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Cancer Risk Slope Factors Summary Table
Risk Library: FGR 13 Morbidity

Menu	Parameter	Current Value	Base Case*	Parameter Name
Sf-1	Ground external radiation slope factors, 1/yr per (pCi/g):			
Sf-1	Cs-137+D	2.55E-06	5.32E-10	SLPF(1,1)
Sf-1	Sr-90+D	1.96E-08	4.82E-10	SLPF(2,1)
Sf-2	Inhalation, slope factors, 1/(pCi):			
Sf-2	Cs-137+D	1.12E-10	1.12E-10	SLPF(1,2)
Sf-2	Sr-90+D	4.33E-10	4.25E-10	SLPF(2,2)
Sf-3	Food ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.74E-11	3.74E-11	SLPF(1,3)
Sf-3	Sr-90+D	9.53E-11	6.88E-11	SLPF(2,3)
Sf-3	Water ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.04E-11	3.04E-11	SLPF(1,4)
Sf-3	Sr-90+D	7.40E-11	5.59E-11	SLPF(2,4)
Sf-3	Soil ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.74E-11	3.74E-11	SLPF(1,5)
Sf-3	Sr-90+D	9.53E-11	6.88E-11	SLPF(2,5)

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Risk Slope and Environmental Transport Factors for the Ground Pathway

Nuclide (i)	Slope(i)*	ETFG(i,t) At Time in Years (dimensionless) t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Ba-137m	2.690E-06	5.105E-01	5.105E-01	5.105E-01	5.105E-01	5.105E-01	5.105E-01	5.105E-01	5.105E-01
Cs-137	5.320E-10	5.294E-01	5.294E-01	5.294E-01	5.294E-01	5.294E-01	5.294E-01	5.294E-01	5.294E-01
Sr-90	4.820E-10	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01
Y-90	1.910E-08	5.123E-01	5.123E-01	5.123E-01	5.123E-01	5.123E-01	5.123E-01	5.123E-01	5.123E-01

* - Units are 1/yr per (pCi/g) at infinite depth and area. Multiplication by ETFG(i,t) converts to site conditions.

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 0.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.252E-03	3.118E+01	2.727E+00	8.903E-01	2.453E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.504E+01
Sr-90	5.409E-03	1.011E+03	2.039E+01	6.056E+00	1.060E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.038E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.870E-07	0.2797	3.032E-12	0.0000	2.522E-08	0.0090	2.206E-09	0.0008	7.202E-10	0.0003	1.984E-10	0.0001
Sr-90	2.424E-08	0.0086	4.677E-11	0.0000	1.922E-06	0.6830	3.881E-08	0.0138	1.152E-08	0.0041	2.016E-09	0.0007
Total	8.112E-07	0.2883	4.981E-11	0.0000	1.947E-06	0.6920	4.102E-08	0.0146	1.224E-08	0.0044	2.214E-09	0.0008

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.153E-07	0.2897
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.999E-06	0.7103
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.814E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.870E-07	0.2797	3.032E-12	0.0000	0.000E+00	0.0000	2.522E-08	0.0090	2.206E-09	0.0008	7.202E-10	0.0003	1.984E-10	0.0001
Sr-90	2.424E-08	0.0086	4.677E-11	0.0000	0.000E+00	0.0000	1.922E-06	0.6830	3.881E-08	0.0138	1.152E-08	0.0041	2.016E-09	0.0007
Total	8.112E-07	0.2883	4.981E-11	0.0000	0.000E+00	0.0000	1.947E-06	0.6920	4.102E-08	0.0146	1.224E-08	0.0044	2.214E-09	0.0008

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.153E-07	0.2897
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.999E-06	0.7103
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.814E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.223E-03	3.047E+01	2.664E+00	8.700E-01	2.397E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.424E+01
Sr-90	5.252E-03	9.816E+02	1.982E+01	5.885E+00	1.029E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.008E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.690E-07	0.2809	2.963E-12	0.0000	2.465E-08	0.0090	2.155E-09	0.0008	7.038E-10	0.0003	1.939E-10	0.0001
Sr-90	2.354E-08	0.0086	4.542E-11	0.0000	1.867E-06	0.6818	3.770E-08	0.0138	1.119E-08	0.0041	1.957E-09	0.0007
Total	7.925E-07	0.2895	4.839E-11	0.0000	1.891E-06	0.6908	3.985E-08	0.0146	1.189E-08	0.0043	2.151E-09	0.0008

