtr 1 - T.Spc. Gamma	1.07E-03	5.00E+00	2.15E-02
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Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 2.01E-01

KR-85 5.47E-02

XE-135 3.49E-02

XE-133M 2.76E-01

XE-131M 8.01E-02

XE-133 9.94E+01

Qtr 1 - T.Spc. Beta	8.00E-04	1.00E+01	8.00E-03
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Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 2.33E-02

KR-85 2.04E+00

XE-135 1.47E-02

XE-133M 4.11E-01

XE-131M 1.88E-01

XE-133 9.73E+01

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

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GASEOUS DOSE SUMMARY  
-----

## Unit Two

Report for: 2005  
Unit Range - From: 2 To: 2

## === I&amp;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	2.35E-02	5.63E+00	4.19E-01
Qtr 2 - Admin. Total Body	CHILD	TBODY	2.93E-04	5.25E+00	5.59E-03

Qtr 2 - T.Spc. Any Organ	INFANT	THYROID	2.35E-02	7.50E+00	3.14E-01
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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	9.11E-01
-----	----------

I-131	9.87E+01
-------	----------

I-133	4.16E-01
-------	----------

Qtr 2 - T.Spc. Total Body	CHILD	TBODY	2.93E-04	7.50E+00	3.91E-03
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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	9.40E+01
-----	----------

I-131	5.98E+00
-------	----------

I-133	3.52E-02
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## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

-----  
GASEOUS DOSE SUMMARY  
-----

## Unit Two

Report for: 2005  
 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	8.07E-06	3.75E+00	2.15E-04
Qtr 2 - Admin. Beta	1.01E-05	7.50E+00	1.34E-04

Qtr 2 - T.Spc. Gamma	8.07E-06	5.00E+00	1.61E-04
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Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

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AR-41 3.89E+01

KR-85 3.17E+00

KR-88 1.60E+01

XE-131M 1.42E+00

XE-133 4.04E+01

Qtr 2 - T.Spc. Beta	1.01E-05	1.00E+01	1.01E-04
---------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

-----

AR-41 2.71E+00

KR-85 7.10E+01

KR-88 6.09E-01

XE-131M 2.00E+00

XE-133 2.37E+01



## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

## Unit Two

Report for: 2005

Unit Range - From: 2 To: 2

## === I&amp;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	4.52E-03	5.63E+00	8.04E-02
Qtr 3 - Admin. Total Body	CHILD	TBODY	4.83E-05	5.25E+00	9.19E-04

Qtr 3 - T.Spc. Any Organ	INFANT	THYROID	4.52E-03	7.50E+00	6.03E-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	7.72E-01
-----	----------

I-131	9.68E+01
-------	----------

I-133	2.44E+00
-------	----------

Qtr 3 - T.Spc. Total Body	CHILD	TBODY	4.83E-05	7.50E+00	6.43E-04
---------------------------	-------	-------	----------	----------	----------

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	9.29E+01
-----	----------

I-131	6.85E+00
-------	----------

I-133	2.41E-01
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## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

## Unit Two

Report for: 2005  
 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	7.11E-06	3.75E+00	1.90E-04
Qtr 3 - Admin. Beta	1.34E-05	7.50E+00	1.79E-04

Qtr 3 - T.Spc. Gamma	7.11E-06	5.00E+00	1.42E-04
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Receptor: 4 Composite Crit. Receptor - NG  
 Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41	7.34E+00
KR-85	4.46E+00
XE-135	1.32E+00
XE-133M	1.13E-01
XE-131M	2.74E-01
XE-133	8.65E+01

Qtr 3 - T.Spc. Beta	1.34E-05	1.00E+01	1.34E-04
---------------------	----------	----------	----------

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

Nuclide Percentage

AR-41	3.36E-01
KR-85	6.57E+01
XE-135	2.20E-01
XE-133M	6.66E-02
XE-131M	2.54E-01
XE-133	3.34E+01

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

## Unit Two

Report for: 2005  
 Unit Range - From: 2 To: 2

## === I&amp;P DOSE LIMIT ANALYSIS ===== QUARTER 4 =====

Quartr - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Qtr 4 - Admin. Any Organ	INFANT	THYROID	6.82E-03	5.63E+00	1.21E-01
Qtr 4 - Admin. Total Body	CHILD	TBODY	9.16E-05	5.25E+00	1.74E-03

Qtr 4 - T.Spc. Any Organ	INFANT	THYROID	6.82E-03	7.50E+00	9.09E-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	9.87E-01
-----	----------

I-131	9.80E+01
-------	----------

I-133	9.67E-01
-------	----------

Qtr 4 - T.Spc. Total Body	CHILD	TBODY	9.16E-05	7.50E+00	1.22E-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	9.44E+01
-----	----------

I-131	5.51E+00
-------	----------

I-133	7.58E-02
-------	----------

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

## GASEOUS DOSE SUMMARY

## Unit Two

Report for: 2005  
 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	5.44E-05	3.75E+00	1.45E-03
Qtr 4 - Admin. Beta	3.86E-05	7.50E+00	5.14E-04

Qtr 4 - T.Spc. Gamma	5.44E-05	5.00E+00	1.09E-03
----------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 4.53E+00

KR-85 2.73E-02

XE-135 1.31E-01

XE-133M 6.79E-04

XE-131M 7.22E-03

XE-133 9.53E+01

Qtr 4 - T.Spc. Beta	3.86E-05	1.00E+01	3.86E-04
---------------------	----------	----------	----------

