

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

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 results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

Probabilistic Input

Number of Sample Runs: 3000

Number	Name	Distribution	Parameters								
1	VCV	CONTINUOUS LOGARITHMIC4	5.E-8	0	.0007	.22	.005	.95	.2	1	
2	DENSCZ	TRUNCATED NORMAL	1.52	.23	.001	.999					
3	VCZ	CONTINUOUS LOGARITHMIC4	5.E-8	0	.0007	.22	.005	.95	.2	1	
4	TPCZ	TRUNCATED NORMAL	.425	.0867	.001	.999					
5	HCCZ	LOGUNIFORM	786	17000							
6	BCZ	BOUNDED LOGNORMAL-N	1.06	.66	.5	30					
7	EVAPTR	UNIFORM	.5	.75							
8	WIND	BOUNDED LOGNORMAL-N	1.445	.2419	1.4	13					
9	RUNOFF	UNIFORM	.1	.8							
10	DENSAQ	TRUNCATED NORMAL	1.51	.16	.001	.999					
11	TPSZ	TRUNCATED NORMAL	.43	.06	.001	.999					
12	EPSZ	TRUNCATED NORMAL	.383	.061	.001	.999					
13	HCSZ	LOGUNIFORM	786	17000							
14	HGWT	BOUNDED LOGNORMAL-N	-5.11	1.77	.00007	.5					
15	DWIBWT	TRIANGULAR	6	10	30						
16	MLINH	CONTINUOUS LINEAR	8	0	0	.000008	.0151	.000016	.1365	.00003	.8119
17	SHF3	UNIFORM	.15	.95							
18	SHF1	BOUNDED LOGNORMAL-N	-1.3	.59	.044	1					
19	DM	TRIANGULAR	0	.15	.6						
20	DROOT	UNIFORM	.3	4							
21	YV(1)	TRUNCATED LOGNORMAL-N	.56	.48	.001	.999					
22	WLAM	TRIANGULAR	5.1	18	84						
23	RWET(2)	TRIANGULAR	.06	.67	.95						
24	BRTF(27,1)	LOGNORMAL-N	-2.53	.916291							
25	BRTF(27,2)	LOGNORMAL-N	-3.51	1.029619							
26	BRTF(27,3)	LOGNORMAL-N	-6.21	.7							
27	BRTF(55,1)	LOGNORMAL-N	-3.22	.993252							
28	BRTF(55,2)	LOGNORMAL-N	-3	.405465							
29	BRTF(55,3)	LOGNORMAL-N	-4.61	.47							
30	BRTF(63,1)	LOGNORMAL-N	-6.21	1.098612							
31	BRTF(63,2)	LOGNORMAL-N	-6.21	1.029619							
32	BRTF(63,3)	LOGNORMAL-N	-9.72	.91629							
33	BRTF(1,1)	LOGNORMAL-N	1.57	1.098612							
34	BRTF(1,2)	LOGNORMAL-N	-4.42	1							
35	BRTF(1,3)	LOGNORMAL-N	-4.6	.9							
36	BRTF(28,1)	LOGNORMAL-N	-3	.916291							
37	BRTF(28,2)	LOGNORMAL-N	-5.3	.916291							
38	BRTF(28,3)	LOGNORMAL-N	-3.91	.69315							
39	BRTF(38,1)	LOGNORMAL-N	-1.2	.993252							
40	BRTF(38,2)	LOGNORMAL-N	-4.61	.405465							
41	BRTF(38,3)	LOGNORMAL-N	-6.21	.47							

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

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	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152										
Min	0.00E+00	3.20E-02	3.20E-02	2.73E-02	1.89E-02	5.20E-03	3.90E-05	1.58E-09	0.00E+00	0.00E+00
Max	7.02E+01	9.72E-01	7.92E-02	7.52E-02	6.78E-02	4.71E-02	3.89E-01	2.70E-02	9.20E-07	6.69E-15
Avg	6.26E-01	4.16E-02	3.59E-02	3.40E-02	3.05E-02	2.10E-02	6.73E-03	4.20E-04	1.70E-08	3.61E-15
Std	5.11E+00	5.17E-02	2.60E-03	2.48E-03	2.33E-03	2.02E-03	2.53E-02	1.72E-03	7.03E-08	1.37E-15
ΣALL										
Min	0.00E+00	3.20E-02	3.20E-02	2.73E-02	1.89E-02	5.20E-03	3.90E-05	1.58E-09	0.00E+00	0.00E+00
Max	7.02E+01	9.72E-01	7.92E-02	7.52E-02	6.78E-02	4.71E-02	3.89E-01	2.70E-02	9.20E-07	6.69E-15
Avg	6.26E-01	4.16E-02	3.59E-02	3.40E-02	3.05E-02	2.10E-02	6.73E-03	4.20E-04	1.70E-08	3.61E-15
Std	5.11E+00	5.17E-02	2.60E-03	2.48E-03	2.33E-03	2.02E-03	2.53E-02	1.72E-03	7.03E-08	1.37E-15

ΣALL is total dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

Probabilistic Risk Summary

Nuclide (j)	t=	RISK(j,t)							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
Min		9.45E-07	8.51E-07	6.05E-07	1.67E-07	1.30E-09	5.26E-14	0.00E+00	0.00E+00
Max		2.87E-06	2.73E-06	2.46E-06	1.71E-06	9.11E-06	6.31E-07	2.15E-11	4.16E-20
Avg		1.09E-06	1.03E-06	9.27E-07	6.36E-07	1.85E-07	1.10E-08	4.34E-13	2.14E-20
Std		1.07E-07	1.02E-07	9.32E-08	7.37E-08	5.80E-07	4.00E-08	1.64E-12	8.60E-21
ΣALL									
Min		9.45E-07	8.51E-07	6.05E-07	1.67E-07	1.30E-09	5.26E-14	0.00E+00	0.00E+00
Max		2.87E-06	2.73E-06	2.46E-06	1.71E-06	9.11E-06	6.31E-07	2.15E-11	4.16E-20
Avg		1.09E-06	1.03E-06	9.27E-07	6.36E-07	1.85E-07	1.10E-08	4.34E-13	2.14E-20
Std		1.07E-07	1.02E-07	9.32E-08	7.37E-08	5.80E-07	4.00E-08	1.64E-12	8.60E-21

