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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	5.243E-01	5.243E-01	5.243E-01	5.243E-01	5.243E-01	5.243E-01	5.243E-01	5.243E-01
Cs-137	5.320E-10	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01
Sr-90	4.820E-10	5.440E-01	5.440E-01	5.440E-01	5.440E-01	5.440E-01	5.440E-01	5.440E-01	5.440E-01
Y-90	1.910E-08	5.269E-01	5.269E-01	5.269E-01	5.269E-01	5.269E-01	5.269E-01	5.269E-01	5.269E-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	9.986E-04	4.202E+01	3.675E+00	1.200E+00	3.306E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.723E+01
Sr-90	7.371E-03	2.326E+03	4.694E+01	1.394E+01	2.440E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.389E+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	6.061E-07	0.1161	2.419E-12	0.0000	3.399E-08	0.0065	2.973E-09	0.0006	9.707E-10	0.0002	2.674E-10	0.0001
Sr-90	3.194E-08	0.0061	6.374E-11	0.0000	4.424E-06	0.8474	8.934E-08	0.0171	2.652E-08	0.0051	4.640E-09	0.0009
Total	6.381E-07	0.1222	6.616E-11	0.0000	4.458E-06	0.8539	9.231E-08	0.0177	2.749E-08	0.0053	4.907E-09	0.0009

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	6.444E-07	0.1234
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	4.577E-06	0.8766
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	5.221E-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	6.061E-07	0.1161	2.419E-12	0.0000	0.000E+00	0.0000	3.399E-08	0.0065	2.973E-09	0.0006	9.707E-10	0.0002	2.674E-10	0.0001
Sr-90	3.194E-08	0.0061	6.374E-11	0.0000	0.000E+00	0.0000	4.424E-06	0.8474	8.934E-08	0.0171	2.652E-08	0.0051	4.640E-09	0.0009
Total	6.381E-07	0.1222	6.616E-11	0.0000	0.000E+00	0.0000	4.458E-06	0.8539	9.231E-08	0.0177	2.749E-08	0.0053	4.907E-09	0.0009

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	6.444E-07	0.1234
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	4.577E-06	0.8766
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	5.221E-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	9.758E-04	4.106E+01	3.591E+00	1.172E+00	3.230E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.615E+01
Sr-90	7.158E-03	2.259E+03	4.563E+01	1.355E+01	2.369E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.321E+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	5.923E-07	0.1167	2.364E-12	0.0000	3.322E-08	0.0065	2.905E-09	0.0006	9.484E-10	0.0002	2.613E-10	0.0001
Sr-90	3.101E-08	0.0061	6.190E-11	0.0000	4.297E-06	0.8467	8.677E-08	0.0171	2.576E-08	0.0051	4.506E-09	0.0009
Total	6.233E-07	0.1228	6.427E-11	0.0000	4.330E-06	0.8533	8.967E-08	0.0177	2.671E-08	0.0053	4.767E-09	0.0009

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	6.296E-07	0.1241
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	4.445E-06	0.8759
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	5.074E-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	5.923E-07	0.1167	2.364E-12	0.0000	0.000E+00	0.0000	3.322E-08	0.0065	2.905E-09	0.0006	9.484E-10	0.0002	2.613E-10	0.0001
Sr-90	3.101E-08	0.0061	6.190E-11	0.0000	0.000E+00	0.0000	4.297E-06	0.8467	8.677E-08	0.0171	2.576E-08	0.0051	4.506E-09	0.0009
Total	6.233E-07	0.1228	6.427E-11	0.0000	0.000E+00	0.0000	4.330E-06	0.8533	8.967E-08	0.0177	2.671E-08	0.0053	4.767E-09	0.0009

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	6.296E-07	0.1241
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	4.445E-06	0.8759
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	5.074E-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	9.317E-04	3.920E+01	3.428E+00	1.119E+00	3.084E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.406E+01
Sr-90	6.750E-03	2.131E+03	4.303E+01	1.277E+01	2.234E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.189E+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	5.655E-07	0.1180	2.257E-12	0.0000	3.171E-08	0.0066	2.773E-09	0.0006	9.056E-10	0.0002	2.495E-10	0.0001
Sr-90	2.925E-08	0.0061	5.838E-11	0.0000	4.052E-06	0.8454	8.183E-08	0.0171	2.429E-08	0.0051	4.249E-09	0.0009
Total	5.947E-07	0.1241	6.063E-11	0.0000	4.084E-06	0.8520	8.460E-08	0.0177	2.520E-08	0.0053	4.498E-09	0.0009

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	6.011E-07	0.1254
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	4.192E-06	0.8746
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	4.793E-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	5.655E-07	0.1180	2.257E-12	0.0000	0.000E+00	0.0000	3.171E-08	0.0066	2.773E-09	0.0006	9.056E-10	0.0002	2.495E-10	0.0001
Sr-90	2.925E-08	0.0061	5.838E-11	0.0000	0.000E+00	0.0000	4.052E-06	0.8454	8.183E-08	0.0171	2.429E-08	0.0051	4.249E-09	0.0009
Total	5.947E-07	0.1241	6.063E-11	0.0000	0.000E+00	0.0000	4.084E-06	0.8520	8.460E-08	0.0177	2.520E-08	0.0053	4.498E-09	0.0009