Receptor: 4 Composite Crit. Receptor - NG

Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41 5.54E-01

KR-85 1.07E+00

XE-135 5.83E-02

XE-133M 1.07E-03

XE-131M 1.78E-02

XE-133 9.83E+01

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

-----  
GASEOUS DOSE SUMMARY  
-----

## Unit Two

Report for: 2005  
Unit Range - From: 2 To: 2

## === I&amp;P DOSE LIMIT ANALYSIS ===== ANNUAL 2005 =====

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2005 - Admin. Any Organ	INFANT	THYROID	1.99E+00	1.13E+01	1.77E+01
2005 - Admin. Total Body	INFANT	TBODY	3.05E-03	1.05E+01	2.91E-02

2005 - T.Spc. Any Organ	INFANT	THYROID	1.99E+00	1.50E+01	1.33E+01
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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 1.86E-02

CR-51 2.72E-07

CO-58 1.32E-05

I-131 9.95E+01

I-132 2.76E-04

I-133 4.41E-01

I-135 1.10E-03

2005 - T.Spc. Total Body	INFANT	TBODY	3.05E-03	1.50E+01	2.04E-02
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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

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H-3 1.21E+01

CR-51 1.80E-04

CO-58 1.01E-02

I-131 8.73E+01

I-132 1.17E-02

I-133 4.96E-01

I-135 1.68E-02

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

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GASEOUS DOSE SUMMARY  
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## Unit Two

Report for: 2005  
Unit Range - From: 2 To: 2

## === NG DOSE LIMIT ANALYSIS ===== ANNUAL 2005 =====

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
2005 - Admin. Gamma	1.14E-03	7.50E+00	1.52E-02
2005 - Admin. Beta	8.62E-04	1.50E+01	5.75E-03

2005 - T.Spc. Gamma	1.14E-03	1.00E+01	1.14E-02
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Receptor: 4 Composite Crit. Receptor - NG  
Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41	7.25E-01
KR-85	1.03E-01
XE-135	4.72E-02
XE-133M	2.60E-01
KR-88	1.13E-01
XE-131M	8.73E-02
XE-133	9.87E+01

2005 - T.Spc. Beta	8.62E-04	2.00E+01	4.31E-03
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Receptor: 4 Composite Crit. Receptor - NG  
Distance: 0.00 (meters) Compass Point: NA

Nuclide Percentage

AR-41	8.32E-02
KR-85	3.80E+00
XE-135	1.97E-02
XE-133M	3.82E-01
KR-88	7.10E-03
XE-131M	2.02E-01
XE-133	9.55E+01

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

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Unit Two

Report for: 2005  
Unit Range - From: 2 To: 2

## === MAXIMUM DOSE ANALYSIS ===== ANNUAL 2005 =====

Dose Type	Age Group	Organ	Dose (mrem)
Any Organ	INFANT	THYROID	1.99E+00
Liquid Receptor: 0		Liquid Receptor	
Gaseous Receptor: 5		Composite Crit. Receptor - IP	
Distance: 0.00 (meters)		Compass Point: NA	

Liquid Dose: 2.38E-03 % of Total: 1.19E-01  
Critical Pathway: Potable Water (PWtr)  
Major Contributors ( 0% or greater to total)

Nuclide	Percentage
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H-3	9.32E+01
CR-51	3.75E-06
MN-54	0.00E+00
FE-59	0.00E+00
CO-58	0.00E+00
CO-60	0.00E+00
NB-95	0.00E+00
AG-110M	0.00E+00
TE-125M	1.25E-02
TE-129	5.24E-04
TE-129M	1.16E-02
TE-132	1.38E-03
I-131	6.77E+00
I-132	3.50E-02
I-133	4.55E-03
CS-134	0.00E+00
CS-136	0.00E+00
CS-137	0.00E+00
LA-140	0.00E+00
CE-144	0.00E+00
PR-144	0.00E+00

Gaseous Dose: 1.99E+00 % of Total: 1.00E+02  
Critical Pathway: Grs/Goat/Milk (GMILK)  
Major Contributors ( 0% or greater to total)

Nuclide	Percentage
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H-3	1.86E-02
CR-51	2.72E-07
CO-58	1.32E-05
I-131	9.95E+01
I-132	2.76E-04

## 40CFR190 URANIUM FUEL CYCLE DOSE REPORT

Nuclide	Percentage
I-133	4.41E-01
I-135	1.10E-03

## === MAXIMUM DOSE ANALYSIS ===== ANNUAL 2005 =====

Dose Type	Age Group	Organ	Dose (mrem)
Total Body	ADULT	TBODY	7.96E-03
Liquid Receptor: 0		Liquid Receptor	
Gaseous Receptor: 5		Composite Crit. Receptor - IP	
Distance: 0.00 (meters)		Compass Point: NA	

Liquid Dose: 7.12E-03 % of Total: 8.95E+01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
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H-3	8.40E+01
CR-51	4.61E-04
MN-54	2.36E-02
FE-59	8.62E-02
CO-58	5.13E-01
CO-60	2.55E-01
NB-95	2.80E-03
AG-110M	1.74E-06
TE-125M	4.87E-01
TE-129	1.43E-02
TE-129M	4.67E-01
TE-132	1.18E-01
I-131	5.42E-02
I-132	1.37E-03
I-133	3.38E-05
CS-134	8.08E+00
CS-136	5.86E-02
CS-137	5.82E+00
LA-140	2.33E-07
CE-144	2.43E-07
PR-144	3.23E-08

Gaseous Dose: 8.31E-04 % of Total: 1.04E+01

Critical Pathway: Grs/Goat/Milk (GMILK)

Major Contributors ( 0% or greater to total)

Nuclide	Percentage
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H-3	3.48E+01
CR-51	6.48E-04
CO-58	4.17E-02
I-131	6.46E+01



40CFR190 URANIUM FUEL CYCLE DOSE REPORT

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Nuclide	Percentage
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I-132	4.25E-02
I-133	4.22E-01
I-135	5.87E-02