ΣALL is total risk summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

Probabilistic Dose vs Pathway(i): Ground External

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
Min		1.95E-20	1.85E-20	1.54E-20	5.15E-21	4.33E-23	3.85E-27	0.00E+00	0.00E+00
Max		1.90E-19	1.76E-18	2.29E-16	5.75E-09	3.85E-01	2.68E-02	9.14E-07	2.10E-22
Avg		4.20E-20	4.78E-20	4.56E-19	3.67E-12	2.60E-03	2.41E-04	1.18E-08	9.83E-24
Std		1.66E-20	7.87E-20	6.61E-18	1.14E-10	2.52E-02	1.71E-03	7.00E-08	2.78E-23
ΣALL									
Min		1.95E-20	1.85E-20	1.54E-20	5.15E-21	4.33E-23	3.85E-27	0.00E+00	0.00E+00
Max		1.90E-19	1.76E-18	2.29E-16	5.75E-09	3.85E-01	2.68E-02	9.14E-07	2.10E-22
Avg		4.20E-20	4.78E-20	4.56E-19	3.67E-12	2.60E-03	2.41E-04	1.18E-08	9.83E-24
Std		1.66E-20	7.87E-20	6.61E-18	1.14E-10	2.52E-02	1.71E-03	7.00E-08	2.78E-23

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

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

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
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	6.73E-07	4.38E-08	1.35E-12	2.90E-16
Avg		0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.28E-09	2.84E-10	1.26E-14	1.34E-17
Std		0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.45E-08	2.24E-09	8.13E-14	3.49E-17
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	0.00E+00	6.73E-07	4.38E-08	1.35E-12	2.90E-16
Avg		0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.28E-09	2.84E-10	1.26E-14	1.34E-17
Std		0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.45E-08	2.24E-09	8.13E-14	3.49E-17

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

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

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
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
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	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

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

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

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
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		1.85E-03	1.76E-03	2.12E-03	4.54E-03	3.29E-03	1.45E-04	5.35E-09	1.86E-15
Avg		1.67E-05	1.64E-05	1.61E-05	1.73E-05	9.87E-06	6.39E-07	3.72E-11	4.95E-16
Std		9.21E-05	8.99E-05	9.11E-05	1.37E-04	9.96E-05	4.98E-06	2.11E-10	6.40E-16
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		1.85E-03	1.76E-03	2.12E-03	4.54E-03	3.29E-03	1.45E-04	5.35E-09	1.86E-15
Avg		1.67E-05	1.64E-05	1.61E-05	1.73E-05	9.87E-06	6.39E-07	3.72E-11	4.95E-16
Std		9.21E-05	8.99E-05	9.11E-05	1.37E-04	9.96E-05	4.98E-06	2.11E-10	6.40E-16

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

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

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
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		1.59E-04	1.52E-04	1.38E-04	9.75E-05	5.00E-04	1.58E-05	1.91E-09	4.14E-16
Avg		7.44E-07	7.22E-07	6.88E-07	6.65E-07	1.19E-06	9.43E-08	5.43E-12	6.74E-17
Std		5.67E-06	5.41E-06	4.98E-06	4.86E-06	1.32E-05	7.32E-07	4.78E-11	1.33E-16
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		1.59E-04	1.52E-04	1.38E-04	9.75E-05	5.00E-04	1.58E-05	1.91E-09	4.14E-16
Avg		7.44E-07	7.22E-07	6.88E-07	6.65E-07	1.19E-06	9.43E-08	5.43E-12	6.74E-17
Std		5.67E-06	5.41E-06	4.98E-06	4.86E-06	1.32E-05	7.32E-07	4.78E-11	1.33E-16

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

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

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
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		1.72E-05	2.54E-05	5.97E-05	1.31E-04	1.18E-04	5.19E-06	1.44E-10	1.72E-17
Avg		1.52E-07	1.53E-07	1.56E-07	1.90E-07	2.13E-07	1.57E-08	7.97E-13	3.05E-18
Std		8.95E-07	9.66E-07	1.34E-06	2.68E-06	2.88E-06	1.47E-07	5.63E-12	5.47E-18
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		1.72E-05	2.54E-05	5.97E-05	1.31E-04	1.18E-04	5.19E-06	1.44E-10	1.72E-17
Avg		1.52E-07	1.53E-07	1.56E-07	1.90E-07	2.13E-07	1.57E-08	7.97E-13	3.05E-18
Std		8.95E-07	9.66E-07	1.34E-06	2.68E-06	2.88E-06	1.47E-07	5.63E-12	5.47E-18

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

Probabilistic Dose vs Pathway(i): Soil Ingestion

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
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	0.00E+00
Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-05	5.29E-07	1.86E-11	7.88E-17	
Avg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-07	1.01E-08	4.70E-13	1.17E-17	
Std	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-06	6.78E-08	2.64E-12	2.56E-17	
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	0.00E+00
Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-05	5.29E-07	1.86E-11	7.88E-17	
Avg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-07	1.01E-08	4.70E-13	1.17E-17	
Std	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-06	6.78E-08	2.64E-12	2.56E-17	

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

Probabilistic Dose vs Pathway(i): Water Ingestion

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
Min		2.99E-02	2.48E-02	1.71E-02	4.68E-03	1.64E-05	2.64E-10	0.00E+00	0.00E+00
Max		3.17E-02	3.02E-02	2.72E-02	1.90E-02	3.98E-03	1.88E-04	6.62E-09	3.40E-15
Avg		3.16E-02	3.00E-02	2.69E-02	1.85E-02	3.63E-03	1.57E-04	4.57E-09	2.71E-15
Std		1.12E-04	3.26E-04	6.61E-04	1.17E-03	5.94E-04	4.23E-05	2.03E-09	8.60E-16
ΣALL									
Min		2.99E-02	2.48E-02	1.71E-02	4.68E-03	1.64E-05	2.64E-10	0.00E+00	0.00E+00
Max		3.17E-02	3.02E-02	2.72E-02	1.90E-02	3.98E-03	1.88E-04	6.62E-09	3.40E-15
Avg		3.16E-02	3.00E-02	2.69E-02	1.85E-02	3.63E-03	1.57E-04	4.57E-09	2.71E-15
Std		1.12E-04	3.26E-04	6.61E-04	1.17E-03	5.94E-04	4.23E-05	2.03E-09	8.60E-16

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

Probabilistic Dose vs Pathway(i): Fish Ingestion

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
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
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	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

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

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

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
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
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	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

