

Table of Contents

Part VI: Uncertainty Analysis

RESRAD Uncertainty Analysis Results

Probabilistic Input .....	2
Total Dose .....	3
Total Risk .....	4
Dose vs Pathway: Ground External .....	5
Dose vs Pathway: Inhalation (w/o Radon) .....	6
Dose vs Pathway: Radon (Water Ind.) .....	7
Dose vs Pathway: Plant (Water Ind.) .....	8
Dose vs Pathway: Meat (Water Ind.) .....	9
Dose vs Pathway: Milk (Water Ind.) .....	10
Dose vs Pathway: Soil Ingestion .....	11
Dose vs Pathway: Water Ingestion .....	12
Dose vs Pathway: Fish Ingestion .....	13
Dose vs Pathway: Radon (Water Dep.) .....	14
Dose vs Pathway: Plant (Water Dep.) .....	15
Dose vs Pathway: Meat (Water Dep.) .....	16
Dose vs Pathway: Milk (Water Dep.) .....	17
Cumulative Probability Summary.....	18
Summary of dose at graphical times, reptition 1.....	19
Summary of dose at graphical times, reptition 2.....	20
Summary of dose at graphical times, reptition 3.....	21
Peak of the mean dose at graphical times.....	22
Correlation and Regression coefficients (if any).....	23

Probabilistic Input

Number of Sample Runs: 900

Number	Name	Distribution	Parameters																
1	VCZ	CONTINUOUS LOGARITHMIC4	5.E-8	0	.0007	.22	.005	.95	.2	1									
2	BCZ	BOUNDED LOGNORMAL-N	1.28	.334	1.28	10.1													
3	EVAPTR	UNIFORM	.5	.99															
4	WIND	UNIFORM	2.8	4.7															
5	RUNOFF	UNIFORM	.1	.8															
6	BUZ(1)	BOUNDED LOGNORMAL-N	1.28	.334	1.28	10.1													
7	MLINH	CONTINUOUS LINEAR	8	0	0	.000008	.0151	.000016	.1365	.00003	.8119	.00004	.9495	.00006	.9937	.000076	.9983	.0001	1
8	SHF3	UNIFORM	.15	.95															
9	DM	TRIANGULAR	0	.15	.6														
10	DROOT	UNIFORM	.3	4															
11	YV(1)	TRUNCATED LOGNORMAL-N	.56	.48	.001	.999													
12	WLAM	TRIANGULAR	5.1	18	84														
13	RWET(2)	TRIANGULAR	.06	.67	.95														
14	HUMID	TRUNCATED LOGNORMAL-N	1.98	.334	.001	.999													
15	VCV	CONTINUOUS LOGARITHMIC4	5.E-8	0	.0007	.22	.005	.95	.2	1									
16	DCACTC(1)	LOGNORMAL-N	2.64	1.39															
17	DCACTS(1)	LOGNORMAL-N	2.64	1.39															
18	DWIBWT	CONTINUOUS LINEAR	6	5	0	24	.29	43	.66	53	.68	76	.95	89	1				

Probabilistic Total Dose Summary

Nuclide (j)	Peak Time	Peak Dose	DOSE(j,t), mrem/yr							
		t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
Np-237										
Min	0.00E+00	2.09E-02	1.28E-03	2.69E-03	4.86E-03	8.07E-07	1.99E-08	1.81E-08	1.18E-08	7.98E-10
Max	6.74E+02	8.92E+00	7.65E+00	8.39E+00	8.84E+00	3.67E+00	1.35E+00	5.63E-01	5.18E-01	8.81E-02
Avg	1.75E+01	7.34E-01	4.97E-01	4.92E-01	5.18E-01	4.38E-01	2.22E-01	5.70E-02	9.49E-03	6.85E-04
Std	4.11E+01	9.32E-01	5.77E-01	7.07E-01	8.17E-01	5.12E-01	2.34E-01	8.30E-02	3.08E-02	5.03E-03
ALL										
Min	0.00E+00	2.09E-02	1.28E-03	2.69E-03	4.86E-03	8.07E-07	1.99E-08	1.81E-08	1.18E-08	7.98E-10
Max	6.74E+02	8.92E+00	7.65E+00	8.39E+00	8.84E+00	3.67E+00	1.35E+00	5.63E-01	5.18E-01	8.81E-02
Avg	1.75E+01	7.34E-01	4.97E-01	4.92E-01	5.18E-01	4.38E-01	2.22E-01	5.70E-02	9.49E-03	6.85E-04
Std	4.11E+01	9.32E-01	5.77E-01	7.07E-01	8.17E-01	5.12E-01	2.34E-01	8.30E-02	3.08E-02	5.03E-03

ALL is total dose summed for all nuclides.

Probabilistic Risk Summary

Nuclide		RISK(j,t)							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
<hr/>									
Np-237									
Min		2.72E-10	9.26E-10	2.15E-09	9.79E-13	1.52E-13	1.37E-13	8.63E-14	3.19E-15
Max		5.61E-06	4.01E-06	4.34E-06	2.88E-06	1.19E-06	3.41E-06	1.91E-06	5.04E-07
Avg		2.95E-07	2.46E-07	2.54E-07	2.19E-07	1.12E-07	3.38E-08	8.59E-09	1.15E-09
Std		4.19E-07	3.06E-07	3.78E-07	2.64E-07	1.22E-07	1.40E-07	7.53E-08	1.89E-08
<hr/>									
ALL									
Min		2.72E-10	9.26E-10	2.15E-09	9.79E-13	1.52E-13	1.37E-13	8.63E-14	3.19E-15
Max		5.61E-06	4.01E-06	4.34E-06	2.88E-06	1.19E-06	3.41E-06	1.91E-06	5.04E-07
Avg		2.95E-07	2.46E-07	2.54E-07	2.19E-07	1.12E-07	3.38E-08	8.59E-09	1.15E-09
Std		4.19E-07	3.06E-07	3.78E-07	2.64E-07	1.22E-07	1.40E-07	7.53E-08	1.89E-08
<hr/>									

ALL is total risk summed for all nuclides.

Probabilistic Dose vs Pathway(i): Ground External

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
Np-237									
Min		3.39E-11	3.86E-18	5.81E-18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		2.47E-09	2.84E-08	3.74E-06	1.23E-01	4.17E-02	1.50E-01	8.42E-02	2.19E-02
Avg		4.91E-10	4.93E-10	8.65E-09	1.83E-04	1.34E-04	2.71E-04	1.79E-04	3.71E-05
Std		1.71E-10	1.37E-09	1.41E-07	4.25E-03	2.08E-03	5.87E-03	3.12E-03	8.17E-04
ALL									
Min		3.39E-11	3.86E-18	5.81E-18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		2.47E-09	2.84E-08	3.74E-06	1.23E-01	4.17E-02	1.50E-01	8.42E-02	2.19E-02
Avg		4.91E-10	4.93E-10	8.65E-09	1.83E-04	1.34E-04	2.71E-04	1.79E-04	3.71E-05
Std		1.71E-10	1.37E-09	1.41E-07	4.25E-03	2.08E-03	5.87E-03	3.12E-03	8.17E-04

ALL is total pathway dose summed for all nuclides.