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.967E-07	0.2910
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.941E-06	0.7090
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.738E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.690E-07	0.2809	2.963E-12	0.0000	0.000E+00	0.0000	2.465E-08	0.0090	2.155E-09	0.0008	7.038E-10	0.0003	1.939E-10	0.0001
Sr-90	2.354E-08	0.0086	4.542E-11	0.0000	0.000E+00	0.0000	1.867E-06	0.6818	3.770E-08	0.0138	1.119E-08	0.0041	1.957E-09	0.0007
Total	7.925E-07	0.2895	4.839E-11	0.0000	0.000E+00	0.0000	1.891E-06	0.6908	3.985E-08	0.0146	1.189E-08	0.0043	2.151E-09	0.0008

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.967E-07	0.2910
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.941E-06	0.7090
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.738E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.168E-03	2.909E+01	2.544E+00	8.306E-01	2.288E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.269E+01
Sr-90	4.953E-03	9.257E+02	1.869E+01	5.550E+00	9.707E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.509E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.342E-07	0.2833	2.829E-12	0.0000	2.353E-08	0.0091	2.058E-09	0.0008	6.719E-10	0.0003	1.851E-10	0.0001
Sr-90	2.220E-08	0.0086	4.284E-11	0.0000	1.760E-06	0.6794	3.555E-08	0.0137	1.055E-08	0.0041	1.846E-09	0.0007
Total	7.564E-07	0.2919	4.566E-11	0.0000	1.784E-06	0.6884	3.761E-08	0.0145	1.123E-08	0.0043	2.031E-09	0.0008

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.607E-07	0.2936
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.831E-06	0.7064
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.591E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.342E-07	0.2833	2.829E-12	0.0000	0.000E+00	0.0000	2.353E-08	0.0091	2.058E-09	0.0008	6.719E-10	0.0003	1.851E-10	0.0001
Sr-90	2.220E-08	0.0086	4.284E-11	0.0000	0.000E+00	0.0000	1.760E-06	0.6794	3.555E-08	0.0137	1.055E-08	0.0041	1.846E-09	0.0007
Total	7.564E-07	0.2919	4.566E-11	0.0000	0.000E+00	0.0000	1.784E-06	0.6884	3.761E-08	0.0145	1.123E-08	0.0043	2.031E-09	0.0008

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.607E-07	0.2936
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.831E-06	0.7064
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.591E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+01 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	9.930E-04	2.474E+01	2.163E+00	7.064E-01	1.946E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.780E+01
Sr-90	4.034E-03	7.539E+02	1.523E+01	4.520E+00	7.906E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.745E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	6.244E-07	0.2921	2.406E-12	0.0000	2.001E-08	0.0094	1.750E-09	0.0008	5.715E-10	0.0003	1.574E-10	0.0001
Sr-90	1.808E-08	0.0085	3.489E-11	0.0000	1.434E-06	0.6707	2.895E-08	0.0135	8.595E-09	0.0040	1.503E-09	0.0007
Total	6.425E-07	0.3005	3.729E-11	0.0000	1.454E-06	0.6800	3.070E-08	0.0144	9.167E-09	0.0043	1.661E-09	0.0008

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.469E-07	0.3026
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.491E-06	0.6974
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.138E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	6.244E-07	0.2921	2.406E-12	0.0000	0.000E+00	0.0000	2.001E-08	0.0094	1.750E-09	0.0008	5.715E-10	0.0003	1.574E-10	0.0001
Sr-90	1.808E-08	0.0085	3.489E-11	0.0000	0.000E+00	0.0000	1.434E-06	0.6707	2.895E-08	0.0135	8.595E-09	0.0040	1.503E-09	0.0007
Total	6.425E-07	0.3005	3.729E-11	0.0000	0.000E+00	0.0000	1.454E-06	0.6800	3.070E-08	0.0144	9.167E-09	0.0043	1.661E-09	0.0008