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

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

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
Min		4.80E-04	4.56E-04	4.11E-04	2.40E-04	1.52E-06	2.45E-11	0.00E+00	0.00E+00
Max		1.53E-02	1.46E-02	1.31E-02	9.17E-03	1.92E-03	9.04E-05	3.15E-09	1.63E-15
Avg		2.88E-03	2.73E-03	2.45E-03	1.68E-03	3.31E-04	1.43E-05	4.17E-10	2.47E-16
Std		1.71E-03	1.62E-03	1.45E-03	1.00E-03	2.06E-04	9.61E-06	3.27E-10	1.73E-16
ΣALL									
Min		4.80E-04	4.56E-04	4.11E-04	2.40E-04	1.52E-06	2.45E-11	0.00E+00	0.00E+00
Max		1.53E-02	1.46E-02	1.31E-02	9.17E-03	1.92E-03	9.04E-05	3.15E-09	1.63E-15
Avg		2.88E-03	2.73E-03	2.45E-03	1.68E-03	3.31E-04	1.43E-05	4.17E-10	2.47E-16
Std		1.71E-03	1.62E-03	1.45E-03	1.00E-03	2.06E-04	9.61E-06	3.27E-10	1.73E-16

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

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

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
Min		1.55E-05	1.47E-05	1.33E-05	9.28E-06	1.00E-07	1.61E-12	0.00E+00	0.00E+00
Max		3.86E-02	3.66E-02	3.30E-02	2.30E-02	4.73E-03	2.16E-04	6.75E-09	1.04E-16
Avg		1.19E-03	1.12E-03	1.01E-03	6.92E-04	1.36E-04	5.92E-06	1.73E-10	5.93E-17
Std		1.75E-03	1.66E-03	1.49E-03	1.02E-03	2.05E-04	9.30E-06	2.95E-10	2.08E-17
ΣALL									
Min		1.55E-05	1.47E-05	1.33E-05	9.28E-06	1.00E-07	1.61E-12	0.00E+00	0.00E+00
Max		3.86E-02	3.66E-02	3.30E-02	2.30E-02	4.73E-03	2.16E-04	6.75E-09	1.04E-16
Avg		1.19E-03	1.12E-03	1.01E-03	6.92E-04	1.36E-04	5.92E-06	1.73E-10	5.93E-17
Std		1.75E-03	1.66E-03	1.49E-03	1.02E-03	2.05E-04	9.30E-06	2.95E-10	2.08E-17

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

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

Nuclide (j)	t=	DOSE(i,j,t), mrem/yr							
		0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
Eu-152									
Min		5.53E-06	5.20E-06	4.60E-06	3.00E-06	1.82E-08	2.92E-13	0.00E+00	0.00E+00
Max		4.11E-03	3.90E-03	3.52E-03	2.46E-03	5.15E-04	2.43E-05	8.48E-10	6.77E-18
Avg		1.81E-04	1.72E-04	1.54E-04	1.06E-04	2.08E-05	9.01E-07	2.62E-11	3.39E-18
Std		2.16E-04	2.05E-04	1.84E-04	1.26E-04	2.52E-05	1.13E-06	3.62E-11	1.30E-18
ΣALL									
Min		5.53E-06	5.20E-06	4.60E-06	3.00E-06	1.82E-08	2.92E-13	0.00E+00	0.00E+00
Max		4.11E-03	3.90E-03	3.52E-03	2.46E-03	5.15E-04	2.43E-05	8.48E-10	6.77E-18
Avg		1.81E-04	1.72E-04	1.54E-04	1.06E-04	2.08E-05	9.01E-07	2.62E-11	3.39E-18
Std		2.16E-04	2.05E-04	1.84E-04	1.26E-04	2.52E-05	1.13E-06	3.62E-11	1.30E-18

ΣALL is total pathway dose summed for all nuclides.