Probabilistic Dose vs Pathway(i): Inhalation (w/o Radon)

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
<hr/>									
Np-237									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		0.00E+00	0.00E+00	0.00E+00	6.28E-04	8.38E-05	1.84E-04	5.86E-04	2.88E-05
Avg		0.00E+00	0.00E+00	0.00E+00	1.38E-06	2.57E-07	3.65E-07	1.07E-06	6.35E-08
Std		0.00E+00	0.00E+00	0.00E+00	2.68E-05	3.93E-06	7.74E-06	2.06E-05	1.18E-06
ΣALL									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		0.00E+00	0.00E+00	0.00E+00	6.28E-04	8.38E-05	1.84E-04	5.86E-04	2.88E-05
Avg		0.00E+00	0.00E+00	0.00E+00	1.38E-06	2.57E-07	3.65E-07	1.07E-06	6.35E-08
Std		0.00E+00	0.00E+00	0.00E+00	2.68E-05	3.93E-06	7.74E-06	2.06E-05	1.18E-06
<hr/>									

ΣALL is total pathway dose summed for all nuclides.

Probabilistic Dose vs Pathway(i): Radon (Water Ind.)

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
<hr/>									
Np-237									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Avg		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Std		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ALL									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Avg		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Std		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<hr/>									

ALL is total pathway dose summed for all nuclides.

Probabilistic Dose vs Pathway(i): Plant (Water Ind.)

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
<hr/>									
Np-237									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		4.81E-01	4.74E-01	4.62E-01	1.09E+00	4.01E-01	5.54E-01	4.69E-01	8.41E-02
Avg		1.56E-01	1.17E-01	8.48E-02	4.87E-02	2.10E-02	6.99E-03	2.07E-03	2.39E-04
Std		1.15E-01	1.09E-01	9.91E-02	8.53E-02	5.10E-02	3.26E-02	1.98E-02	3.49E-03
<hr/>									
ALL									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		4.81E-01	4.74E-01	4.62E-01	1.09E+00	4.01E-01	5.54E-01	4.69E-01	8.41E-02
Avg		1.56E-01	1.17E-01	8.48E-02	4.87E-02	2.10E-02	6.99E-03	2.07E-03	2.39E-04
Std		1.15E-01	1.09E-01	9.91E-02	8.53E-02	5.10E-02	3.26E-02	1.98E-02	3.49E-03
<hr/>									

ALL is total pathway dose summed for all nuclides.

Probabilistic Dose vs Pathway(i): Meat (Water Ind.)

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
<hr/>									
Np-237									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		1.11E-03	1.09E-03	1.06E-03	4.95E-03	9.20E-04	2.87E-03	4.44E-03	3.02E-04
Avg		3.75E-04	2.78E-04	1.98E-04	1.20E-04	5.00E-05	2.01E-05	1.24E-05	1.17E-06
Std		2.69E-04	2.51E-04	2.29E-04	2.65E-04	1.21E-04	1.30E-04	1.65E-04	1.54E-05
<hr/>									
ALL									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		1.11E-03	1.09E-03	1.06E-03	4.95E-03	9.20E-04	2.87E-03	4.44E-03	3.02E-04
Avg		3.75E-04	2.78E-04	1.98E-04	1.20E-04	5.00E-05	2.01E-05	1.24E-05	1.17E-06
Std		2.69E-04	2.51E-04	2.29E-04	2.65E-04	1.21E-04	1.30E-04	1.65E-04	1.54E-05
<hr/>									

ALL is total pathway dose summed for all nuclides.

Probabilistic Dose vs Pathway(i): Milk (Water Ind.)

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
Np-237									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		9.34E-05	9.21E-05	8.96E-05	3.00E-04	7.78E-05	1.25E-04	2.13E-04	1.63E-05
Avg		3.12E-05	2.32E-05	1.66E-05	9.75E-06	4.14E-06	1.50E-06	6.78E-07	6.91E-08
Std		2.26E-05	2.11E-05	1.93E-05	1.85E-05	9.97E-06	7.79E-06	8.00E-06	8.80E-07
U-235									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		9.34E-05	9.21E-05	8.96E-05	3.00E-04	7.78E-05	1.25E-04	2.13E-04	1.63E-05
Avg		3.12E-05	2.32E-05	1.66E-05	9.75E-06	4.14E-06	1.50E-06	6.78E-07	6.91E-08
Std		2.26E-05	2.11E-05	1.93E-05	1.85E-05	9.97E-06	7.79E-06	8.00E-06	8.80E-07

ALL is total pathway dose summed for all nuclides.

Probabilistic Dose vs Pathway(i): Soil Ingestion

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
Np-237									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		0.00E+00	0.00E+00	0.00E+00	4.66E-03	1.10E-03	4.40E-03	6.08E-03	4.34E-04
Avg		0.00E+00	0.00E+00	0.00E+00	1.27E-05	3.17E-06	7.21E-06	1.38E-05	1.13E-06
Std		0.00E+00	0.00E+00	0.00E+00	2.27E-04	4.77E-05	1.62E-04	2.28E-04	1.99E-05
UALL									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		0.00E+00	0.00E+00	0.00E+00	4.66E-03	1.10E-03	4.40E-03	6.08E-03	4.34E-04
Avg		0.00E+00	0.00E+00	0.00E+00	1.27E-05	3.17E-06	7.21E-06	1.38E-05	1.13E-06
Std		0.00E+00	0.00E+00	0.00E+00	2.27E-04	4.77E-05	1.62E-04	2.28E-04	1.99E-05

UALL is total pathway dose summed for all nuclides.

Probabilistic Dose vs Pathway(i): Water Ingestion

Probabilistic Dose vs Pathway(i): Fish Ingestion

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
Np-237									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Avg		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Std		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ALL									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Avg		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Std		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

ALL is total pathway dose summed for all nuclides.

Probabilistic Dose vs Pathway(i): Radon (Water Dep.)

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
<hr/>									
Np-237									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Avg		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Std		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ALL									
Min		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Max		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Avg		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Std		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<hr/>									

ALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BP INSITU UA\FCS BURIED PIPE INSITU UA NP-237.RAD

Probabilistic Dose vs Pathway(i): Plant (Water Dep.)

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
<hr/>									
Np-237									
Min		5.26E-05	7.15E-05	1.09E-04	6.53E-08	8.40E-10	7.64E-10	5.00E-10	3.40E-11
Max		1.80E+00	2.00E+00	2.12E+00	5.09E-01	2.67E-01	8.93E-02	3.23E-02	2.32E-03
Avg		2.98E-02	3.24E-02	3.72E-02	3.27E-02	1.69E-02	4.24E-03	6.17E-04	2.99E-05
Std		8.13E-02	9.18E-02	1.01E-01	5.45E-02	2.47E-02	7.73E-03	2.15E-03	1.96E-04
<hr/>									
ALL									
Min		5.26E-05	7.15E-05	1.09E-04	6.53E-08	8.40E-10	7.64E-10	5.00E-10	3.40E-11
Max		1.80E+00	2.00E+00	2.12E+00	5.09E-01	2.67E-01	8.93E-02	3.23E-02	2.32E-03
Avg		2.98E-02	3.24E-02	3.72E-02	3.27E-02	1.69E-02	4.24E-03	6.17E-04	2.99E-05
Std		8.13E-02	9.18E-02	1.01E-01	5.45E-02	2.47E-02	7.73E-03	2.15E-03	1.96E-04
<hr/>									

ALL is total pathway dose summed for all nuclides.

Probabilistic Dose vs Pathway(i): Meat (Water Dep.)

