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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	5.322E-01	5.322E-01	5.322E-01	5.322E-01	5.322E-01	5.322E-01	5.322E-01	5.322E-01
Cs-137	5.320E-10	5.469E-01	5.469E-01	5.469E-01	5.469E-01	5.469E-01	5.469E-01	5.469E-01	5.469E-01
Sr-90	4.820E-10	5.490E-01	5.490E-01	5.490E-01	5.490E-01	5.490E-01	5.490E-01	5.490E-01	5.490E-01
Y-90	1.910E-08	5.358E-01	5.358E-01	5.358E-01	5.358E-01	5.358E-01	5.358E-01	5.358E-01	5.358E-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	1.058E-03	7.308E+01	6.391E+00	2.087E+00	5.749E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.213E+01
Sr-90	5.947E-03	3.080E+03	6.215E+01	1.846E+01	3.230E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.164E+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	6.153E-07	0.0915	2.564E-12	0.0000	5.912E-08	0.0088	5.170E-09	0.0008	1.688E-09	0.0003	4.651E-10	0.0001
Sr-90	2.472E-08	0.0037	5.144E-11	0.0000	5.858E-06	0.8712	1.183E-07	0.0176	3.512E-08	0.0052	6.143E-09	0.0009
Total	6.400E-07	0.0952	5.400E-11	0.0000	5.917E-06	0.8800	1.235E-07	0.0184	3.680E-08	0.0055	6.608E-09	0.0010

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	6.818E-07	0.1014
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	6.042E-06	0.8986
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	6.724E-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	6.153E-07	0.0915	2.564E-12	0.0000	0.000E+00	0.0000	5.912E-08	0.0088	5.170E-09	0.0008	1.688E-09	0.0003	4.651E-10	0.0001
Sr-90	2.472E-08	0.0037	5.144E-11	0.0000	0.000E+00	0.0000	5.858E-06	0.8712	1.183E-07	0.0176	3.512E-08	0.0052	6.143E-09	0.0009
Total	6.400E-07	0.0952	5.400E-11	0.0000	0.000E+00	0.0000	5.917E-06	0.8800	1.235E-07	0.0184	3.680E-08	0.0055	6.608E-09	0.0010

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	6.818E-07	0.1014
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	6.042E-06	0.8986
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	6.724E-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	1.034E-03	7.141E+01	6.244E+00	2.039E+00	5.617E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.026E+01
Sr-90	5.776E-03	2.991E+03	6.041E+01	1.793E+01	3.137E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.073E+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	6.012E-07	0.0920	2.506E-12	0.0000	5.777E-08	0.0088	5.052E-09	0.0008	1.649E-09	0.0003	4.544E-10	0.0001
Sr-90	2.401E-08	0.0037	4.995E-11	0.0000	5.689E-06	0.8706	1.149E-07	0.0176	3.410E-08	0.0052	5.965E-09	0.0009
Total	6.252E-07	0.0957	5.245E-11	0.0000	5.746E-06	0.8795	1.199E-07	0.0184	3.575E-08	0.0055	6.420E-09	0.0010

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	6.662E-07	0.1020
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	5.868E-06	0.8980
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	6.534E-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	6.012E-07	0.0920	2.506E-12	0.0000	0.000E+00	0.0000	5.777E-08	0.0088	5.052E-09	0.0008	1.649E-09	0.0003	4.544E-10	0.0001
Sr-90	2.401E-08	0.0037	4.995E-11	0.0000	0.000E+00	0.0000	5.689E-06	0.8706	1.149E-07	0.0176	3.410E-08	0.0052	5.965E-09	0.0009
Total	6.252E-07	0.0957	5.245E-11	0.0000	0.000E+00	0.0000	5.746E-06	0.8795	1.199E-07	0.0184	3.575E-08	0.0055	6.420E-09	0.0010

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	6.662E-07	0.1020
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	5.868E-06	0.8980
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	6.534E-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	9.875E-04	6.818E+01	5.962E+00	1.947E+00	5.363E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.663E+01
Sr-90	5.447E-03	2.821E+03	5.697E+01	1.691E+01	2.958E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.898E+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= 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	5.740E-07	0.0930	2.392E-12	0.0000	5.516E-08	0.0089	4.823E-09	0.0008	1.575E-09	0.0003	4.339E-10	0.0001
Sr-90	2.264E-08	0.0037	4.710E-11	0.0000	5.365E-06	0.8695	1.083E-07	0.0176	3.216E-08	0.0052	5.626E-09	0.0009
Total	5.967E-07	0.0967	4.950E-11	0.0000	5.420E-06	0.8785	1.132E-07	0.0183	3.374E-08	0.0055	6.059E-09	0.0010

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	6.360E-07	0.1031
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	5.533E-06	0.8969
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	6.169E-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	5.740E-07	0.0930	2.392E-12	0.0000	0.000E+00	0.0000	5.516E-08	0.0089	4.823E-09	0.0008	1.575E-09	0.0003	4.339E-10	0.0001
Sr-90	2.264E-08	0.0037	4.710E-11	0.0000	0.000E+00	0.0000	5.365E-06	0.8695	1.083E-07	0.0176	3.216E-08	0.0052	5.626E-09	0.0009
Total	5.967E-07	0.0967	4.950E-11	0.0000	0.000E+00	0.0000	5.420E-06	0.8785	1.132E-07	0.0183	3.374E-08	0.0055	6.059E-09	0.0010