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

Cumulative Probability Summary for: Total Dose Over Pathways

Cumulative Probability	Dose(t), mrem/yr							
	t= 0.00E+00	1.00E+00	3.00E+00	1.00E+01	4.05E+01	1.00E+02	3.00E+02	1.00E+03
0.025	3.30E-02	3.12E-02	2.77E-02	1.70E-02	1.91E-03	2.62E-05	1.21E-11	2.19E-16
0.050	3.33E-02	3.15E-02	2.81E-02	1.85E-02	2.66E-03	6.08E-05	1.51E-10	6.68E-16
0.075	3.34E-02	3.16E-02	2.84E-02	1.91E-02	3.13E-03	9.07E-05	5.44E-10	1.24E-15
0.100	3.35E-02	3.18E-02	2.85E-02	1.94E-02	3.38E-03	1.08E-04	9.73E-10	1.64E-15
0.125	3.37E-02	3.19E-02	2.86E-02	1.96E-02	3.56E-03	1.24E-04	1.47E-09	2.03E-15
0.150	3.38E-02	3.20E-02	2.87E-02	1.98E-02	3.71E-03	1.37E-04	2.12E-09	2.35E-15
0.175	3.39E-02	3.21E-02	2.88E-02	1.99E-02	3.84E-03	1.50E-04	2.65E-09	2.62E-15
0.200	3.40E-02	3.22E-02	2.89E-02	1.99E-02	3.92E-03	1.58E-04	3.18E-09	2.82E-15
0.225	3.41E-02	3.23E-02	2.90E-02	2.00E-02	3.99E-03	1.66E-04	3.68E-09	2.99E-15
0.250	3.42E-02	3.24E-02	2.91E-02	2.01E-02	4.04E-03	1.72E-04	4.09E-09	3.10E-15
0.275	3.43E-02	3.25E-02	2.92E-02	2.02E-02	4.08E-03	1.77E-04	4.45E-09	3.21E-15
0.300	3.44E-02	3.26E-02	2.93E-02	2.02E-02	4.11E-03	1.81E-04	4.76E-09	3.28E-15
0.325	3.45E-02	3.27E-02	2.94E-02	2.03E-02	4.14E-03	1.84E-04	5.04E-09	3.36E-15
0.350	3.46E-02	3.28E-02	2.95E-02	2.04E-02	4.16E-03	1.86E-04	5.28E-09	3.41E-15
0.375	3.47E-02	3.29E-02	2.96E-02	2.05E-02	4.18E-03	1.88E-04	5.48E-09	3.47E-15
0.400	3.48E-02	3.30E-02	2.97E-02	2.05E-02	4.19E-03	1.90E-04	5.67E-09	3.51E-15
0.425	3.50E-02	3.31E-02	2.98E-02	2.06E-02	4.21E-03	1.92E-04	5.83E-09	3.54E-15
0.450	3.51E-02	3.32E-02	2.99E-02	2.07E-02	4.23E-03	1.93E-04	5.99E-09	3.57E-15
0.475	3.52E-02	3.34E-02	3.00E-02	2.08E-02	4.24E-03	1.95E-04	6.12E-09	3.60E-15
0.500	3.53E-02	3.35E-02	3.01E-02	2.08E-02	4.26E-03	1.96E-04	6.26E-09	3.64E-15
0.525	3.55E-02	3.36E-02	3.02E-02	2.09E-02	4.28E-03	1.97E-04	6.35E-09	3.68E-15
0.550	3.56E-02	3.37E-02	3.03E-02	2.10E-02	4.30E-03	1.98E-04	6.45E-09	3.72E-15
0.575	3.57E-02	3.39E-02	3.04E-02	2.11E-02	4.32E-03	1.99E-04	6.54E-09	3.76E-15
0.600	3.59E-02	3.40E-02	3.06E-02	2.12E-02	4.34E-03	2.00E-04	6.62E-09	3.81E-15
0.625	3.60E-02	3.42E-02	3.07E-02	2.13E-02	4.36E-03	2.01E-04	6.68E-09	3.87E-15
0.650	3.62E-02	3.43E-02	3.08E-02	2.14E-02	4.38E-03	2.03E-04	6.74E-09	3.94E-15
0.675	3.63E-02	3.44E-02	3.10E-02	2.15E-02	4.41E-03	2.04E-04	6.80E-09	4.02E-15
0.700	3.65E-02	3.46E-02	3.11E-02	2.16E-02	4.43E-03	2.05E-04	6.86E-09	4.12E-15
0.725	3.67E-02	3.48E-02	3.13E-02	2.17E-02	4.46E-03	2.06E-04	6.91E-09	4.24E-15
0.750	3.70E-02	3.51E-02	3.15E-02	2.18E-02	4.49E-03	2.08E-04	6.97E-09	4.35E-15
0.775	3.72E-02	3.53E-02	3.17E-02	2.19E-02	4.52E-03	2.09E-04	7.04E-09	4.50E-15
0.800	3.75E-02	3.55E-02	3.19E-02	2.21E-02	4.55E-03	2.11E-04	7.11E-09	4.66E-15
0.825	3.77E-02	3.58E-02	3.21E-02	2.23E-02	4.59E-03	2.13E-04	7.18E-09	4.84E-15
0.850	3.81E-02	3.61E-02	3.24E-02	2.25E-02	4.64E-03	2.16E-04	7.28E-09	5.02E-15
0.875	3.84E-02	3.64E-02	3.27E-02	2.27E-02	4.69E-03	2.18E-04	7.40E-09	5.19E-15
0.900	3.90E-02	3.70E-02	3.32E-02	2.30E-02	4.76E-03	2.22E-04	7.57E-09	5.43E-15
0.925	3.96E-02	3.76E-02	3.38E-02	2.35E-02	4.88E-03	2.27E-04	7.77E-09	5.69E-15
0.950	4.05E-02	3.84E-02	3.45E-02	2.40E-02	5.00E-03	2.37E-04	8.21E-09	5.87E-15
0.975	4.21E-02	3.98E-02	3.58E-02	2.49E-02	5.33E-03	3.07E-04	2.60E-07	6.06E-15
1.000	7.92E-02	7.52E-02	6.78E-02	4.71E-02	3.89E-01	2.70E-02	9.20E-07	6.69E-15

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

Summary of dose at graphical times, reptition 1

Time Years	Dose statistics at graphical times, mrem/yr							
	Minimum	Maximum	Mean	Median	90%	95%	97.5%	99%
0.00E+00	3.23E-02	7.92E-02	3.59E-02	3.53E-02	3.92E-02	4.07E-02	4.21E-02	4.38E-02
1.00E+00	2.73E-02	7.52E-02	3.40E-02	3.34E-02	3.72E-02	3.85E-02	3.98E-02	4.15E-02
1.30E+00	2.58E-02	7.40E-02	3.35E-02	3.29E-02	3.66E-02	3.79E-02	3.92E-02	4.09E-02
1.70E+00	2.40E-02	7.25E-02	3.28E-02	3.22E-02	3.58E-02	3.72E-02	3.84E-02	4.00E-02
2.22E+00	2.18E-02	7.06E-02	3.18E-02	3.13E-02	3.49E-02	3.62E-02	3.73E-02	3.90E-02
2.89E+00	1.93E-02	6.81E-02	3.07E-02	3.02E-02	3.36E-02	3.49E-02	3.60E-02	3.76E-02
3.00E+00	1.89E-02	6.78E-02	3.05E-02	3.00E-02	3.34E-02	3.47E-02	3.58E-02	3.74E-02
3.78E+00	1.64E-02	6.51E-02	2.93E-02	2.88E-02	3.21E-02	3.34E-02	3.44E-02	3.59E-02
4.92E+00	1.33E-02	6.13E-02	2.75E-02	2.71E-02	3.02E-02	3.14E-02	3.24E-02	3.37E-02
6.42E+00	1.01E-02	5.67E-02	2.54E-02	2.51E-02	2.80E-02	2.91E-02	3.00E-02	3.12E-02
8.38E+00	7.01E-03	5.13E-02	2.28E-02	2.26E-02	2.52E-02	2.62E-02	2.71E-02	2.82E-02
1.10E+01	5.20E-03	4.71E-02	2.09E-02	2.08E-02	2.31E-02	2.41E-02	2.49E-02	2.59E-02
1.09E+01	4.38E-03	4.49E-02	1.99E-02	1.98E-02	2.20E-02	2.30E-02	2.38E-02	2.46E-02
1.43E+01	2.37E-03	3.78E-02	1.67E-02	1.66E-02	1.85E-02	1.93E-02	2.00E-02	2.08E-02
1.86E+01	1.07E-03	7.13E-01	1.40E-02	1.33E-02	1.47E-02	1.54E-02	1.60E-02	1.72E-02
2.42E+01	3.76E-04	6.29E-01	1.22E-02	9.90E-03	1.10E-02	1.15E-02	1.21E-02	1.36E-02
3.16E+01	6.68E-04	4.29E-01	9.24E-03	6.76E-03	7.52E-03	7.87E-03	8.32E-03	1.11E-02
4.05E+01	2.23E-04	3.29E-01	6.42E-03	4.27E-03	4.76E-03	4.99E-03	5.30E-03	1.44E-01
4.12E+01	2.03E-04	3.56E-01	6.21E-03	4.10E-03	4.57E-03	4.80E-03	5.10E-03	1.37E-01
5.38E+01	4.29E-05	2.30E-01	3.67E-03	2.14E-03	2.40E-03	2.52E-03	2.68E-03	8.91E-02
7.02E+01	5.65E-06	1.25E-01	1.75E-03	9.17E-04	1.03E-03	1.09E-03	1.23E-03	4.62E-02
9.15E+01	1.37E-07	4.18E-02	6.13E-04	3.04E-04	3.44E-04	3.67E-04	4.42E-04	1.60E-02
1.00E+02	2.85E-08	2.70E-02	4.14E-04	1.96E-04	2.22E-04	2.38E-04	3.00E-04	1.06E-02
1.19E+02	7.85E-10	9.98E-03	1.61E-04	7.21E-05	8.21E-05	8.82E-05	1.01E-03	4.01E-03
1.56E+02	9.34E-13	1.54E-03	2.69E-05	1.10E-05	1.26E-05	1.36E-05	3.36E-04	6.83E-04
2.03E+02	2.29E-16	1.35E-04	2.47E-06	9.46E-07	1.11E-06	1.19E-06	3.76E-05	6.51E-05
2.65E+02	0.00E+00	5.60E-06	1.03E-07	3.86E-08	4.59E-08	4.98E-08	1.51E-06	2.87E-06
3.00E+02	0.00E+00	9.20E-07	1.70E-08	6.28E-09	7.59E-09	8.26E-09	2.44E-07	4.61E-07
3.46E+02	0.00E+00	8.85E-08	1.62E-09	5.94E-10	7.30E-10	7.92E-10	2.29E-08	4.37E-08
4.51E+02	0.00E+00	3.96E-10	7.60E-12	2.55E-12	3.27E-12	3.69E-12	1.27E-10	1.91E-10
5.88E+02	0.00E+00	3.47E-13	1.00E-14	5.83E-15	7.22E-15	8.11E-15	1.20E-13	1.63E-13
7.67E+02	0.00E+00	6.68E-15	3.55E-15	3.63E-15	5.03E-15	5.52E-15	5.90E-15	6.13E-15
1.00E+03	0.00E+00	6.69E-15	3.61E-15	3.64E-15	5.45E-15	5.85E-15	6.00E-15	6.22E-15