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
Np-237									
Min		1.93E-06	2.80E-06	3.28E-06	1.53E-09	6.46E-12	5.81E-12	3.66E-12	7.72E-14
Max		1.31E-02	1.46E-02	1.56E-02	6.37E-03	2.58E-03	8.47E-04	2.68E-04	5.63E-05
Avg		5.82E-04	6.31E-04	7.37E-04	6.65E-04	3.44E-04	8.51E-05	1.24E-05	6.85E-07
Std		1.00E-03	1.21E-03	1.43E-03	8.94E-04	4.00E-04	1.27E-04	3.55E-05	4.42E-06
ALL									
Min		1.93E-06	2.80E-06	3.28E-06	1.53E-09	6.46E-12	5.81E-12	3.66E-12	7.72E-14
Max		1.31E-02	1.46E-02	1.56E-02	6.37E-03	2.58E-03	8.47E-04	2.68E-04	5.63E-05
Avg		5.82E-04	6.31E-04	7.37E-04	6.65E-04	3.44E-04	8.51E-05	1.24E-05	6.85E-07
Std		1.00E-03	1.21E-03	1.43E-03	8.94E-04	4.00E-04	1.27E-04	3.55E-05	4.42E-06

ALL is total pathway dose summed for all nuclides.

Probabilistic Dose vs Pathway(i):    Milk    (Water Dep.)

Nuclide		DOSE(i,j,t), mrem/yr							
(j)	t=	0.00E+00	1.00E+00	3.00E+00	1.00E+01	3.00E+01	1.00E+02	3.00E+02	1.00E+03
<hr/>									
Np-237									
Min		1.13E-07	1.53E-07	1.79E-07	1.47E-10	6.03E-11	5.39E-11	3.34E-11	2.05E-14
Max		8.32E-04	9.25E-04	9.83E-04	3.80E-04	1.58E-04	5.28E-05	1.67E-05	3.11E-06
Avg		3.38E-05	3.68E-05	4.29E-05	3.85E-05	1.99E-05	4.93E-06	7.24E-07	3.96E-08
Std		5.95E-05	7.24E-05	8.49E-05	5.26E-05	2.36E-05	7.47E-06	2.10E-06	2.55E-07
<hr/>									
ALL									
Min		1.13E-07	1.53E-07	1.79E-07	1.47E-10	6.03E-11	5.39E-11	3.34E-11	2.05E-14
Max		8.32E-04	9.25E-04	9.83E-04	3.80E-04	1.58E-04	5.28E-05	1.67E-05	3.11E-06
Avg		3.38E-05	3.68E-05	4.29E-05	3.85E-05	1.99E-05	4.93E-06	7.24E-07	3.96E-08
Std		5.95E-05	7.24E-05	8.49E-05	5.26E-05	2.36E-05	7.47E-06	2.10E-06	2.55E-07
<hr/>									

ALL is total pathway dose summed for all nuclides.





2.01E+01 2.33E-08 1.96E+00 3.21E-01 2.10E-01 7.99E-01 1.01E+00 1.36E+00 1.66E+00

2.13E+01 2.16E-08 1.84E+00 3.09E-01 2.07E-01 7.74E-01 9.80E-01 1.20E+00 1.45E+00

2.25E+01    2.12E-08   1.67E+00   2.92E-01   2.04E-01   7.47E-01   9.09E-01   1.09E+00   1.32E+00

2.38E+01    2.11E-08    1.67E+00    2.77E-01    1.94E-01    6.73E-01    8.94E-01    1.02E+00    1.32E+00

2.52E+01 2.07E-08 1.48E+00 2.66E-01 1.83E-01 6.53E-01 8.99E-01 9.92E-01 1.30E+00

2.67E+01 2.07E-08 1.43E+00 2.52E-01 1.74E-01 6.46E-01 8.22E-01 9.65E-01 1.09E+00

2.82E+01 2.06E-08 1.30E+00 2.37E-01 1.68E-01 5.97E-01 8.08E-01 9.15E-01 9.90E-01

2.99E+01 2.05E-08 1.30E+00 2.27E-01 1.62E-01 5.21E-01 8.10E-01 9.07E-01 9.91E-01

3.00E+01 2.05E-08 1.30E+00 2.26E-01 1.62E-01 5.11E-01 8.10E-01 9.07E-01 9.91E-01

3.16E+01 2.05E-08 1.30E+00 2.19E-01 1.57E-01 5.11E-01 7.68E-01 9.07E-01 9.92E-01

3.35E+01 2.04E-08 1.09E+00 2.07E-01 1.46E-01 4.85E-01 7.50E-01 8.97E-01 9.75E-01

3.54E+01 2.04E-08 1.09E+00 1.97E-01 1.32E-01 4.55E-01 7.49E-01 8.63E-01 9.74E-01

3.75E+01 2.03E-08 1.09E+00 1.88E-01 1.25E-01 4.42E-01 7.03E-01 8.34E-01 9.72E-01

3.97E+01 2.03E-08 1.09E+00 1.76E-01 1.17E-01 4.02E-01 6.11E-01 8.29E-01 9.71E-01

4.20E+01 2.02E-08 9.74E-01 1.66E-01 1.09E-01 3.83E-01 5.45E-01 8.07E-01 9.12E-01

4.44E+01 2.01E-08 9.71E-01 1.53E-01 1.00E-01 3.73E-01 4.60E-01 6.60E-01 8.90E-01

4.70E+01 2.01E-08 9.15E-01 1.41E-01 9.17E-02 3.55E-01 4.38E-01 6.23E-01 8.20E-01

4.97E+01 1.97E-08 9.17E-01 1.34E-01 8.64E-02 3.39E-01 4.26E-01 5.66E-01 7.81E-01

5.26E+01 1.97E-08 6.64E-01 1.21E-01 8.11E-02 3.11E-01 3.85E-01 4.54E-01 6.20E-01

5.57E+01 1.96E-08 6.66E-01 1.14E-01 6.92E-02 3.08E-01 3.87E-01 4.36E-01 6.29E-01

5.90E+01 1.94E-08 6.67E-01 1.08E-01 6.12E-02 2.82E-01 3.82E-01 4.36E-01 6.20E-01

6.24E+01 1.93E-08 6.69E-01 1.02E-01 5.28E-02 2.81E-01 3.75E-01 4.36E-01 5.39E-01

6.60E+01	1.92E-08	5.83E-01	9.60E-02	4.77E-02	2.80E-01	3.65E-01	4.06E-01	4.65E-01
----------	----------	----------	----------	----------	----------	----------	----------	----------

6.99E+01 1.91E-08 5.29E-01 8.90E-02 4.47E-02 2.63E-01 3.45E-01 4.00E-01 4.63E-01

7.39E+01 1.90E-08 5.29E-01 8.34E-02 3.66E-02 2.49E-01 3.37E-01 3.95E-01 4.47E-01

7.82E+01 1.89E-08 4.74E-01 7.81E-02 3.44E-02 2.44E-01 3.16E-01 3.96E-01 4.48E-01

8.28E+01 1.87E-08 4.64E-01 7.29E-02 2.87E-02 2.30E-01 3.13E-01 3.86E-01 4.25E-01

8.76E+01 1.86E-08 4.48E-01 6.86E-02 2.62E-02 2.08E-01 2.83E-01 3.69E-01 3.99E-01

9.27E+01 1.85E-08 4.25E-01 6.41E-02 2.38E-02 1.91E-01 2.83E-01 3.52E-01 3.96E-01

9.81E+01 1.84E-08 3.98E-01 5.91E-02 1.58E-02 1.81E-01 2.75E-01 3.44E-01 3.77E-01

1.00E+02 1.81E-08 3.98E-01 5.75E-02 1.51E-02 1.76E-01 2.65E-01 3.44E-01 3.75E-01

1.04E+02    1.80E-08    3.99E-01    5.43E-02    1.28E-02    1.73E-01    2.45E-01    3.12E-01    3.72E-01

1.10E+02 1.79E-08 3.99E-01 4.89E-02 7.57E-03 1.41E-01 2.39E-01 2.99E-01 3.68E-01

1.16E+02 1.81E-08 3.74E-01 4.47E-02 5.26E-03 1.33E-01 2.13E-01 2.80E-01 3.61E-01

1.23E+02 1.79E-08 3.75E-01 4.01E-02 2.26E-03 1.18E-01 2.03E-01 2.62E-01 3.12E-01

1.30E+02 1.72E-08 3.50E-01 3.54E-02 6.03E-04 1.14E-01 1.73E-01 2.37E-01 2.80E-01

1.38E+02    1.67E-08    3.44E-01    3.24E-02    2.75E-04    1.07E-01    1.47E-01    1.99E-01    2.62E-01

1.46E+02 1.65E-08 3.39E-01 2.86E-02 1.02E-04 9.79E-02 1.27E-01 1.79E-01 2.44E-01

1.54E+02 1.63E-08 3.33E-01 2.53E-02 2.94E-05 8.74E-02 1.21E-01 1.57E-01 2.03E-01

1.63E+02    1.60E-08    3.27E-01    2.28E-02    7.10E-06    8.05E-02    1.13E-01    1.54E-01    2.04E-01

1.73E+02 1.57E-08 3.21E-01 2.11E-02 3.09E-06 7.25E-02 1.05E-01 1.39E-01 2.04E-01

1.83E+02 1.54E-08 3.15E-01 1.94E-02 2.23E-06 6.61E-02 1.04E-01 1.38E-01 1.90E-01

1.94E+02 1.51E-08 3.09E-01 1.79E-02 1.59E-06 5.77E-02 9.84E-02 1.30E-01 1.72E-01

2.05E+02 1.47E-08 3.02E-01 1.63E-02 1.08E-06 5.30E-02 9.42E-02 1.15E-01 1.68E-01

2.17E+02    1.44E-08   2.85E-01   1.47E-02   9.92E-07   5.05E-02   8.42E-02   1.09E-01   1.64E-01

2.29E+02    1.40E-08   2.67E-01   1.36E-02   8.97E-07   4.70E-02   8.29E-02   1.08E-01   1.60E-01

2.43E+02    1.36E-08   2.49E-01   1.24E-02   8.43E-07   4.48E-02   7.94E-02   1.03E-01   1.48E-01

2.57E+02    1.31E-08   2.31E-01   1.12E-02   7.60E-07   4.21E-02   6.68E-02   1.01E-01   1.45E-01

2.72E+02 1.26E-08 2.14E-01 1.01E-02 7.12E-07 3.50E-02 6.48E-02 1.00E-01 1.42E-01

2.88E+02 1.22E-08 1.97E-01 9.19E-03 6.74E-07 3.05E-02 6.47E-02 1.00E-01 1.39E-01

3.00E+02    1.18E-08   1.84E-01   8.73E-03   6.44E-07   2.99E-02   6.45E-02   1.00E-01   1.36E-01

3.05E+02    1.16E-08   1.80E-01   8.55E-03   6.33E-07   2.99E-02   6.45E-02   1.00E-01   1.35E-01

3.22E+02 1.11E-08 1.64E-01 7.78E-03 5.85E-07 2.75E-02 5.35E-02 1.00E-01 1.32E-01

3.41E+02 1.05E-08 1.49E-01 7.16E-03 5.41E-07 2.30E-02 5.19E-02 1.00E-01 1.29E-01

3.61E+02 9.86E-09 1.34E-01 6.29E-03 4.83E-07 1.60E-02 4.43E-02 9.05E-02 1.25E-01

3.82E+02 9.21E-09 1.22E-01 5.62E-03 4.29E-07 1.51E-02 4.16E-02 8.13E-02 1.20E-01

4.04E+02 8.49E-09 1.18E-01 5.15E-03 3.69E-07 1.35E-02 4.10E-02 8.13E-02 1.09E-01

4.28E+02    7.76E-09    1.15E-01    4.62E-03    3.32E-07    1.24E-02    3.47E-02    5.13E-02    1.02E-01

4.53E+02 6.93E-09 1.10E-01 3.96E-03 2.75E-07 9.07E-03 3.40E-02 4.56E-02 8.38E-02

4.79E+02 6.07E-09 1.06E-01 3.48E-03 2.07E-07 5.77E-03 3.03E-02 4.39E-02 7.97E-02

5.07E+02 5.16E-09 1.02E-01 3.21E-03 1.58E-07 1.72E-03 2.89E-02 4.34E-02 7.98E-02

5.36E+02 2.83E-09 9.77E-02 2.86E-03 9.71E-08 4.53E-04 1.63E-02 4.23E-02 7.99E-02

5.68E+02 1.45E-09 9.58E-02 2.44E-03 6.24E-08 6.29E-05 1.55E-02 3.76E-02 5.35E-02

6.01E+02 1.14E-09 9.88E-02 2.32E-03 5.61E-08 3.28E-05 1.55E-02 3.44E-02 5.35E-02

6.36E+02 1.05E-09 1.17E-01 2.13E-03 5.22E-08 1.91E-05 1.48E-02 2.65E-02 5.35E-02

6.73E+02 1.02E-09 1.22E-01 1.95E-03 4.84E-08 1.07E-05 1.38E-02 2.51E-02 5.35E-02

7.12E+02    9.95E-10    1.14E-01    1.72E-03    4.47E-08    1.46E-06    1.21E-02    1.88E-02    5.34E-02

7.53E+02 9.64E-10 1.06E-01 1.52E-03 4.26E-08 5.70E-07 7.33E-03 1.66E-02 5.34E-02

7.97E+02    9.34E-10    9.89E-02    1.39E-03    3.92E-08    3.52E-07    6.12E-03    1.58E-02    5.34E-02

8.44E+02 9.01E-10 9.16E-02 1.31E-03 3.73E-08 3.29E-07 6.06E-03 1.51E-02 5.34E-02

8.93E+02 8.68E-10 8.47E-02 9.98E-04 3.57E-08 3.06E-07 1.77E-03 1.36E-02 2.59E-02

9.45E+02    8.33E-10    7.82E-02    8.67E-04    3.34E-08    2.57E-07    1.23E-04    1.03E-02    2.59E-02

1.00E+03 7.98E-10 7.21E-02 8.03E-04 3.25E-08 2.40E-07 7.61E-05 9.50E-03 2.59E-02

\_\_\_\_\_





2.01E+01 1.96E-08 2.04E+00 3.03E-01 2.03E-01 7.76E-01 9.74E-01 1.19E+00 1.45E+00

2.13E+01 1.98E-08 1.73E+00 2.92E-01 1.97E-01 7.33E-01 9.60E-01 1.10E+00 1.35E+00

2.25E+01 1.96E-08 1.73E+00 2.77E-01 1.91E-01 7.07E-01 8.96E-01 1.02E+00 1.28E+00

2.38E+01 1.97E-08 1.38E+00 2.62E-01 1.83E-01 6.26E-01 8.39E-01 9.90E-01 1.23E+00

2.52E+01 1.99E-08 1.39E+00 2.49E-01 1.82E-01 5.58E-01 8.20E-01 9.71E-01 1.23E+00

2.67E+01 1.97E-08 1.34E+00 2.38E-01 1.76E-01 5.41E-01 7.96E-01 9.44E-01 1.23E+00

2.82E+01 1.99E-08 1.29E+00 2.27E-01 1.68E-01 5.12E-01 7.73E-01 9.45E-01 1.22E+00

2.99E+01 1.99E-08 1.29E+00 2.15E-01 1.58E-01 4.66E-01 7.23E-01 9.46E-01 1.18E+00

3.00E+01 1.99E-08 1.29E+00 2.14E-01 1.58E-01 4.66E-01 7.23E-01 9.46E-01 1.18E+00

3.16E+01 1.96E-08 1.30E+00 2.05E-01 1.49E-01 4.64E-01 6.79E-01 8.94E-01 1.17E+00

3.35E+01 1.95E-08 1.30E+00 1.93E-01 1.36E-01 4.42E-01 6.30E-01 8.50E-01 1.05E+00

3.54E+01	1.96E-08	1.23E+00	1.82E-01	1.28E-01	4.26E-01	6.08E-01	7.95E-01	9.84E-01
----------	----------	----------	----------	----------	----------	----------	----------	----------