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	6.360E-07	0.1031
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	5.533E-06	0.8969
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	6.169E-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	8.398E-04	5.798E+01	5.070E+00	1.656E+00	4.561E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.517E+01
Sr-90	4.436E-03	2.298E+03	4.640E+01	1.377E+01	2.409E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.360E+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+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	4.882E-07	0.0967	2.034E-12	0.0000	4.691E-08	0.0093	4.102E-09	0.0008	1.339E-09	0.0003	3.690E-10	0.0001
Sr-90	1.844E-08	0.0037	3.836E-11	0.0000	4.369E-06	0.8656	8.824E-08	0.0175	2.619E-08	0.0052	4.582E-09	0.0009
Total	5.066E-07	0.1004	4.040E-11	0.0000	4.416E-06	0.8749	9.234E-08	0.0183	2.753E-08	0.0055	4.951E-09	0.0010

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	5.409E-07	0.1072
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	4.507E-06	0.8928
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	5.048E-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	4.882E-07	0.0967	2.034E-12	0.0000	0.000E+00	0.0000	4.691E-08	0.0093	4.102E-09	0.0008	1.339E-09	0.0003	3.690E-10	0.0001
Sr-90	1.844E-08	0.0037	3.836E-11	0.0000	0.000E+00	0.0000	4.369E-06	0.8656	8.824E-08	0.0175	2.619E-08	0.0052	4.582E-09	0.0009
Total	5.066E-07	0.1004	4.040E-11	0.0000	0.000E+00	0.0000	4.416E-06	0.8749	9.234E-08	0.0183	2.753E-08	0.0055	4.951E-09	0.0010

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	5.409E-07	0.1072
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	4.507E-06	0.8928
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	5.048E-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	5.286E-04	3.650E+01	3.192E+00	1.042E+00	2.871E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.102E+01
Sr-90	2.468E-03	1.278E+03	2.581E+01	7.663E+00	1.340E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.313E+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= 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	3.073E-07	0.1079	1.281E-12	0.0000	2.953E-08	0.0104	2.582E-09	0.0009	8.431E-10	0.0003	2.323E-10	0.0001
Sr-90	1.026E-08	0.0036	2.134E-11	0.0000	2.431E-06	0.8536	4.909E-08	0.0172	1.457E-08	0.0051	2.549E-09	0.0009
Total	3.176E-07	0.1115	2.262E-11	0.0000	2.460E-06	0.8639	5.167E-08	0.0181	1.542E-08	0.0054	2.781E-09	0.0010

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	3.405E-07	0.1196
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	2.507E-06	0.8804
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	2.848E-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	3.073E-07	0.1079	1.281E-12	0.0000	0.000E+00	0.0000	2.953E-08	0.0104	2.582E-09	0.0009	8.431E-10	0.0003	2.323E-10	0.0001
Sr-90	1.026E-08	0.0036	2.134E-11	0.0000	0.000E+00	0.0000	2.431E-06	0.8536	4.909E-08	0.0172	1.457E-08	0.0051	2.549E-09	0.0009
Total	3.176E-07	0.1115	2.262E-11	0.0000	0.000E+00	0.0000	2.460E-06	0.8639	5.167E-08	0.0181	1.542E-08	0.0054	2.781E-09	0.0010

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	3.405E-07	0.1196
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	2.507E-06	0.8804
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	2.848E-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	1.046E-04	7.224E+00	6.317E-01	2.063E-01	5.683E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.119E+00
Sr-90	3.170E-04	1.642E+02	3.315E+00	9.842E-01	1.722E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.686E+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+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	6.083E-08	0.1562	2.535E-13	0.0000	5.844E-09	0.0150	5.111E-10	0.0013	1.669E-10	0.0004	4.597E-11	0.0001
Sr-90	1.317E-09	0.0034	2.741E-12	0.0000	3.122E-07	0.8017	6.305E-09	0.0162	1.872E-09	0.0048	3.274E-10	0.0008
Total	6.214E-08	0.1596	2.995E-12	0.0000	3.180E-07	0.8167	6.816E-09	0.0175	2.039E-09	0.0052	3.733E-10	0.0010

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	6.739E-08	0.1731
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	3.220E-07	0.8269
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	3.894E-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	6.083E-08	0.1562	2.535E-13	0.0000	0.000E+00	0.0000	5.844E-09	0.0150	5.111E-10	0.0013	1.669E-10	0.0004	4.597E-11	0.0001
Sr-90	1.317E-09	0.0034	2.741E-12	0.0000	0.000E+00	0.0000	3.122E-07	0.8017	6.305E-09	0.0162	1.872E-09	0.0048	3.274E-10	0.0008
Total	6.214E-08	0.1596	2.995E-12	0.0000	0.000E+00	0.0000	3.180E-07	0.8167	6.816E-09	0.0175	2.039E-09	0.0052	3.733E-10	0.0010