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

Summary of dose at graphical times, reptition 2

Time Years	Dose statistics at graphical times, mrem/yr							
	Minimum	Maximum	Mean	Median	90%	95%	97.5%	99%
0.00E+00	3.22E-02	5.83E-02	3.59E-02	3.53E-02	3.90E-02	4.06E-02	4.21E-02	4.41E-02
1.00E+00	2.76E-02	5.26E-02	3.40E-02	3.35E-02	3.70E-02	3.84E-02	4.00E-02	4.19E-02
1.30E+00	2.63E-02	5.10E-02	3.35E-02	3.29E-02	3.63E-02	3.78E-02	3.94E-02	4.12E-02
1.70E+00	2.47E-02	4.90E-02	3.28E-02	3.22E-02	3.56E-02	3.71E-02	3.86E-02	4.04E-02
2.22E+00	2.28E-02	4.65E-02	3.19E-02	3.14E-02	3.46E-02	3.61E-02	3.76E-02	3.93E-02
2.89E+00	2.06E-02	4.48E-02	3.07E-02	3.03E-02	3.34E-02	3.48E-02	3.63E-02	3.80E-02
3.00E+00	2.02E-02	4.45E-02	3.05E-02	3.01E-02	3.32E-02	3.46E-02	3.61E-02	3.78E-02
3.78E+00	1.79E-02	4.28E-02	2.93E-02	2.89E-02	3.19E-02	3.32E-02	3.46E-02	3.63E-02
4.92E+00	1.50E-02	4.03E-02	2.75E-02	2.72E-02	3.00E-02	3.13E-02	3.26E-02	3.42E-02
6.42E+00	1.19E-02	3.73E-02	2.54E-02	2.51E-02	2.78E-02	2.89E-02	3.02E-02	3.16E-02
8.38E+00	8.78E-03	3.38E-02	2.29E-02	2.27E-02	2.51E-02	2.61E-02	2.72E-02	2.85E-02
1.10E+01	6.82E-03	3.11E-02	2.10E-02	2.08E-02	2.30E-02	2.40E-02	2.50E-02	2.62E-02
1.09E+01	5.91E-03	2.96E-02	2.00E-02	1.98E-02	2.19E-02	2.29E-02	2.38E-02	2.50E-02
1.43E+01	3.37E-03	2.50E-02	1.67E-02	1.67E-02	1.84E-02	1.92E-02	2.01E-02	2.10E-02
1.86E+01	1.61E-03	5.26E-01	1.38E-02	1.33E-02	1.47E-02	1.54E-02	1.60E-02	1.72E-02
2.42E+01	6.17E-04	5.05E-01	1.16E-02	9.90E-03	1.10E-02	1.16E-02	1.21E-02	1.35E-02
3.16E+01	1.76E-04	4.37E-01	9.21E-03	6.75E-03	7.54E-03	7.94E-03	8.30E-03	1.08E-02
4.05E+01	3.90E-05	3.49E-01	6.67E-03	4.26E-03	4.77E-03	5.03E-03	5.33E-03	1.76E-01
4.12E+01	3.43E-05	3.35E-01	6.47E-03	4.09E-03	4.59E-03	4.84E-03	5.13E-03	1.70E-01
5.38E+01	4.06E-06	2.67E-01	3.93E-03	2.13E-03	2.40E-03	2.54E-03	2.70E-03	1.07E-01
7.02E+01	2.51E-07	1.15E-01	1.85E-03	9.13E-04	1.03E-03	1.10E-03	1.22E-03	4.74E-02
9.15E+01	6.67E-09	3.83E-02	6.69E-04	3.02E-04	3.44E-04	3.68E-04	4.44E-04	1.63E-02
1.00E+02	1.58E-09	2.47E-02	4.32E-04	1.95E-04	2.22E-04	2.38E-04	1.09E-03	1.07E-02
1.19E+02	5.87E-11	9.11E-03	1.66E-04	7.17E-05	8.20E-05	8.81E-05	2.13E-03	3.85E-03
1.56E+02	1.22E-13	1.40E-03	2.65E-05	1.09E-05	1.27E-05	1.37E-05	4.19E-04	6.30E-04
2.03E+02	1.28E-16	1.22E-04	2.42E-06	9.40E-07	1.11E-06	1.21E-06	3.89E-05	5.55E-05
2.65E+02	3.82E-17	5.05E-06	1.09E-07	3.81E-08	4.63E-08	5.07E-08	1.73E-06	2.55E-06
3.00E+02	2.36E-17	8.28E-07	1.79E-08	6.17E-09	7.61E-09	8.38E-09	2.85E-07	3.94E-07
3.46E+02	1.26E-17	7.94E-08	1.74E-09	5.83E-10	7.34E-10	8.12E-10	2.73E-08	4.22E-08
4.51E+02	2.99E-18	3.62E-10	7.98E-12	2.52E-12	3.32E-12	3.80E-12	1.24E-10	1.91E-10
5.88E+02	0.00E+00	3.07E-13	1.01E-14	5.80E-15	7.31E-15	8.18E-15	1.01E-13	1.71E-13
7.67E+02	0.00E+00	6.65E-15	3.57E-15	3.62E-15	4.96E-15	5.47E-15	5.96E-15	6.24E-15
1.00E+03	0.00E+00	6.59E-15	3.61E-15	3.63E-15	5.45E-15	5.91E-15	6.11E-15	6.26E-15