3.75E+01 1.95E-08 1.08E+00 1.70E-01 1.17E-01 4.02E-01 5.31E-01 7.00E-01 9.21E-01

3.97E+01	1.97E-08	9.88E-01	1.61E-01	1.10E-01	3.99E-01	5.31E-01	6.62E-01	8.74E-01
----------	----------	----------	----------	----------	----------	----------	----------	----------

4.20E+01 1.95E-08 9.26E-01 1.51E-01 1.06E-01 3.73E-01 5.17E-01 6.12E-01 8.31E-01

4.44E+01 1.95E-08 8.32E-01 1.41E-01 1.01E-01 3.76E-01 4.70E-01 5.64E-01 6.73E-01

4.70E+01 1.97E-08 8.32E-01 1.34E-01 9.18E-02 3.57E-01 4.73E-01 5.44E-01 6.78E-01

4.97E+01 1.95E-08 8.02E-01 1.28E-01 8.68E-02 3.45E-01 4.64E-01 5.24E-01 6.06E-01

5.26E+01 1.95E-08 8.04E-01 1.22E-01 8.48E-02 2.91E-01 4.41E-01 5.05E-01 6.06E-01

5.57E+01 1.95E-08 8.06E-01 1.16E-01 7.57E-02 2.86E-01 4.39E-01 5.06E-01 6.05E-01

5.90E+01 1.96E-08 8.09E-01 1.11E-01 6.40E-02 2.80E-01 4.16E-01 4.94E-01 6.05E-01

6.24E+01 1.96E-08 8.12E-01 1.03E-01 5.77E-02 2.69E-01 4.10E-01 4.80E-01 6.05E-01

6.60E+01 1.93E-08 8.00E-01 9.87E-02 5.18E-02 2.57E-01 4.03E-01 4.81E-01 6.05E-01

6.99E+01 1.91E-08 7.98E-01 9.41E-02 4.86E-02 2.53E-01 3.93E-01 4.71E-01 5.47E-01

7.39E+01 1.90E-08 5.16E-01 8.69E-02 4.36E-02 2.44E-01 3.45E-01 4.38E-01 5.04E-01

7.82E+01 1.89E-08 5.16E-01 8.13E-02 3.85E-02 2.20E-01 3.15E-01 4.03E-01 4.73E-01

8.28E+01 1.88E-08 5.16E-01 7.59E-02 3.46E-02 2.13E-01 2.75E-01 3.94E-01 4.44E-01

8.76E+01 1.89E-08 4.70E-01 7.09E-02 2.99E-02 2.06E-01 2.59E-01 3.80E-01 4.35E-01

9.27E+01 1.86E-08 4.14E-01 6.62E-02 2.26E-02 1.98E-01 2.57E-01 3.52E-01 3.97E-01

9.81E+01 1.86E-08 4.14E-01 5.96E-02 1.74E-02 1.83E-01 2.34E-01 2.87E-01 3.47E-01

1.00E+02 1.85E-08 4.08E-01 5.72E-02 1.57E-02 1.77E-01 2.22E-01 2.72E-01 3.47E-01

1.04E+02    1.84E-08    3.70E-01    5.41E-02    1.27E-02    1.75E-01    2.19E-01    2.57E-01    3.42E-01

1.10E+02    1.84E-08    3.65E-01    4.96E-02    9.52E-03    1.70E-01    2.14E-01    2.55E-01    3.09E-01

1.16E+02 1.82E-08 3.59E-01 4.54E-02 6.08E-03 1.55E-01 1.94E-01 2.32E-01 2.91E-01

1.23E+02 1.80E-08 3.54E-01 4.12E-02 3.69E-03 1.31E-01 1.87E-01 2.28E-01 2.73E-01

1.30E+02 1.75E-08 3.48E-01 3.80E-02 8.15E-04 1.19E-01 1.80E-01 2.25E-01 2.65E-01

1.38E+02    1.74E-08    3.40E-01    3.46E-02    2.71E-04    1.04E-01    1.77E-01    2.25E-01    2.67E-01

1.46E+02 1.75E-08 3.32E-01 3.11E-02 7.42E-05 9.61E-02 1.70E-01 2.11E-01 2.62E-01

1.54E+02 1.74E-08 3.24E-01 2.84E-02 3.49E-05 8.79E-02 1.69E-01 2.06E-01 2.62E-01

1.63E+02 1.69E-08 3.16E-01 2.55E-02 1.26E-05 8.60E-02 1.57E-01 1.92E-01 2.31E-01

1.73E+02    1.67E-08   3.07E-01   2.31E-02   2.13E-06   7.60E-02   1.36E-01   1.88E-01   2.25E-01

1.83E+02 1.63E-08 2.99E-01 2.14E-02 1.80E-06 7.44E-02 1.31E-01 1.71E-01 2.23E-01

1.94E+02 1.59E-08 2.89E-01 2.00E-02 1.51E-06 6.94E-02 1.19E-01 1.71E-01 2.20E-01

2.05E+02 1.56E-08 2.80E-01 1.75E-02 1.24E-06 6.26E-02 9.17E-02 1.47E-01 2.17E-01

2.17E+02 1.53E-08 2.71E-01 1.56E-02 1.19E-06 5.37E-02 8.34E-02 1.34E-01 2.14E-01

2.29E+02 1.48E-08 2.61E-01 1.39E-02 1.10E-06 5.03E-02 7.62E-02 1.14E-01 2.11E-01

2.43E+02    1.44E-08   2.51E-01   1.26E-02   9.27E-07   4.57E-02   7.63E-02   1.01E-01   2.02E-01

2.57E+02 1.37E-08 2.41E-01 1.15E-02 8.70E-07 4.16E-02 6.94E-02 9.76E-02 1.92E-01

2.72E+02    1.32E-08   2.31E-01   1.06E-02   8.19E-07   3.56E-02   6.89E-02   9.62E-02   1.83E-01

2.88E+02 1.28E-08 2.20E-01 9.70E-03 7.31E-07 3.44E-02 5.78E-02 9.54E-02 1.73E-01

3.00E+02 1.22E-08 2.13E-01 9.18E-03 6.70E-07 3.08E-02 5.72E-02 9.54E-02 1.66E-01

3.05E+02 1.21E-08 2.10E-01 8.69E-03 6.58E-07 2.95E-02 5.17E-02 8.82E-02 1.64E-01

3.22E+02 1.15E-08 1.99E-01 7.69E-03 5.98E-07 2.39E-02 4.67E-02 8.50E-02 1.54E-01

3.41E+02 1.08E-08 1.89E-01 7.19E-03 5.47E-07 2.25E-02 4.56E-02 7.97E-02 1.45E-01

3.61E+02 1.03E-08 1.82E-01 6.26E-03 4.97E-07 1.84E-02 4.35E-02 6.66E-02 1.35E-01

3.82E+02 9.45E-09 1.78E-01 5.46E-03 4.32E-07 1.51E-02 3.56E-02 5.45E-02 1.26E-01

4.04E+02    8.70E-09    1.73E-01    4.94E-03    3.85E-07    1.41E-02    3.10E-02    4.94E-02    1.17E-01

4.28E+02 8.05E-09 1.69E-01 4.46E-03 3.32E-07 1.18E-02 2.94E-02 4.68E-02 1.09E-01