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	6.011E-07	0.1254
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	4.192E-06	0.8746
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	4.793E-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	7.923E-04	3.334E+01	2.915E+00	9.520E-01	2.623E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.747E+01
Sr-90	5.498E-03	1.735E+03	3.505E+01	1.040E+01	1.820E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.783E+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	4.809E-07	0.1225	1.919E-12	0.0000	2.697E-08	0.0069	2.359E-09	0.0006	7.701E-10	0.0002	2.122E-10	0.0001
Sr-90	2.382E-08	0.0061	4.755E-11	0.0000	3.300E-06	0.8408	6.665E-08	0.0170	1.978E-08	0.0050	3.461E-09	0.0009
Total	5.047E-07	0.1286	4.947E-11	0.0000	3.327E-06	0.8476	6.900E-08	0.0176	2.056E-08	0.0052	3.673E-09	0.0009

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	5.112E-07	0.1302
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	3.414E-06	0.8698
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	3.925E-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	4.809E-07	0.1225	1.919E-12	0.0000	0.000E+00	0.0000	2.697E-08	0.0069	2.359E-09	0.0006	7.701E-10	0.0002	2.122E-10	0.0001
Sr-90	2.382E-08	0.0061	4.755E-11	0.0000	0.000E+00	0.0000	3.300E-06	0.8408	6.665E-08	0.0170	1.978E-08	0.0050	3.461E-09	0.0009
Total	5.047E-07	0.1286	4.947E-11	0.0000	0.000E+00	0.0000	3.327E-06	0.8476	6.900E-08	0.0176	2.056E-08	0.0052	3.673E-09	0.0009

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	5.112E-07	0.1302
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	3.414E-06	0.8698
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	3.925E-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	4.988E-04	2.099E+01	1.835E+00	5.993E-01	1.651E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.359E+01
Sr-90	3.059E-03	9.654E+02	1.950E+01	5.788E+00	1.012E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.917E+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	3.027E-07	0.1363	1.208E-12	0.0000	1.698E-08	0.0076	1.485E-09	0.0007	4.848E-10	0.0002	1.336E-10	0.0001
Sr-90	1.325E-08	0.0060	2.645E-11	0.0000	1.836E-06	0.8266	3.708E-08	0.0167	1.101E-08	0.0050	1.925E-09	0.0009
Total	3.160E-07	0.1423	2.766E-11	0.0000	1.853E-06	0.8343	3.856E-08	0.0174	1.149E-08	0.0052	2.059E-09	0.0009

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	3.218E-07	0.1449
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	1.899E-06	0.8551
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	2.221E-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	3.027E-07	0.1363	1.208E-12	0.0000	0.000E+00	0.0000	1.698E-08	0.0076	1.485E-09	0.0007	4.848E-10	0.0002	1.336E-10	0.0001
Sr-90	1.325E-08	0.0060	2.645E-11	0.0000	0.000E+00	0.0000	1.836E-06	0.8266	3.708E-08	0.0167	1.101E-08	0.0050	1.925E-09	0.0009
Total	3.160E-07	0.1423	2.766E-11	0.0000	0.000E+00	0.0000	1.853E-06	0.8343	3.856E-08	0.0174	1.149E-08	0.0052	2.059E-09	0.0009

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	3.218E-07	0.1449
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	1.899E-06	0.8551
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	2.221E-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	9.872E-05	4.154E+00	3.632E-01	1.186E-01	3.268E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.669E+00
Sr-90	3.928E-04	1.240E+02	2.504E+00	7.434E-01	1.300E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.274E+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	5.992E-08	0.1948	2.392E-13	0.0000	3.360E-09	0.0109	2.939E-10	0.0010	9.595E-11	0.0003	2.643E-11	0.0001
Sr-90	1.702E-09	0.0055	3.397E-12	0.0000	2.358E-07	0.7665	4.762E-09	0.0155	1.414E-09	0.0046	2.473E-10	0.0008
Total	6.162E-08	0.2003	3.636E-12	0.0000	2.392E-07	0.7774	5.056E-09	0.0164	1.510E-09	0.0049	2.737E-10	0.0009

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	6.370E-08	0.2071
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	2.439E-07	0.7929
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	3.076E-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	5.992E-08	0.1948	2.392E-13	0.0000	0.000E+00	0.0000	3.360E-09	0.0109	2.939E-10	0.0010	9.595E-11	0.0003	2.643E-11	0.0001
Sr-90	1.702E-09	0.0055	3.397E-12	0.0000	0.000E+00	0.0000	2.358E-07	0.7665	4.762E-09	0.0155	1.414E-09	0.0046	2.473E-10	0.0008
Total	6.162E-08	0.2003	3.636E-12	0.0000	0.000E+00	0.0000	2.392E-07	0.7774	5.056E-09	0.0164	1.510E-09	0.0049	2.737E-10	0.0009

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	6.370E-08	0.2071
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	2.439E-07	0.7929
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	3.076E-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	9.647E-07	4.059E-02	3.550E-03	1.159E-03	3.193E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.562E-02
Sr-90	1.116E-06	3.522E-01	7.112E-03	2.111E-03	3.693E-04	1.635E-01	8.295E-05	7.792E-03	8.096E-04	4.419E-04	5.344E-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	5.855E-10	0.3623	2.337E-15	0.0000	3.284E-11	0.0203	2.872E-12	0.0018	9.377E-13	0.0006	2.583E-13	0.0002
Sr-90	4.834E-12	0.0030	9.649E-15	0.0000	6.697E-10	0.4144	1.352E-11	0.0084	4.015E-12	0.0025	7.023E-13	0.0004
Total	5.904E-10	0.3653	1.199E-14	0.0000	7.026E-10	0.4347	1.640E-11	0.0101	4.953E-12	0.0031	9.606E-13	0.0006

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	6.224E-10	0.3852
Sr-90	2.806E-10	0.1736	1.833E-13	0.0001	1.722E-11	0.0107	1.789E-12	0.0011	9.767E-13	0.0006	9.936E-10	0.6148
Total	2.806E-10	0.1736	1.833E-13	0.0001	1.722E-11	0.0107	1.789E-12	0.0011	9.767E-13	0.0006	1.616E-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	5.855E-10	0.3623	2.337E-15	0.0000	0.000E+00	0.0000	3.284E-11	0.0203	2.872E-12	0.0018	9.377E-13	0.0006	2.583E-13	0.0002
Sr-90	4.834E-12	0.0030	9.649E-15	0.0000	0.000E+00	0.0000	6.697E-10	0.4144	1.352E-11	0.0084	4.015E-12	0.0025	7.023E-13	0.0004
Total	5.904E-10	0.3653	1.199E-14	0.0000	0.000E+00	0.0000	7.026E-10	0.4347	1.640E-11	0.0101	4.953E-12	0.0031	9.606E-13	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= 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	6.224E-10	0.3852
Sr-90	2.806E-10	0.1736	1.833E-13	0.0001	0.000E+00	0.0000	1.722E-11	0.0107	1.789E-12	0.0011	9.767E-13	0.0006	9.936E-10	0.6148
Total	2.806E-10	0.1736	1.833E-13	0.0001	0.000E+00	0.0000	1.722E-11	0.0107	1.789E-12	0.0011	9.767E-13	0.0006	1.616E-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	8.899E-14	3.745E-09	3.274E-10	1.069E-10	2.946E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.208E-09
Sr-90	1.362E-15	4.300E-10	8.684E-12	2.578E-12	4.509E-13	2.681E-09	1.360E-12	1.278E-10	1.330E-11	7.250E-12	3.272E-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	5.401E-17	0.8644	2.156E-22	0.0000	3.029E-18	0.0485	2.649E-19	0.0042	8.650E-20	0.0014	2.383E-20	0.0004
Sr-90	5.903E-21	0.0001	1.178E-23	0.0000	8.178E-19	0.0131	1.651E-20	0.0003	4.903E-21	0.0001	8.575E-22	0.0000
Total	5.402E-17	0.8645	2.274E-22	0.0000	3.847E-18	0.0616	2.814E-19	0.0045	9.140E-20	0.0015	2.469E-20	0.0004

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	5.742E-17	0.9189
Sr-90	3.940E-18	0.0630	2.574E-21	0.0000	2.419E-19	0.0039	2.517E-20	0.0004	1.372E-20	0.0002	5.069E-18	0.0811
Total	3.940E-18	0.0630	2.574E-21	0.0000	2.419E-19	0.0039	2.517E-20	0.0004	1.372E-20	0.0002	6.249E-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	5.401E-17	0.8644	2.156E-22	0.0000	0.000E+00	0.0000	3.029E-18	0.0485	2.649E-19	0.0042	8.650E-20	0.0014	2.383E-20	0.0004
Sr-90	5.903E-21	0.0001	1.178E-23	0.0000	0.000E+00	0.0000	8.178E-19	0.0131	1.651E-20	0.0003	4.903E-21	0.0001	8.575E-22	0.0000
Total	5.402E-17	0.8645	2.274E-22	0.0000	0.000E+00	0.0000	3.847E-18	0.0616	2.814E-19	0.0045	9.140E-20	0.0015	2.469E-20	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= 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	5.742E-17	0.9189
Sr-90	3.940E-18	0.0630	2.574E-21	0.0000	0.000E+00	0.0000	2.419E-19	0.0039	2.517E-20	0.0004	1.372E-20	0.0002	5.069E-18	0.0811
Total	3.940E-18	0.0630	2.574E-21	0.0000	0.000E+00	0.0000	2.419E-19	0.0039	2.517E-20	0.0004	1.372E-20	0.0002	6.249E-17	1.0000

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