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.RAD

Summary of dose at graphical times, reptition 3

Time Years	Dose statistics at graphical times, mrem/yr							
	Minimum	Maximum	Mean	Median	90%	95%	97.5%	99%
0.00E+00	3.20E-02	6.84E-02	3.59E-02	3.54E-02	3.88E-02	4.01E-02	4.21E-02	4.51E-02
1.00E+00	2.75E-02	6.49E-02	3.40E-02	3.36E-02	3.68E-02	3.81E-02	3.99E-02	4.28E-02
1.30E+00	2.63E-02	6.39E-02	3.35E-02	3.30E-02	3.62E-02	3.75E-02	3.93E-02	4.21E-02
1.70E+00	2.48E-02	6.26E-02	3.28E-02	3.23E-02	3.55E-02	3.67E-02	3.85E-02	4.12E-02
2.22E+00	2.29E-02	6.09E-02	3.19E-02	3.14E-02	3.45E-02	3.57E-02	3.75E-02	4.01E-02
2.89E+00	2.07E-02	5.88E-02	3.07E-02	3.03E-02	3.33E-02	3.45E-02	3.62E-02	3.86E-02
3.00E+00	2.04E-02	5.85E-02	3.06E-02	3.02E-02	3.31E-02	3.43E-02	3.60E-02	3.84E-02
3.78E+00	1.81E-02	5.62E-02	2.93E-02	2.90E-02	3.18E-02	3.30E-02	3.45E-02	3.69E-02
4.92E+00	1.52E-02	5.29E-02	2.75E-02	2.72E-02	2.99E-02	3.11E-02	3.25E-02	3.47E-02
6.42E+00	1.22E-02	4.90E-02	2.54E-02	2.52E-02	2.77E-02	2.87E-02	3.00E-02	3.20E-02
8.38E+00	9.06E-03	4.42E-02	2.29E-02	2.27E-02	2.50E-02	2.59E-02	2.71E-02	2.89E-02
1.10E+01	7.09E-03	4.07E-02	2.10E-02	2.08E-02	2.29E-02	2.38E-02	2.49E-02	2.66E-02
1.09E+01	6.17E-03	3.87E-02	2.00E-02	1.99E-02	2.19E-02	2.27E-02	2.37E-02	2.53E-02
1.43E+01	3.74E-03	3.26E-02	1.67E-02	1.67E-02	1.83E-02	1.92E-02	2.00E-02	2.14E-02
1.86E+01	1.95E-03	4.24E-01	1.39E-02	1.33E-02	1.47E-02	1.53E-02	1.62E-02	1.73E-02
2.42E+01	8.30E-04	9.21E-01	1.24E-02	9.94E-03	1.10E-02	1.15E-02	1.23E-02	1.33E-02
3.16E+01	2.73E-04	6.23E-01	1.01E-02	6.76E-03	7.52E-03	7.86E-03	8.41E-03	1.32E-02
4.05E+01	7.18E-05	3.89E-01	7.10E-03	4.26E-03	4.77E-03	4.99E-03	5.41E-03	1.81E-01
4.12E+01	6.40E-05	3.74E-01	6.90E-03	4.10E-03	4.58E-03	4.80E-03	5.20E-03	1.74E-01
5.38E+01	9.67E-06	1.92E-01	3.94E-03	2.14E-03	2.40E-03	2.52E-03	2.74E-03	1.08E-01
7.02E+01	8.20E-07	8.06E-02	1.81E-03	9.16E-04	1.03E-03	1.09E-03	1.23E-03	4.96E-02
9.15E+01	3.29E-08	2.66E-02	6.28E-04	3.04E-04	3.43E-04	3.62E-04	4.32E-04	1.65E-02
1.00E+02	9.17E-09	1.72E-02	4.14E-04	1.96E-04	2.22E-04	2.35E-04	3.77E-04	1.07E-02
1.19E+02	4.95E-10	6.37E-03	1.64E-04	7.21E-05	8.14E-05	8.68E-05	1.32E-03	4.40E-03
1.56E+02	2.08E-12	1.29E-03	2.77E-05	1.10E-05	1.26E-05	1.34E-05	4.06E-04	7.09E-04
2.03E+02	0.00E+00	1.10E-04	2.28E-06	9.50E-07	1.09E-06	1.16E-06	2.90E-05	6.04E-05
2.65E+02	0.00E+00	4.46E-06	9.91E-08	3.88E-08	4.56E-08	4.98E-08	1.44E-06	2.52E-06
3.00E+02	0.00E+00	7.20E-07	1.61E-08	6.30E-09	7.49E-09	8.16E-09	2.21E-07	4.08E-07
3.46E+02	0.00E+00	6.78E-08	1.56E-09	5.95E-10	7.20E-10	7.82E-10	2.19E-08	3.99E-08
4.51E+02	0.00E+00	2.89E-10	7.03E-12	2.57E-12	3.26E-12	3.59E-12	1.08E-10	1.84E-10
5.88E+02	0.00E+00	2.39E-13	9.53E-15	5.83E-15	7.15E-15	7.91E-15	1.01E-13	1.64E-13
7.67E+02	0.00E+00	6.60E-15	3.55E-15	3.64E-15	4.87E-15	5.37E-15	5.92E-15	6.20E-15
1.00E+03	0.00E+00	6.51E-15	3.60E-15	3.66E-15	5.37E-15	5.87E-15	6.07E-15	6.29E-15