4.53E+02 7.10E-09 1.64E-01 4.00E-03 2.85E-07 9.34E-03 2.27E-02 4.45E-02 1.03E-01

4.79E+02 6.33E-09 1.59E-01 3.63E-03 2.31E-07 7.12E-03 2.24E-02 4.45E-02 1.04E-01

5.07E+02 5.03E-09 1.54E-01 3.33E-03 1.64E-07 5.47E-03 1.81E-02 3.97E-02 1.11E-01

5.36E+02    3.07E-09    1.49E-01    2.58E-03    1.02E-07    1.39E-03    1.46E-02    3.28E-02    5.83E-02

5.68E+02    2.55E-09    1.44E-01    2.33E-03    7.43E-08    9.16E-04    1.42E-02    3.28E-02    5.83E-02

6.01E+02 1.96E-09 1.39E-01 2.02E-03 6.03E-08 2.67E-05 1.17E-02 2.68E-02 5.83E-02

6.36E+02 1.52E-09 1.33E-01 1.85E-03 5.22E-08 1.16E-05 1.10E-02 2.27E-02 5.84E-02

6.73E+02 1.28E-09 1.28E-01 1.71E-03 4.83E-08 6.31E-06 9.29E-03 2.04E-02 5.84E-02

7.12E+02 1.14E-09 1.22E-01 1.41E-03 4.51E-08 7.95E-07 5.86E-03 1.65E-02 4.34E-02

7.53E+02 1.03E-09 1.17E-01 1.34E-03 4.18E-08 6.73E-07 5.83E-03 1.65E-02 4.35E-02

7.97E+02 9.75E-10 1.11E-01 1.23E-03 3.95E-08 5.11E-07 7.56E-04 1.62E-02 4.35E-02

8.44E+02 9.36E-10 1.05E-01 1.14E-03 3.74E-08 3.53E-07 1.14E-04 1.56E-02 4.35E-02

8.93E+02 8.99E-10 9.95E-02 1.02E-03 3.60E-08 2.85E-07 1.20E-06 1.18E-02 3.81E-02

9.45E+02 8.61E-10 9.38E-02 9.80E-04 3.40E-08 2.43E-07 5.82E-07 1.18E-02 3.55E-02

1.00E+03 8.26E-10 8.81E-02 7.99E-04 3.23E-08 2.24E-07 5.35E-07 1.02E-02 2.79E-02

-----





2.01E+01    3.73E-08   1.63E+00   2.95E-01   2.11E-01   6.65E-01   9.69E-01   1.09E+00   1.31E+00

2.13E+01 3.67E-08 1.63E+00 2.84E-01 2.06E-01 6.52E-01 9.34E-01 1.06E+00 1.32E+00

2.25E+01 3.66E-08 1.63E+00 2.74E-01 1.99E-01 6.46E-01 9.18E-01 1.03E+00 1.33E+00

2.38E+01    3.65E-08    1.58E+00    2.65E-01    1.88E-01    6.21E-01    9.05E-01    1.04E+00    1.35E+00

2.52E+01 3.65E-08 1.46E+00 2.55E-01 1.82E-01 6.24E-01 8.70E-01 1.01E+00 1.14E+00

2.67E+01 3.64E-08 1.42E+00 2.45E-01 1.74E-01 5.87E-01 8.14E-01 9.86E-01 1.15E+00

2.82E+01 3.64E-08 1.37E+00 2.35E-01 1.69E-01 5.65E-01 7.98E-01 9.87E-01 1.14E+00

2.99E+01    3.64E-08    1.36E+00    2.25E-01    1.64E-01    5.40E-01    7.63E-01    9.52E-01    1.07E+00

3.00E+01    3.64E-08    1.35E+00    2.24E-01    1.63E-01    5.38E-01    7.60E-01    9.47E-01    1.07E+00

3.16E+01 3.64E-08 1.18E+00 2.17E-01 1.53E-01 5.18E-01 7.23E-01 8.79E-01 1.07E+00

3.35E+01    3.57E-08    1.17E+00    2.09E-01    1.47E-01    5.02E-01    6.86E-01    8.73E-01    9.97E-01

3.54E+01 3.55E-08 1.07E+00 2.01E-01 1.44E-01 4.91E-01 6.48E-01 8.06E-01 9.98E-01

3.75E+01 3.54E-08 1.06E+00 1.94E-01 1.39E-01 4.59E-01 6.23E-01 7.97E-01 9.92E-01

3.97E+01 3.53E-08 1.00E+00 1.83E-01 1.28E-01 4.35E-01 5.72E-01 7.49E-01 9.90E-01

4.20E+01 3.51E-08 1.00E+00 1.73E-01 1.21E-01 4.15E-01 5.71E-01 7.22E-01 9.32E-01

4.44E+01 3.50E-08 1.00E+00 1.62E-01 1.07E-01 3.81E-01 5.32E-01 6.42E-01 7.66E-01

4.70E+01 3.49E-08 1.01E+00 1.54E-01 9.93E-02 3.60E-01 4.95E-01 6.23E-01 7.66E-01

4.97E+01    3.47E-08   8.16E-01   1.44E-01   9.60E-02   3.46E-01   4.57E-01   5.85E-01   7.25E-01

5.26E+01 3.46E-08 7.36E-01 1.33E-01 8.86E-02 3.30E-01 4.33E-01 5.45E-01 6.51E-01

5.57E+01 3.45E-08 6.68E-01 1.25E-01 7.81E-02 3.16E-01 4.25E-01 5.15E-01 5.88E-01

5.90E+01 3.44E-08 6.68E-01 1.19E-01 6.71E-02 3.16E-01 4.27E-01 5.02E-01 5.89E-01

6.24E+01 3.43E-08 6.46E-01 1.13E-01 6.49E-02 2.91E-01 3.67E-01 5.03E-01 5.80E-01

6.60E+01 3.35E-08 5.79E-01 1.03E-01 5.73E-02 2.84E-01 3.58E-01 4.63E-01 5.71E-01

6.99E+01 3.32E-08 5.77E-01 9.65E-02 4.89E-02 2.61E-01 3.59E-01 4.49E-01 5.37E-01

7.39E+01 3.30E-08 5.75E-01 8.69E-02 4.53E-02 2.52E-01 3.22E-01 4.10E-01 4.97E-01

7.82E+01 3.27E-08 5.73E-01 8.12E-02 3.86E-02 2.34E-01 3.12E-01 3.82E-01 4.97E-01

8.28E+01 3.24E-08 5.71E-01 7.58E-02 3.18E-02 2.16E-01 2.95E-01 3.60E-01 4.87E-01

8.76E+01 3.21E-08 5.68E-01 6.78E-02 2.64E-02 1.90E-01 2.85E-01 3.52E-01 4.32E-01

9.27E+01    3.18E-08    5.66E-01    6.32E-02    2.22E-02    1.84E-01    2.77E-01    3.18E-01    3.62E-01

9.81E+01    3.15E-08    5.63E-01    5.82E-02    1.82E-02    1.72E-01    2.46E-01    2.92E-01    3.61E-01

1.00E+02    3.14E-08    5.63E-01    5.61E-02    1.65E-02    1.67E-01    2.37E-01    2.84E-01    3.62E-01

1.04E+02 3.12E-08 5.61E-01 5.29E-02 1.28E-02 1.64E-01 2.38E-01 2.84E-01 3.55E-01

1.10E+02 3.09E-08 5.58E-01 4.93E-02 9.78E-03 1.59E-01 2.09E-01 2.62E-01 3.55E-01

1.16E+02 3.05E-08 5.55E-01 4.49E-02 6.29E-03 1.45E-01 1.89E-01 2.43E-01 3.17E-01

1.23E+02    3.02E-08    5.52E-01    3.97E-02    3.69E-03    1.32E-01    1.79E-01    2.22E-01    2.89E-01

1.30E+02    2.96E-08   5.49E-01   3.58E-02   1.93E-03   1.26E-01   1.61E-01   2.06E-01   2.51E-01

1.38E+02    2.88E-08    5.45E-01    3.29E-02    6.14E-04    1.15E-01    1.55E-01    2.06E-01    2.52E-01

1.46E+02    2.83E-08    5.41E-01    3.03E-02    6.89E-05    1.08E-01    1.50E-01    2.04E-01    2.52E-01

1.54E+02 2.77E-08 5.38E-01 2.80E-02 1.50E-05 9.80E-02 1.44E-01 1.97E-01 2.36E-01

1.63E+02 2.71E-08 5.34E-01 2.58E-02 4.64E-06 9.37E-02 1.37E-01 1.87E-01 2.36E-01

1.73E+02 2.65E-08 5.29E-01 2.48E-02 2.36E-06 8.19E-02 1.35E-01 1.83E-01 2.37E-01

1.83E+02    2.61E-08   5.25E-01   2.26E-02   1.61E-06   7.04E-02   1.33E-01   1.70E-01   2.16E-01

1.94E+02 2.55E-08 5.20E-01 2.13E-02 1.28E-06 6.22E-02 1.32E-01 1.70E-01 2.14E-01

2.05E+02 2.47E-08 5.15E-01 1.93E-02 1.19E-06 5.45E-02 1.29E-01 1.61E-01 2.11E-01

2.17E+02 2.40E-08 5.10E-01 1.76E-02 1.13E-06 4.99E-02 1.20E-01 1.50E-01 2.08E-01

2.29E+02 2.32E-08 5.05E-01 1.65E-02 1.04E-06 4.76E-02 1.20E-01 1.46E-01 2.06E-01

2.43E+02 2.24E-08 5.00E-01 1.55E-02 9.62E-07 4.75E-02 1.05E-01 1.35E-01 2.04E-01

2.57E+02    2.15E-08   4.96E-01   1.40E-02   8.73E-07   3.70E-02   9.81E-02   1.28E-01   1.92E-01

2.72E+02    2.02E-08    5.04E-01    1.28E-02    7.66E-07    3.34E-02    9.37E-02    1.28E-01    1.72E-01

2.88E+02 1.91E-08 5.06E-01 1.19E-02 7.10E-07 3.28E-02 9.35E-02 1.23E-01 1.53E-01

3.00E+02 1.83E-08 5.18E-01 1.05E-02 6.41E-07 3.24E-02 5.40E-02 1.15E-01 1.39E-01

3.05E+02    1.80E-08   5.26E-01   1.02E-02   6.34E-07   3.16E-02   5.33E-02   1.14E-01   1.36E-01

3.22E+02 1.68E-08 6.08E-01 9.06E-03 5.76E-07 2.60E-02 4.77E-02 9.60E-02 1.27E-01

3.41E+02 1.56E-08 1.30E-01 5.91E-03 5.30E-07 1.96E-02 3.64E-02 5.89E-02 1.04E-01

3.61E+02 1.45E-08 1.20E-01 5.46E-03 4.81E-07 1.91E-02 3.56E-02 5.44E-02 9.86E-02

3.82E+02 1.30E-08 1.20E-01 4.78E-03 4.41E-07 1.83E-02 3.27E-02 4.97E-02 9.47E-02

4.04E+02 1.15E-08 1.20E-01 3.94E-03 3.87E-07 1.47E-02 3.11E-02 3.76E-02 9.08E-02

4.28E+02 9.94E-09 1.20E-01 3.48E-03 3.39E-07 1.12E-02 2.58E-02 3.43E-02 8.68E-02

4.53E+02    8.24E-09    8.46E-02    2.84E-03    2.69E-07    8.74E-03    2.38E-02    3.23E-02    4.76E-02

4.79E+02 6.40E-09 7.92E-02 2.32E-03 2.09E-07 4.76E-03 1.98E-02 3.20E-02 3.83E-02

5.07E+02 4.46E-09 7.52E-02 2.13E-03 1.49E-07 3.53E-03 1.85E-02 3.13E-02 3.28E-02

5.36E+02 2.44E-09 7.12E-02 1.82E-03 9.44E-08 1.74E-03 1.64E-02 2.56E-02 3.22E-02

5.68E+02 1.77E-09 6.72E-02 1.61E-03 6.74E-08 4.16E-04 1.32E-02 2.45E-02 3.16E-02

6.01E+02 1.63E-09 6.32E-02 1.33E-03 5.42E-08 7.35E-05 1.06E-02 1.88E-02 3.16E-02

6.36E+02 1.58E-09 5.92E-02 1.12E-03 4.92E-08 3.81E-05 9.86E-03 1.76E-02 3.12E-02

6.73E+02 1.53E-09 5.53E-02 9.59E-04 4.54E-08 1.56E-05 6.52E-03 1.58E-02 2.60E-02

7.12E+02 1.48E-09 5.14E-02 8.54E-04 4.24E-08 2.06E-06 4.46E-03 1.32E-02 2.34E-02

7.53E+02 1.45E-09 4.76E-02 7.79E-04 3.97E-08 6.22E-07 2.49E-03 1.30E-02 2.34E-02

7.97E+02 1.40E-09 4.39E-02 7.22E-04 3.83E-08 3.48E-07 8.38E-05 1.30E-02 2.35E-02

8.44E+02 1.34E-09 4.02E-02 6.67E-04 3.67E-08 3.07E-07 8.65E-06 1.30E-02 2.31E-02

8.93E+02 1.29E-09 3.67E-02 5.90E-04 3.53E-08 2.87E-07 3.77E-06 1.06E-02 2.31E-02

9.45E+02 1.23E-09 3.33E-02 5.05E-04 3.39E-08 2.72E-07 1.66E-06 1.04E-02 1.89E-02

1.00E+03 1.17E-09 3.01E-02 4.53E-04 3.25E-08 2.53E-07 7.45E-07 7.51E-03 1.90E-02

\_\_\_\_\_



Probabilistic results summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BP INSITU UA\FCS BURIED PIPE INSITU UA NP-237.RAD

Peak of the mean dose (averaged over observations) at graphical times

Repetition	Time of peak mean dose	Peak mean dose
	Years	mrem/yr
1	4.359E+00	5.188E-01
2	4.359E+00	5.512E-01
3	3.892E+00	5.043E-01

