

03/02/2000

Inventory and DCF	Isotope	Amount(Bq)	Acute Inhalation DCF (Sv/BQ)	
			red marrow	lung
	Cs-137	8.38E+17	5.63E-10	8.29E-10
	Ru-106	5.77E+17	8.74E-11	2.09E-08
	Ratio of Ru to Cs	0.7	0.2	25.2

Peak TEDE Dose on Spatial Grid (Sv)	Distance (km)	Surry - late evac.		Uniform - late evac.		Ratio
		Base Case 2.E-05	Case 11 1	Case 21 2.E-05	Case 22 1	
	0 - .2	478	3760	478	3760	7.87
	.2 - .5	91.6	717	91.6	717	7.83
	.5 - 1.2	43.3	338	43.3	338	7.81
	1.2 - 1.6	30.9	241	30.9	241	7.80
	1.6 - 2.1	25	195	25	195	7.80
	2.1 - 3.2	17	133	17	133	7.82
	3.2 - 4.0	11.4	89.4	11.4	89.4	7.84
	4.0 - 4.8	9.34	73.1	9.34	73.1	7.83
	4.8 - 5.6	7.83	61.3	7.83	61.3	7.83
	5.6 - 8.1	4.73	36.9	4.73	36.9	7.80
	8.1 - 11.3	1.59	12	1.59	12	7.55
	11.3 - 16.1	0.602	4.3	0.602	4.3	7.14
	16.1 - 20.9	0.819	5.39	0.819	5.39	6.58

5.0 Sv to lungs = .6 Sv TEDE

1.5 Sv to red marrow = .2 Sv TEDE

Risk of Early Fatality (3.5 cores)	Distance (km)	Surry - late evac.		Uniform - late evac.		Ratio
		Base Case 2.E-05	Case 11 1	Case 21 2.E-05	Case 22 1	
	0 - .2	0.146	0.169	0.146	0.169	1.16
	.2 - .5	0.0302	0.0657	0.0302	0.0657	2.18
	.5 - 1.2	0.0138	0.0374	0.0138	0.0374	2.71
	1.2 - 1.6	0.00828	0.0301	0.00828	0.0301	3.64
	1.6 - 2.1	0.00575	0.0266	0.00575	0.0266	4.63
	2.1 - 3.2	0.00326	0.0216	0.00326	0.0216	6.63
	3.2 - 4.0	0.00151	0.0146	0.00151	0.0146	9.67
	4.0 - 4.8	0.00167	0.0132	0.00167	0.0132	7.90
	4.8 - 5.6	0.00171	0.011	0.00171	0.011	6.43
	5.6 - 8.1	0.0000672	0.0131	6.72E-05	0.0131	194.94
	8.1 - 11.3	2.54E-07	0.00301	2.54E-07	0.00301	11850.39
	11.3 - 16.1	0	0.0000225	0	2.25E-05	#DIV/0!
	16.1 - 20.9	0	0	0	0	#DIV/0!

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Population	Distance (km)	Surry population	Number of Early Fatalities			Number of Early Fatalities		Outer Dis (km)
			Base Case 2.E-05	Case 11 1	Uniform population	Case 21 2.E-05	Case 22 1	
	0 - .2	0	0	0	0	0	0	0.16
	.2 - .5	0	0	0	0	0	0	0.52
	.5 - 1.2	5	0.0690	0.1870	0	0	0	1.21
	1.2 - 1.6	4	0.0331	0.1204	136.8244	1.1329	4.1184	1.61
	1.6 - 2.1	11	0.0633	0.2926	235.9007	1.3564	6.2750	2.13
	2.1 - 3.2	29	0.0945	0.6264	707.3505	2.3060	15.2788	3.22
	3.2 - 4.0	130	0.1963	1.8980	702.5592	1.0609	10.2574	4.02
	4.0 - 4.8	175	0.2923	2.3100	869.5261	1.4521	11.4777	4.83
	4.8 - 5.6	206	0.3523	2.2660	1015.023	1.7357	11.1653	5.63
	5.6 - 8.1	839	0.0564	10.9909	4015.65	0.2699	52.6050	8.05
	8.1 - 11.3	23012	0.0058	69.2661	7546.01	0.0019	22.7135	11.27
	11.3 - 16.1	49010	0	1.1027	15996.22	0	0.3599	16.09
	16.1 - 20.9	47010	0	0	21683.06	0	0	20.92
Total			1.16	89.06		9.32	134.25	

Population Density	Outer Dist. (km)	Population Density (people/km2)		Area (km2)
		Surry	Uniform	
	0.16	0	0	0.08
	0.52	0	0	0.77
	1.21	1.33	0	3.75
	1.61	1.13	38.6	3.54
	2.13	1.80	38.6	6.11
	3.22	1.58	38.6	18.31
	4.02	7.15	38.6	18.19
	4.83	7.77	38.6	22.51
	5.63	7.84	38.6	26.28
	8.05	8.07	38.6	103.95
	11.27	117.80	38.6	195.34
	16.09	118.36	38.6	414.09
	20.92	83.75	38.6	561.30