Probabilistic results summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\BFM SENSITIVITY ANALYSIS\INPUT FILES\ZION BFM SENSITIVITY.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	0.000E+00	3.592E-02
2	0.000E+00	3.591E-02
3	0.000E+00	3.592E-02

Title : RESRAD Default
 Input File : ZION BFM SENSITIVITY.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
Cover erosion rate	1	0.90	1	0.90	6	0.14	6	0.06
Density of contaminated zone	13	-0.03	13	-0.01	10	0.04	10	0.02
Contaminated zone erosion rate	39	-0.01	39	0.00	41	0.00	41	0.00
Contaminated zone total porosity	28	0.01	28	0.01	7	-0.06	7	-0.03
Contaminated zone hydraulic conductivity	8	-0.06	8	-0.02	23	-0.02	23	-0.01
Contaminated zone b parameter	18	0.02	18	0.01	40	0.00	40	0.00
Evapotranspiration coefficient	4	0.09	4	0.04	32	0.01	32	0.00
Wind Speed	20	0.02	20	0.01	25	-0.02	25	-0.01
Runoff coefficient	23	-0.02	23	-0.01	8	0.05	8	0.02
Density of saturated zone	21	-0.02	21	-0.01	14	0.04	14	0.02
Saturated zone total porosity	41	0.00	41	0.00	11	-0.04	11	-0.02
Saturated zone effective porosity	19	-0.02	19	-0.01	34	0.01	34	0.00
Saturated zone hydraulic conductivity	22	-0.02	22	-0.01	22	-0.02	22	-0.01
Saturated zone hydraulic gradient	2	-0.13	2	-0.05	21	-0.02	21	-0.01
Well pump intake depth	11	-0.04	11	-0.02	28	-0.01	27	-0.01
Mass loading for inhalation	37	0.01	37	0.00	38	0.00	38	0.00
Indoor dust filtration factor	38	-0.01	38	0.00	24	0.02	24	0.01
External gamma shielding factor	35	0.01	35	0.00	31	-0.01	31	0.00
Depth of soil mixing layer	17	-0.02	17	-0.01	39	0.00	39	0.00
Depth of roots	30	-0.01	30	0.00	37	-0.01	37	0.00
Wet weight crop yield of fruit, grain and non-leafy vegetables	14	-0.03	14	-0.01	4	-0.49	4	-0.23
Weathering removal constant of all vegetation	7	-0.08	7	-0.03	1	-0.87	1	-0.70
Wet foliar interception fraction of leafy vegetables	6	0.08	6	0.04	3	0.56	3	0.27
Plant transfer factor for Co	32	-0.01	32	0.00	18	-0.03	18	-0.01
Meat transfer factor for Co	10	0.04	10	0.02	16	0.03	16	0.01
Milk transfer factor for Co	40	0.01	40	0.00	33	0.01	33	0.00
Plant transfer factor for Cs	9	-0.05	9	-0.02	20	-0.03	20	-0.01
Meat transfer factor for Cs	12	0.04	12	0.02	26	-0.02	26	-0.01
Milk transfer factor for Cs	31	-0.01	31	0.00	9	0.05	9	0.02
Plant transfer factor for Eu	16	0.02	16	0.01	30	0.01	30	0.01
Meat transfer factor for Eu	3	0.11	3	0.05	2	0.72	2	0.43
Milk transfer factor for Eu	24	0.01	25	0.01	5	0.20	5	0.08
Plant transfer factor for H	15	0.03	15	0.01	29	0.01	29	0.01
Meat transfer factor for H	26	0.01	26	0.01	17	-0.03	17	-0.01
Milk transfer factor for H	33	0.01	33	0.00	27	-0.01	28	-0.01
Plant transfer factor for Ni	34	0.01	34	0.00	12	0.04	12	0.02
Meat transfer factor for Ni	25	-0.01	24	-0.01	15	-0.03	15	-0.01
Milk transfer factor for Ni	5	0.09	5	0.04	35	-0.01	35	0.00
Plant transfer factor for Sr	27	0.01	27	0.01	36	-0.01	36	0.00
Meat transfer factor for Sr	29	-0.01	29	0.00	19	0.03	19	0.01
Milk transfer factor for Sr	36	-0.01	36	0.00	13	-0.04	13	-0.02
R-SQUARE		0.82		0.82		0.83		0.83