Title : RESRAD Default Parameters  
Input File : FCS BURIED PIPE INSITU UA NP-237.RAD

Coefficients for peak All Pathways Dose

Coefficient =	PCC	SRC	PRCC	SRRC
Repetition =	1	1	1	1

Description of Probabilistic Variable	Sig	Coeff	Sig	Coeff	Sig	Coeff	Sig	Coeff
Contaminated zone erosion rate	14	-0.02	14	-0.02	12	0.03	12	0.01
Contaminated zone b parameter	9	-0.08	9	-0.07	16	-0.02	16	-0.01
Evapotranspiration coefficient	12	-0.04	12	-0.03	10	0.05	10	0.03
Wind Speed	13	0.03	13	0.02	11	0.05	11	0.02
Runoff coefficient	7	-0.09	7	-0.07	13	0.03	13	0.01
b Parameter of Unsaturated zone 1	16	-0.02	16	-0.01	6	0.11	6	0.05
Mass loading for inhalation	5	0.10	5	0.09	4	0.12	4	0.06
Indoor dust filtration factor	15	-0.02	15	-0.01	18	0.01	18	0.00
Depth of soil mixing layer	17	0.01	17	0.01	17	-0.01	17	0.00
Depth of roots	10	0.06	10	0.05	14	0.02	14	0.01
Wet weight crop yield of fruit, grain and non-leafy vegetables	18	-0.01	18	-0.01	8	-0.08	8	-0.04
Weathering removal constant of all vegetation	6	-0.09	6	-0.07	9	-0.07	9	-0.03
Wet foliar interception fraction of leafy vegetables	11	-0.04	11	-0.03	7	-0.10	7	-0.05
Humidity in air	8	-0.08	8	-0.07	5	-0.11	5	-0.05
Cover erosion rate	4	0.18	4	0.16	15	0.02	15	0.01
Kd of Np-237 in Contaminated Zone	3	-0.18	3	-0.16	3	-0.62	3	-0.38
Kd of Np-237 in Saturated Zone	2	-0.23	2	-0.21	1	-0.77	1	-0.57
Well pump intake depth	1	-0.42	1	-0.40	2	-0.74	2	-0.52
R-SQUARE	0.28		0.28		0.78		0.78	

-Rank is set to zero if the dose is zero or the correlation matrix is singular.

-R-SQUARE varies between 0 and 1 and is called the coefficient of determination; it provides a measure of the variation in the dependent variable (Dose) explained by regression on the independent variables.

Title : RESRAD Default Parameters

Input File : FCS BURIED PIPE INSITU UA NP-237.RAD

Coefficients for peak All Pathways Dose

Coefficient =	PCC	SRC	PRCC	SRRC
Repetition =	2	2	2	2

Description of Probabilistic Variable	Sig Coeff	Sig Coeff	Sig Coeff	Sig Coeff
---------------------------------------	-----------	-----------	-----------	-----------

Contaminated zone erosion rate	8	-0.05	7	-0.04	9	-0.05	9	-0.03
Contaminated zone b parameter	14	0.03	14	0.03	5	-0.10	5	-0.05
Evapotranspiration coefficient	15	-0.02	15	-0.02	16	0.01	16	0.00
Wind Speed	9	0.04	9	0.04	13	0.03	13	0.01
Runoff coefficient	12	0.04	12	0.03	8	0.06	8	0.03
b Parameter of Unsaturated zone 1	18	0.01	18	0.01	6	0.08	6	0.04
Mass loading for inhalation	5	0.06	5	0.05	11	-0.05	11	-0.02
Indoor dust filtration factor	6	0.05	6	0.05	10	-0.05	10	-0.03
Depth of soil mixing layer	13	0.03	13	0.03	15	-0.02	15	-0.01
Depth of roots	10	-0.04	10	-0.03	17	-0.01	17	0.00
Wet weight crop yield of fruit, grain and non-leafy vegetables	11	-0.04	11	-0.03	14	-0.03	14	-0.01
Weathering removal constant of all vegetation	7	-0.05	8	-0.04	18	0.01	18	0.00
Wet foliar interception fraction of leafy vegetables	3	0.13	3	0.11	7	0.07	7	0.03
Humidity in air	17	-0.01	17	-0.01	12	0.05	12	0.02
Cover erosion rate	16	-0.02	16	-0.02	4	0.12	4	0.07
Kd of Np-237 in Contaminated Zone	4	-0.11	4	-0.10	3	-0.52	3	-0.32
Kd of Np-237 in Saturated Zone	2	-0.18	2	-0.17	1	-0.73	1	-0.56
Well pump intake depth	1	-0.41	1	-0.40	2	-0.73	2	-0.56

R-SQUARE	0.22	0.22	0.73	0.73
----------	------	------	------	------

-Rank is set to zero if the dose is zero or the correlation matrix is singular.

-R-SQUARE varies between 0 and 1 and is called the coefficient of determination; it provides a measure of the variation in the dependent variable (Dose) explained by regression on the independent variables.

Title : RESRAD Default Parameters

Input File : FCS BURIED PIPE INSITU UA NP-237.RAD

Coefficients for peak All Pathways Dose

Coefficient =	PCC	SRC	PRCC	SRRC
Repetition =	3	3	3	3

Description of Probabilistic Variable	Sig Coeff	Sig Coeff	Sig Coeff	Sig Coeff
---------------------------------------	-----------	-----------	-----------	-----------

Contaminated zone erosion rate	14	-0.02	13	-0.02	9	-0.05	9	-0.03
Contaminated zone b parameter	10	0.03	10	0.03	8	0.05	8	0.03
Evapotranspiration coefficient	3	-0.11	3	-0.10	18	-0.01	18	-0.01
Wind Speed	5	-0.06	5	-0.05	7	-0.05	7	-0.03
Runoff coefficient	6	0.05	6	0.05	5	0.09	5	0.05
b Parameter of Unsaturated zone 1	17	0.01	17	0.01	15	0.03	15	0.01
Mass loading for inhalation	9	-0.03	9	-0.03	6	-0.07	6	-0.04
Indoor dust filtration factor	12	0.02	14	0.02	11	0.03	11	0.02
Depth of soil mixing layer	11	0.03	11	0.03	14	0.03	14	0.01
Depth of roots	15	-0.01	15	-0.01	12	-0.03	12	-0.02
Wet weight crop yield of fruit, grain and non-leafy vegetables	7	-0.05	7	-0.04	10	-0.04	10	-0.02
Weathering removal constant of all vegetation	8	0.04	8	0.04	16	0.02	16	0.01
Wet foliar interception fraction of leafy vegetables	18	-0.01	18	-0.01	13	0.03	13	0.02
Humidity in air	16	-0.01	16	-0.01	17	-0.01	17	-0.01
Cover erosion rate	13	0.02	12	0.02	4	0.11	4	0.06
Kd of Np-237 in Contaminated Zone	4	-0.09	4	-0.08	3	-0.48	3	-0.30
Kd of Np-237 in Saturated Zone	2	-0.20	2	-0.18	2	-0.70	2	-0.54
Well pump intake depth	1	-0.42	1	-0.42	1	-0.71	1	-0.55

R-SQUARE	0.22	0.22	0.70	0.70
----------	------	------	------	------

-Rank is set to zero if the dose is zero or the correlation matrix is singular.

-R-SQUARE varies between 0 and 1 and is called the coefficient of determination; it provides a measure of the variation in the dependent variable (Dose) explained by regression on the independent variables.