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	6.739E-08	0.1731
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	3.220E-07	0.8269
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	3.894E-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	1.022E-06	7.060E-02	6.173E-03	2.016E-03	5.553E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.934E-02
Sr-90	9.003E-07	4.663E-01	9.416E-03	2.795E-03	4.890E-04	2.165E-01	1.098E-04	1.794E-02	1.864E-03	1.018E-03	7.164E-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	5.944E-10	0.2985	2.477E-15	0.0000	5.711E-11	0.0287	4.994E-12	0.0025	1.631E-12	0.0008	4.492E-13	0.0002
Sr-90	3.742E-12	0.0019	7.786E-15	0.0000	8.867E-10	0.4454	1.791E-11	0.0090	5.316E-12	0.0027	9.298E-13	0.0005
Total	5.981E-10	0.3004	1.026E-14	0.0000	9.438E-10	0.4740	2.290E-11	0.0115	6.947E-12	0.0035	1.379E-12	0.0007

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	6.586E-10	0.3308
Sr-90	3.715E-10	0.1866	2.427E-13	0.0001	3.965E-11	0.0199	4.120E-12	0.0021	2.249E-12	0.0011	1.332E-09	0.6692
Total	3.715E-10	0.1866	2.427E-13	0.0001	3.965E-11	0.0199	4.120E-12	0.0021	2.249E-12	0.0011	1.991E-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	5.944E-10	0.2985	2.477E-15	0.0000	0.000E+00	0.0000	5.711E-11	0.0287	4.994E-12	0.0025	1.631E-12	0.0008	4.492E-13	0.0002
Sr-90	3.742E-12	0.0019	7.786E-15	0.0000	0.000E+00	0.0000	8.867E-10	0.4454	1.791E-11	0.0090	5.316E-12	0.0027	9.298E-13	0.0005
Total	5.981E-10	0.3004	1.026E-14	0.0000	0.000E+00	0.0000	9.438E-10	0.4740	2.290E-11	0.0115	6.947E-12	0.0035	1.379E-12	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= 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	6.586E-10	0.3308
Sr-90	3.715E-10	0.1866	2.427E-13	0.0001	0.000E+00	0.0000	3.965E-11	0.0199	4.120E-12	0.0021	2.249E-12	0.0011	1.332E-09	0.6692
Total	3.715E-10	0.1866	2.427E-13	0.0001	0.000E+00	0.0000	3.965E-11	0.0199	4.120E-12	0.0021	2.249E-12	0.0011	1.991E-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	9.432E-14	6.512E-09	5.695E-10	1.860E-10	5.123E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.319E-09
Sr-90	1.099E-15	5.693E-10	1.150E-11	3.413E-12	5.970E-13	3.549E-09	1.801E-12	2.943E-10	3.062E-11	1.669E-11	4.478E-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	5.483E-17	0.8095	2.285E-22	0.0000	5.268E-18	0.0778	4.607E-19	0.0068	1.504E-19	0.0022	4.144E-20	0.0006
Sr-90	4.569E-21	0.0001	9.507E-24	0.0000	1.083E-18	0.0160	2.187E-20	0.0003	6.491E-21	0.0001	1.135E-21	0.0000
Total	5.484E-17	0.8096	2.380E-22	0.0000	6.351E-18	0.0938	4.826E-19	0.0071	1.569E-19	0.0023	4.258E-20	0.0006

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	6.075E-17	0.8969
Sr-90	5.216E-18	0.0770	3.409E-21	0.0001	5.569E-19	0.0082	5.795E-20	0.0009	3.159E-20	0.0005	6.983E-18	0.1031
Total	5.216E-18	0.0770	3.409E-21	0.0001	5.569E-19	0.0082	5.795E-20	0.0009	3.159E-20	0.0005	6.774E-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	5.483E-17	0.8095	2.285E-22	0.0000	0.000E+00	0.0000	5.268E-18	0.0778	4.607E-19	0.0068	1.504E-19	0.0022	4.144E-20	0.0006
Sr-90	4.569E-21	0.0001	9.507E-24	0.0000	0.000E+00	0.0000	1.083E-18	0.0160	2.187E-20	0.0003	6.491E-21	0.0001	1.135E-21	0.0000
Total	5.484E-17	0.8096	2.380E-22	0.0000	0.000E+00	0.0000	6.351E-18	0.0938	4.826E-19	0.0071	1.569E-19	0.0023	4.258E-20	0.0006

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	6.075E-17	0.8969
Sr-90	5.216E-18	0.0770	3.409E-21	0.0001	0.000E+00	0.0000	5.569E-19	0.0082	5.795E-20	0.0009	3.159E-20	0.0005	6.983E-18	0.1031
Total	5.216E-18	0.0770	3.409E-21	0.0001	0.000E+00	0.0000	5.569E-19	0.0082	5.795E-20	0.0009	3.159E-20	0.0005	6.774E-17	1.0000

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