-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
 Input File : ZION BFM SENSITIVITY.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
Cover erosion rate	1	0.93	1	0.93	5	0.18	5	0.07
Density of contaminated zone	25	0.02	25	0.01	41	0.00	41	0.00
Contaminated zone erosion rate	37	0.00	37	0.00	32	-0.01	32	0.00
Contaminated zone total porosity	33	0.01	33	0.00	7	-0.07	7	-0.03
Contaminated zone hydraulic conductivity	8	-0.05	8	-0.02	17	0.03	17	0.01
Contaminated zone b parameter	5	-0.06	6	-0.02	16	-0.04	16	-0.02
Evapotranspiration coefficient	12	0.04	13	0.01	18	0.03	18	0.01
Wind Speed	16	-0.03	16	-0.01	25	0.02	25	0.01
Runoff coefficient	41	0.00	41	0.00	40	0.00	40	0.00
Density of saturated zone	6	-0.06	5	-0.02	27	0.02	27	0.01
Saturated zone total porosity	14	0.03	14	0.01	28	-0.02	28	-0.01
Saturated zone effective porosity	24	0.02	24	0.01	38	0.00	38	0.00
Saturated zone hydraulic conductivity	19	-0.03	19	-0.01	12	-0.05	12	-0.02
Saturated zone hydraulic gradient	23	0.02	23	0.01	8	-0.06	8	-0.03
Well pump intake depth	40	0.00	40	0.00	35	0.01	35	0.00
Mass loading for inhalation	32	0.01	32	0.00	10	-0.06	10	-0.02
Indoor dust filtration factor	36	0.00	36	0.00	21	0.03	21	0.01
External gamma shielding factor	11	0.04	11	0.01	22	-0.03	22	-0.01
Depth of soil mixing layer	35	-0.01	35	0.00	20	-0.03	20	-0.01
Depth of roots	29	0.01	29	0.00	26	0.02	26	0.01
Wet weight crop yield of fruit, grain and non-leafy vegetables	10	-0.04	10	-0.02	4	-0.51	4	-0.24
Weathering removal constant of all vegetation	3	-0.08	3	-0.03	1	-0.87	1	-0.71
Wet foliar interception fraction of leafy vegetables	7	0.06	7	0.02	3	0.55	3	0.26
Plant transfer factor for Co	21	-0.02	21	-0.01	36	-0.01	36	0.00
Meat transfer factor for Co	39	0.00	39	0.00	11	0.05	11	0.02
Milk transfer factor for Co	28	-0.01	28	0.00	37	0.00	37	0.00
Plant transfer factor for Cs	31	-0.01	31	0.00	39	0.00	39	0.00
Meat transfer factor for Cs	38	0.00	38	0.00	30	0.01	30	0.01
Milk transfer factor for Cs	27	-0.01	27	0.00	15	-0.04	15	-0.02
Plant transfer factor for Eu	20	-0.03	20	-0.01	29	0.02	29	0.01
Meat transfer factor for Eu	4	0.07	4	0.03	2	0.75	2	0.45
Milk transfer factor for Eu	26	-0.01	26	0.00	6	0.17	6	0.07
Plant transfer factor for H	2	-0.09	2	-0.03	24	0.02	24	0.01
Meat transfer factor for H	34	0.01	34	0.00	13	-0.04	13	-0.02
Milk transfer factor for H	9	-0.05	9	-0.02	14	0.04	14	0.02
Plant transfer factor for Ni	13	0.04	12	0.01	19	0.03	19	0.01
Meat transfer factor for Ni	22	-0.02	22	-0.01	23	0.03	23	0.01
Milk transfer factor for Ni	17	0.03	17	0.01	33	0.01	33	0.00
Plant transfer factor for Sr	30	0.01	30	0.00	31	0.01	31	0.01
Meat transfer factor for Sr	18	0.03	18	0.01	9	0.06	9	0.02
Milk transfer factor for Sr	15	-0.03	15	-0.01	34	0.01	34	0.00
R-SQUARE		0.88		0.88		0.84		0.84

-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
 Input File : ZION BFM SENSITIVITY.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
Cover erosion rate	1	0.90	1	0.90	6	0.17	6	0.07
Density of contaminated zone	10	0.04	10	0.02	16	0.04	16	0.02
Contaminated zone erosion rate	4	0.06	4	0.02	38	-0.01	38	0.00
Contaminated zone total porosity	16	0.02	16	0.01	19	-0.04	19	-0.02
Contaminated zone hydraulic conductivity	8	-0.05	8	-0.02	14	0.05	14	0.02
Contaminated zone b parameter	11	0.03	11	0.02	13	-0.05	13	-0.02
Evapotranspiration coefficient	24	-0.02	24	-0.01	24	0.03	24	0.01
Wind Speed	13	-0.03	13	-0.01	10	-0.06	10	-0.03
Runoff coefficient	6	0.05	6	0.02	34	0.01	34	0.01
Density of saturated zone	18	0.02	19	0.01	7	0.07	7	0.03
Saturated zone total porosity	15	-0.02	15	-0.01	35	0.01	35	0.00
Saturated zone effective porosity	17	0.02	17	0.01	22	0.04	22	0.02
Saturated zone hydraulic conductivity	14	0.03	14	0.01	32	-0.02	32	-0.01
Saturated zone hydraulic gradient	29	-0.01	29	0.00	28	-0.02	28	-0.01
Well pump intake depth	31	0.01	31	0.00	23	0.04	23	0.02
Mass loading for inhalation	38	0.00	38	0.00	25	-0.03	25	-0.01
Indoor dust filtration factor	41	0.00	41	0.00	17	0.04	17	0.02
External gamma shielding factor	3	0.06	3	0.03	39	0.00	39	0.00
Depth of soil mixing layer	33	-0.01	33	0.00	15	-0.05	15	-0.02
Depth of roots	30	-0.01	30	0.00	29	0.02	29	0.01
Wet weight crop yield of fruit, grain and non-leafy vegetables	21	-0.02	21	-0.01	4	-0.47	4	-0.22
Weathering removal constant of all vegetation	12	-0.03	12	-0.01	1	-0.87	1	-0.71
Wet foliar interception fraction of leafy vegetables	28	0.01	28	0.01	3	0.54	3	0.27
Plant transfer factor for Co	19	-0.02	18	-0.01	8	-0.06	8	-0.03
Meat transfer factor for Co	32	0.01	32	0.00	11	0.06	11	0.02
Milk transfer factor for Co	40	0.00	40	0.00	27	-0.03	27	-0.01
Plant transfer factor for Cs	39	0.00	39	0.00	12	0.06	12	0.02
Meat transfer factor for Cs	7	0.05	7	0.02	37	-0.01	37	0.00
Milk transfer factor for Cs	23	0.02	23	0.01	20	0.04	20	0.02
Plant transfer factor for Eu	35	0.01	35	0.00	31	0.02	31	0.01
Meat transfer factor for Eu	5	0.05	5	0.02	2	0.73	2	0.44
Milk transfer factor for Eu	34	-0.01	34	0.00	5	0.17	5	0.07
Plant transfer factor for H	20	0.02	20	0.01	36	-0.01	36	0.00
Meat transfer factor for H	37	0.00	37	0.00	26	0.03	26	0.01
Milk transfer factor for H	2	-0.07	2	-0.03	21	0.04	21	0.02
Plant transfer factor for Ni	36	0.00	36	0.00	40	0.00	40	0.00
Meat transfer factor for Ni	26	-0.01	26	-0.01	18	-0.04	18	-0.02
Milk transfer factor for Ni	27	-0.01	27	-0.01	9	-0.06	9	-0.03
Plant transfer factor for Sr	9	-0.04	9	-0.02	33	-0.02	33	-0.01
Meat transfer factor for Sr	25	0.02	25	0.01	41	0.00	41	0.00
Milk transfer factor for Sr	22	-0.02	22	-0.01	30	0.02	30	0.01
R-SQUARE		0.82		0.82		0.83		0.83

-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.