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.469E-07	0.3026
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.491E-06	0.6974
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.138E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+01 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	6.251E-04	1.557E+01	1.362E+00	4.447E-01	1.225E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.750E+01
Sr-90	2.244E-03	4.194E+02	8.471E+00	2.515E+00	4.398E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.309E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	3.931E-07	0.3178	1.514E-12	0.0000	1.260E-08	0.0102	1.102E-09	0.0009	3.597E-10	0.0003	9.910E-11	0.0001
Sr-90	1.006E-08	0.0081	1.941E-11	0.0000	7.976E-07	0.6450	1.611E-08	0.0130	4.782E-09	0.0039	8.364E-10	0.0007
Total	4.031E-07	0.3260	2.092E-11	0.0000	8.102E-07	0.6552	1.721E-08	0.0139	5.142E-09	0.0042	9.355E-10	0.0008

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.072E-07	0.3293
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.294E-07	0.6707
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.237E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	3.931E-07	0.3178	1.514E-12	0.0000	0.000E+00	0.0000	1.260E-08	0.0102	1.102E-09	0.0009	3.597E-10	0.0003	9.910E-11	0.0001
Sr-90	1.006E-08	0.0081	1.941E-11	0.0000	0.000E+00	0.0000	7.976E-07	0.6450	1.611E-08	0.0130	4.782E-09	0.0039	8.364E-10	0.0007
Total	4.031E-07	0.3260	2.092E-11	0.0000	0.000E+00	0.0000	8.102E-07	0.6552	1.721E-08	0.0139	5.142E-09	0.0042	9.355E-10	0.0008

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.072E-07	0.3293
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.294E-07	0.6707
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.237E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+02 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.237E-04	3.082E+00	2.695E-01	8.801E-02	2.425E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.464E+00
Sr-90	2.882E-04	5.387E+01	1.088E+00	3.230E-01	5.649E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.534E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.780E-08	0.4157	2.997E-13	0.0000	2.494E-09	0.0133	2.180E-10	0.0012	7.120E-11	0.0004	1.961E-11	0.0001
Sr-90	1.292E-09	0.0069	2.493E-12	0.0000	1.024E-07	0.5474	2.069E-09	0.0111	6.142E-10	0.0033	1.074E-10	0.0006
Total	7.909E-08	0.4227	2.793E-12	0.0000	1.049E-07	0.5608	2.287E-09	0.0122	6.854E-10	0.0037	1.270E-10	0.0007

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.060E-08	0.4307
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.065E-07	0.5693
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.871E-07	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.780E-08	0.4157	2.997E-13	0.0000	0.000E+00	0.0000	2.494E-09	0.0133	2.180E-10	0.0012	7.120E-11	0.0004	1.961E-11	0.0001
Sr-90	1.292E-09	0.0069	2.493E-12	0.0000	0.000E+00	0.0000	1.024E-07	0.5474	2.069E-09	0.0111	6.142E-10	0.0033	1.074E-10	0.0006
Total	7.909E-08	0.4227	2.793E-12	0.0000	0.000E+00	0.0000	1.049E-07	0.5608	2.287E-09	0.0122	6.854E-10	0.0037	1.270E-10	0.0007

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.060E-08	0.4307
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.065E-07	0.5693
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.871E-07	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+02 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.209E-06	3.012E-02	2.634E-03	8.601E-04	2.369E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.385E-02
Sr-90	8.187E-07	1.530E-01	3.090E-03	9.173E-04	1.604E-04	7.104E-02	3.604E-05	1.884E-03	1.957E-04	1.068E-04	2.304E-01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.602E-10	0.6247	2.929E-15	0.0000	2.437E-11	0.0200	2.131E-12	0.0018	6.958E-13	0.0006	1.917E-13	0.0002
Sr-90	3.670E-12	0.0030	7.080E-15	0.0000	2.910E-10	0.2391	5.876E-12	0.0048	1.744E-12	0.0014	3.051E-13	0.0003
Total	7.639E-10	0.6277	1.001E-14	0.0000	3.153E-10	0.2591	8.007E-12	0.0066	2.440E-12	0.0020	4.968E-13	0.0004

