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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	5.195E-01	5.195E-01	5.195E-01	5.195E-01	5.195E-01	5.195E-01	5.195E-01	5.195E-01
Cs-137	5.320E-10	5.377E-01	5.377E-01	5.377E-01	5.377E-01	5.377E-01	5.377E-01	5.377E-01	5.377E-01
Sr-90	4.820E-10	5.401E-01	5.401E-01	5.401E-01	5.401E-01	5.401E-01	5.401E-01	5.401E-01	5.401E-01
Y-90	1.910E-08	5.217E-01	5.217E-01	5.217E-01	5.217E-01	5.217E-01	5.217E-01	5.217E-01	5.217E-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	8.805E-04	2.975E+01	2.602E+00	8.496E-01	2.341E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.344E+01
Sr-90	6.071E-03	1.539E+03	3.105E+01	9.220E+00	1.614E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.580E+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	5.434E-07	0.1508	2.133E-12	0.0000	2.407E-08	0.0067	2.105E-09	0.0006	6.873E-10	0.0002	1.893E-10	0.0001
Sr-90	2.673E-08	0.0074	5.250E-11	0.0000	2.926E-06	0.8121	5.909E-08	0.0164	1.754E-08	0.0049	3.069E-09	0.0009
Total	5.701E-07	0.1582	5.463E-11	0.0000	2.950E-06	0.8188	6.120E-08	0.0170	1.823E-08	0.0051	3.258E-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	5.705E-07	0.1583
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	3.033E-06	0.8417
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	3.603E-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	5.434E-07	0.1508	2.133E-12	0.0000	0.000E+00	0.0000	2.407E-08	0.0067	2.105E-09	0.0006	6.873E-10	0.0002	1.893E-10	0.0001
Sr-90	2.673E-08	0.0074	5.250E-11	0.0000	0.000E+00	0.0000	2.926E-06	0.8121	5.909E-08	0.0164	1.754E-08	0.0049	3.069E-09	0.0009
Total	5.701E-07	0.1582	5.463E-11	0.0000	0.000E+00	0.0000	2.950E-06	0.8188	6.120E-08	0.0170	1.823E-08	0.0051	3.258E-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	5.705E-07	0.1583
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	3.033E-06	0.8417
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	3.603E-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	8.603E-04	2.907E+01	2.542E+00	8.302E-01	2.287E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.268E+01
Sr-90	5.895E-03	1.494E+03	3.018E+01	8.960E+00	1.567E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.535E+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	5.310E-07	0.1516	2.084E-12	0.0000	2.352E-08	0.0067	2.057E-09	0.0006	6.716E-10	0.0002	1.850E-10	0.0001
Sr-90	2.596E-08	0.0074	5.098E-11	0.0000	2.842E-06	0.8113	5.739E-08	0.0164	1.704E-08	0.0049	2.980E-09	0.0009
Total	5.569E-07	0.1590	5.307E-11	0.0000	2.865E-06	0.8181	5.945E-08	0.0170	1.771E-08	0.0051	3.165E-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	5.574E-07	0.1591
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	2.945E-06	0.8409
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	3.503E-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	5.310E-07	0.1516	2.084E-12	0.0000	0.000E+00	0.0000	2.352E-08	0.0067	2.057E-09	0.0006	6.716E-10	0.0002	1.850E-10	0.0001
Sr-90	2.596E-08	0.0074	5.098E-11	0.0000	0.000E+00	0.0000	2.842E-06	0.8113	5.739E-08	0.0164	1.704E-08	0.0049	2.980E-09	0.0009
Total	5.569E-07	0.1590	5.307E-11	0.0000	0.000E+00	0.0000	2.865E-06	0.8181	5.945E-08	0.0170	1.771E-08	0.0051	3.165E-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	5.574E-07	0.1591
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	2.945E-06	0.8409
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	3.503E-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	8.214E-04	2.776E+01	2.427E+00	7.926E-01	2.184E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.120E+01
Sr-90	5.559E-03	1.409E+03	2.846E+01	8.449E+00	1.478E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.448E+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	5.070E-07	0.1532	1.990E-12	0.0000	2.246E-08	0.0068	1.964E-09	0.0006	6.412E-10	0.0002	1.766E-10	0.0001
Sr-90	2.448E-08	0.0074	4.808E-11	0.0000	2.680E-06	0.8097	5.412E-08	0.0164	1.607E-08	0.0049	2.810E-09	0.0008
Total	5.314E-07	0.1606	5.007E-11	0.0000	2.703E-06	0.8165	5.609E-08	0.0169	1.671E-08	0.0050	2.987E-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	5.322E-07	0.1608
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	2.778E-06	0.8392
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	3.310E-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	5.070E-07	0.1532	1.990E-12	0.0000	0.000E+00	0.0000	2.246E-08	0.0068	1.964E-09	0.0006	6.412E-10	0.0002	1.766E-10	0.0001
Sr-90	2.448E-08	0.0074	4.808E-11	0.0000	0.000E+00	0.0000	2.680E-06	0.8097	5.412E-08	0.0164	1.607E-08	0.0049	2.810E-09	0.0008
Total	5.314E-07	0.1606	5.007E-11	0.0000	0.000E+00	0.0000	2.703E-06	0.8165	5.609E-08	0.0169	1.671E-08	0.0050	2.987E-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	5.322E-07	0.1608
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	2.778E-06	0.8392
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	3.310E-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	6.986E-04	2.361E+01	2.064E+00	6.741E-01	1.857E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.653E+01
Sr-90	4.528E-03	1.148E+03	2.318E+01	6.882E+00	1.204E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.179E+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	4.311E-07	0.1588	1.692E-12	0.0000	1.910E-08	0.0070	1.670E-09	0.0006	5.453E-10	0.0002	1.502E-10	0.0001
Sr-90	1.994E-08	0.0073	3.916E-11	0.0000	2.183E-06	0.8040	4.408E-08	0.0162	1.309E-08	0.0048	2.289E-09	0.0008
Total	4.511E-07	0.1662	4.085E-11	0.0000	2.202E-06	0.8111	4.575E-08	0.0169	1.363E-08	0.0050	2.439E-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	4.526E-07	0.1667
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	2.262E-06	0.8333
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	2.715E-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	4.311E-07	0.1588	1.692E-12	0.0000	0.000E+00	0.0000	1.910E-08	0.0070	1.670E-09	0.0006	5.453E-10	0.0002	1.502E-10	0.0001
Sr-90	1.994E-08	0.0073	3.916E-11	0.0000	0.000E+00	0.0000	2.183E-06	0.8040	4.408E-08	0.0162	1.309E-08	0.0048	2.289E-09	0.0008
Total	4.511E-07	0.1662	4.085E-11	0.0000	0.000E+00	0.0000	2.202E-06	0.8111	4.575E-08	0.0169	1.363E-08	0.0050	2.439E-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	4.526E-07	0.1667
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	2.262E-06	0.8333
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	2.715E-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	4.398E-04	1.486E+01	1.300E+00	4.243E-01	1.169E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.670E+01
Sr-90	2.519E-03	6.386E+02	1.290E+01	3.828E+00	6.696E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.560E+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	2.714E-07	0.1758	1.065E-12	0.0000	1.202E-08	0.0078	1.051E-09	0.0007	3.433E-10	0.0002	9.457E-11	0.0001
Sr-90	1.109E-08	0.0072	2.178E-11	0.0000	1.214E-06	0.7868	2.452E-08	0.0159	7.280E-09	0.0047	1.273E-09	0.0008
Total	2.825E-07	0.1830	2.285E-11	0.0000	1.226E-06	0.7946	2.558E-08	0.0166	7.624E-09	0.0049	1.368E-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	2.849E-07	0.1846
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	1.259E-06	0.8154
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	1.543E-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	2.714E-07	0.1758	1.065E-12	0.0000	0.000E+00	0.0000	1.202E-08	0.0078	1.051E-09	0.0007	3.433E-10	0.0002	9.457E-11	0.0001
Sr-90	1.109E-08	0.0072	2.178E-11	0.0000	0.000E+00	0.0000	1.214E-06	0.7868	2.452E-08	0.0159	7.280E-09	0.0047	1.273E-09	0.0008
Total	2.825E-07	0.1830	2.285E-11	0.0000	0.000E+00	0.0000	1.226E-06	0.7946	2.558E-08	0.0166	7.624E-09	0.0049	1.368E-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	2.849E-07	0.1846
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	1.259E-06	0.8154
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	1.543E-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	8.704E-05	2.941E+00	2.572E-01	8.399E-02	2.314E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.306E+00
Sr-90	3.235E-04	8.201E+01	1.656E+00	4.917E-01	8.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.425E+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	5.372E-08	0.2464	2.109E-13	0.0000	2.379E-09	0.0109	2.081E-10	0.0010	6.794E-11	0.0003	1.872E-11	0.0001
Sr-90	1.424E-09	0.0065	2.798E-12	0.0000	1.560E-07	0.7153	3.150E-09	0.0144	9.350E-10	0.0043	1.635E-10	0.0008
Total	5.514E-08	0.2529	3.009E-12	0.0000	1.583E-07	0.7262	3.358E-09	0.0154	1.003E-09	0.0046	1.823E-10	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+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	5.639E-08	0.2586
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	1.616E-07	0.7414
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	2.180E-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	5.372E-08	0.2464	2.109E-13	0.0000	0.000E+00	0.0000	2.379E-09	0.0109	2.081E-10	0.0010	6.794E-11	0.0003	1.872E-11	0.0001
Sr-90	1.424E-09	0.0065	2.798E-12	0.0000	0.000E+00	0.0000	1.560E-07	0.7153	3.150E-09	0.0144	9.350E-10	0.0043	1.635E-10	0.0008
Total	5.514E-08	0.2529	3.009E-12	0.0000	0.000E+00	0.0000	1.583E-07	0.7262	3.358E-09	0.0154	1.003E-09	0.0046	1.823E-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= 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	5.639E-08	0.2586
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	1.616E-07	0.7414
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	2.180E-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	8.505E-07	2.874E-02	2.513E-03	8.207E-04	2.261E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.230E-02
Sr-90	9.189E-07	2.329E-01	4.704E-03	1.397E-03	2.443E-04	1.082E-01	5.487E-05	4.033E-03	4.191E-04	2.288E-04	3.522E-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	5.249E-10	0.4352	2.060E-15	0.0000	2.325E-11	0.0193	2.033E-12	0.0017	6.639E-13	0.0006	1.829E-13	0.0002
Sr-90	4.046E-12	0.0034	7.947E-15	0.0000	4.430E-10	0.3672	8.946E-12	0.0074	2.656E-12	0.0022	4.645E-13	0.0004
Total	5.290E-10	0.4385	1.001E-14	0.0000	4.662E-10	0.3865	1.098E-11	0.0091	3.320E-12	0.0028	6.474E-13	0.0005

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	5.511E-10	0.4569
Sr-90	1.856E-10	0.1539	1.213E-13	0.0001	8.914E-12	0.0074	9.263E-13	0.0008	5.056E-13	0.0004	6.552E-10	0.5431
Total	1.856E-10	0.1539	1.213E-13	0.0001	8.914E-12	0.0074	9.263E-13	0.0008	5.056E-13	0.0004	1.206E-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	5.249E-10	0.4352	2.060E-15	0.0000	0.000E+00	0.0000	2.325E-11	0.0193	2.033E-12	0.0017	6.639E-13	0.0006	1.829E-13	0.0002
Sr-90	4.046E-12	0.0034	7.947E-15	0.0000	0.000E+00	0.0000	4.430E-10	0.3672	8.946E-12	0.0074	2.656E-12	0.0022	4.645E-13	0.0004
Total	5.290E-10	0.4385	1.001E-14	0.0000	0.000E+00	0.0000	4.662E-10	0.3865	1.098E-11	0.0091	3.320E-12	0.0028	6.474E-13	0.0005

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	5.511E-10	0.4569
Sr-90	1.856E-10	0.1539	1.213E-13	0.0001	0.000E+00	0.0000	8.914E-12	0.0074	9.263E-13	0.0008	5.056E-13	0.0004	6.552E-10	0.5431
Total	1.856E-10	0.1539	1.213E-13	0.0001	0.000E+00	0.0000	8.914E-12	0.0074	9.263E-13	0.0008	5.056E-13	0.0004	1.206E-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	7.846E-14	2.651E-09	2.319E-10	7.571E-11	2.086E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.980E-09
Sr-90	1.122E-15	2.844E-10	5.744E-12	1.705E-12	2.983E-13	1.773E-09	8.997E-13	6.616E-11	6.884E-12	3.753E-12	2.143E-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	4.842E-17	0.8943	1.901E-22	0.0000	2.145E-18	0.0396	1.876E-19	0.0035	6.125E-20	0.0011	1.687E-20	0.0003
Sr-90	4.940E-21	0.0001	9.703E-24	0.0000	5.409E-19	0.0100	1.092E-20	0.0002	3.243E-21	0.0001	5.672E-22	0.0000
Total	4.843E-17	0.8944	1.998E-22	0.0000	2.686E-18	0.0496	1.985E-19	0.0037	6.449E-20	0.0012	1.744E-20	0.0003

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	5.083E-17	0.9388
Sr-90	2.606E-18	0.0481	1.703E-21	0.0000	1.252E-19	0.0023	1.303E-20	0.0002	7.103E-21	0.0001	3.314E-18	0.0612
Total	2.606E-18	0.0481	1.703E-21	0.0000	1.252E-19	0.0023	1.303E-20	0.0002	7.103E-21	0.0001	5.415E-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	4.842E-17	0.8943	1.901E-22	0.0000	0.000E+00	0.0000	2.145E-18	0.0396	1.876E-19	0.0035	6.125E-20	0.0011	1.687E-20	0.0003
Sr-90	4.940E-21	0.0001	9.703E-24	0.0000	0.000E+00	0.0000	5.409E-19	0.0100	1.092E-20	0.0002	3.243E-21	0.0001	5.672E-22	0.0000
Total	4.843E-17	0.8944	1.998E-22	0.0000	0.000E+00	0.0000	2.686E-18	0.0496	1.985E-19	0.0037	6.449E-20	0.0012	1.744E-20	0.0003

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	5.083E-17	0.9388
Sr-90	2.606E-18	0.0481	1.703E-21	0.0000	0.000E+00	0.0000	1.252E-19	0.0023	1.303E-20	0.0002	7.103E-21	0.0001	3.314E-18	0.0612
Total	2.606E-18	0.0481	1.703E-21	0.0000	0.000E+00	0.0000	1.252E-19	0.0023	1.303E-20	0.0002	7.103E-21	0.0001	5.415E-17	1.0000

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