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.876E-10	0.6472
Sr-90	1.219E-10	0.1002	7.964E-14	0.0001	4.164E-12	0.0034	4.326E-13	0.0004	2.361E-13	0.0002	4.294E-10	0.3528
Total	1.219E-10	0.1002	7.964E-14	0.0001	4.164E-12	0.0034	4.326E-13	0.0004	2.361E-13	0.0002	1.217E-09	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.602E-10	0.6247	2.929E-15	0.0000	0.000E+00	0.0000	2.437E-11	0.0200	2.131E-12	0.0018	6.958E-13	0.0006	1.917E-13	0.0002
Sr-90	3.670E-12	0.0030	7.080E-15	0.0000	0.000E+00	0.0000	2.910E-10	0.2391	5.876E-12	0.0048	1.744E-12	0.0014	3.051E-13	0.0003
Total	7.639E-10	0.6277	1.001E-14	0.0000	0.000E+00	0.0000	3.153E-10	0.2591	8.007E-12	0.0066	2.440E-12	0.0020	4.968E-13	0.0004

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.876E-10	0.6472
Sr-90	1.219E-10	0.1002	7.964E-14	0.0001	0.000E+00	0.0000	4.164E-12	0.0034	4.326E-13	0.0004	2.361E-13	0.0002	4.294E-10	0.3528
Total	1.219E-10	0.1002	7.964E-14	0.0001	0.000E+00	0.0000	4.164E-12	0.0034	4.326E-13	0.0004	2.361E-13	0.0002	1.217E-09	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+03 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.115E-13	2.779E-09	2.430E-10	7.934E-11	2.186E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.123E-09
Sr-90	9.997E-16	1.868E-10	3.773E-12	1.120E-12	1.959E-13	1.165E-09	5.910E-13	3.090E-11	3.215E-12	1.753E-12	1.393E-09

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.013E-17	0.9375	2.702E-22	0.0000	2.248E-18	0.0300	1.966E-19	0.0026	6.418E-20	0.0009	1.768E-20	0.0002
Sr-90	4.481E-21	0.0001	8.645E-24	0.0000	3.553E-19	0.0047	7.175E-21	0.0001	2.130E-21	0.0000	3.726E-22	0.0000
Total	7.013E-17	0.9375	2.788E-22	0.0000	2.603E-18	0.0348	2.037E-19	0.0027	6.631E-20	0.0009	1.805E-20	0.0002

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.266E-17	0.9713
Sr-90	1.712E-18	0.0229	1.118E-21	0.0000	5.848E-20	0.0008	6.085E-21	0.0001	3.318E-21	0.0000	2.150E-18	0.0287
Total	1.712E-18	0.0229	1.118E-21	0.0000	5.848E-20	0.0008	6.085E-21	0.0001	3.318E-21	0.0000	7.481E-17	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	7.013E-17	0.9375	2.702E-22	0.0000	0.000E+00	0.0000	2.248E-18	0.0300	1.966E-19	0.0026	6.418E-20	0.0009	1.768E-20	0.0002
Sr-90	4.481E-21	0.0001	8.645E-24	0.0000	0.000E+00	0.0000	3.553E-19	0.0047	7.175E-21	0.0001	2.130E-21	0.0000	3.726E-22	0.0000
Total	7.013E-17	0.9375	2.788E-22	0.0000	0.000E+00	0.0000	2.603E-18	0.0348	2.037E-19	0.0027	6.631E-20	0.0009	1.805E-20	0.0002

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.266E-17	0.9713
Sr-90	1.712E-18	0.0229	1.118E-21	0.0000	0.000E+00	0.0000	5.848E-20	0.0008	6.085E-21	0.0001	3.318E-21	0.0000	2.150E-18	0.0287
Total	1.712E-18	0.0229	1.118E-21	0.0000	0.000E+00	0.0000	5.848E-20	0.0008	6.085E-21	0.0001	3.318E-21	0.0000	7.481E-17	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides