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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	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01
Cs-137	5.320E-10	5.467E-01	5.467E-01	5.467E-01	5.467E-01	5.467E-01	5.467E-01	5.467E-01	5.467E-01
Sr-90	4.820E-10	5.488E-01	5.488E-01	5.488E-01	5.488E-01	5.488E-01	5.488E-01	5.488E-01	5.488E-01
Y-90	1.910E-08	5.354E-01	5.354E-01	5.354E-01	5.354E-01	5.354E-01	5.354E-01	5.354E-01	5.354E-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	1.157E-03	7.844E+01	6.859E+00	2.240E+00	6.170E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.816E+01
Sr-90	6.287E-03	3.197E+03	6.452E+01	1.916E+01	3.353E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.284E+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	6.735E-07	0.0960	2.802E-12	0.0000	6.346E-08	0.0090	5.549E-09	0.0008	1.812E-09	0.0003	4.992E-10	0.0001
Sr-90	2.617E-08	0.0037	5.437E-11	0.0000	6.081E-06	0.8665	1.228E-07	0.0175	3.646E-08	0.0052	6.377E-09	0.0009
Total	6.997E-07	0.0997	5.717E-11	0.0000	6.145E-06	0.8756	1.283E-07	0.0183	3.827E-08	0.0055	6.876E-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	7.448E-07	0.1061
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	6.273E-06	0.8939
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	7.018E-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	6.735E-07	0.0960	2.802E-12	0.0000	0.000E+00	0.0000	6.346E-08	0.0090	5.549E-09	0.0008	1.812E-09	0.0003	4.992E-10	0.0001
Sr-90	2.617E-08	0.0037	5.437E-11	0.0000	0.000E+00	0.0000	6.081E-06	0.8665	1.228E-07	0.0175	3.646E-08	0.0052	6.377E-09	0.0009
Total	6.997E-07	0.0997	5.717E-11	0.0000	0.000E+00	0.0000	6.145E-06	0.8756	1.283E-07	0.0183	3.827E-08	0.0055	6.876E-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	7.448E-07	0.1061
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	6.273E-06	0.8939
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	7.018E-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	1.130E-03	7.665E+01	6.702E+00	2.189E+00	6.029E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.614E+01
Sr-90	6.105E-03	3.105E+03	6.272E+01	1.862E+01	3.257E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.190E+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	6.581E-07	0.0965	2.738E-12	0.0000	6.200E-08	0.0091	5.422E-09	0.0008	1.770E-09	0.0003	4.877E-10	0.0001
Sr-90	2.541E-08	0.0037	5.280E-11	0.0000	5.906E-06	0.8660	1.193E-07	0.0175	3.541E-08	0.0052	6.193E-09	0.0009
Total	6.835E-07	0.1002	5.554E-11	0.0000	5.968E-06	0.8751	1.247E-07	0.0183	3.718E-08	0.0055	6.681E-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	7.278E-07	0.1067
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	6.092E-06	0.8933
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	6.820E-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	6.581E-07	0.0965	2.738E-12	0.0000	0.000E+00	0.0000	6.200E-08	0.0091	5.422E-09	0.0008	1.770E-09	0.0003	4.877E-10	0.0001
Sr-90	2.541E-08	0.0037	5.280E-11	0.0000	0.000E+00	0.0000	5.906E-06	0.8660	1.193E-07	0.0175	3.541E-08	0.0052	6.193E-09	0.0009
Total	6.835E-07	0.1002	5.554E-11	0.0000	0.000E+00	0.0000	5.968E-06	0.8751	1.247E-07	0.0183	3.718E-08	0.0055	6.681E-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	7.278E-07	0.1067
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	6.092E-06	0.8933
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	6.820E-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	1.079E-03	7.318E+01	6.399E+00	2.090E+00	5.756E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.224E+01
Sr-90	5.758E-03	2.929E+03	5.914E+01	1.756E+01	3.071E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.008E+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= 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	6.283E-07	0.0976	2.614E-12	0.0000	5.920E-08	0.0092	5.177E-09	0.0008	1.690E-09	0.0003	4.657E-10	0.0001
Sr-90	2.397E-08	0.0037	4.979E-11	0.0000	5.569E-06	0.8648	1.125E-07	0.0175	3.339E-08	0.0052	5.840E-09	0.0009
Total	6.523E-07	0.1013	5.241E-11	0.0000	5.628E-06	0.8740	1.176E-07	0.0183	3.508E-08	0.0054	6.306E-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	6.949E-07	0.1079
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	5.745E-06	0.8921
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	6.440E-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	6.283E-07	0.0976	2.614E-12	0.0000	0.000E+00	0.0000	5.920E-08	0.0092	5.177E-09	0.0008	1.690E-09	0.0003	4.657E-10	0.0001
Sr-90	2.397E-08	0.0037	4.979E-11	0.0000	0.000E+00	0.0000	5.569E-06	0.8648	1.125E-07	0.0175	3.339E-08	0.0052	5.840E-09	0.0009
Total	6.523E-07	0.1013	5.241E-11	0.0000	0.000E+00	0.0000	5.628E-06	0.8740	1.176E-07	0.0183	3.508E-08	0.0054	6.306E-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	6.949E-07	0.1079
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	5.745E-06	0.8921
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	6.440E-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	9.178E-04	6.224E+01	5.442E+00	1.777E+00	4.896E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.995E+01
Sr-90	4.689E-03	2.385E+03	4.817E+01	1.430E+01	2.501E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.450E+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	5.344E-07	0.1014	2.223E-12	0.0000	5.035E-08	0.0096	4.403E-09	0.0008	1.438E-09	0.0003	3.960E-10	0.0001
Sr-90	1.952E-08	0.0037	4.055E-11	0.0000	4.536E-06	0.8607	9.160E-08	0.0174	2.719E-08	0.0052	4.757E-09	0.0009
Total	5.539E-07	0.1051	4.278E-11	0.0000	4.586E-06	0.8703	9.601E-08	0.0182	2.863E-08	0.0054	5.153E-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	5.909E-07	0.1121
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	4.679E-06	0.8879
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	5.270E-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	5.344E-07	0.1014	2.223E-12	0.0000	0.000E+00	0.0000	5.035E-08	0.0096	4.403E-09	0.0008	1.438E-09	0.0003	3.960E-10	0.0001
Sr-90	1.952E-08	0.0037	4.055E-11	0.0000	0.000E+00	0.0000	4.536E-06	0.8607	9.160E-08	0.0174	2.719E-08	0.0052	4.757E-09	0.0009
Total	5.539E-07	0.1051	4.278E-11	0.0000	0.000E+00	0.0000	4.586E-06	0.8703	9.601E-08	0.0182	2.863E-08	0.0054	5.153E-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	5.909E-07	0.1121
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	4.679E-06	0.8879
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	5.270E-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	5.778E-04	3.918E+01	3.426E+00	1.119E+00	3.082E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.403E+01
Sr-90	2.609E-03	1.327E+03	2.680E+01	7.956E+00	1.392E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.363E+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	3.364E-07	0.1131	1.400E-12	0.0000	3.169E-08	0.0107	2.771E-09	0.0009	9.050E-10	0.0003	2.493E-10	0.0001
Sr-90	1.086E-08	0.0036	2.256E-11	0.0000	2.523E-06	0.8482	5.096E-08	0.0171	1.513E-08	0.0051	2.646E-09	0.0009
Total	3.472E-07	0.1167	2.396E-11	0.0000	2.555E-06	0.8589	5.373E-08	0.0181	1.603E-08	0.0054	2.896E-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	3.720E-07	0.1250
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	2.603E-06	0.8750
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	2.975E-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	3.364E-07	0.1131	1.400E-12	0.0000	0.000E+00	0.0000	3.169E-08	0.0107	2.771E-09	0.0009	9.050E-10	0.0003	2.493E-10	0.0001
Sr-90	1.086E-08	0.0036	2.256E-11	0.0000	0.000E+00	0.0000	2.523E-06	0.8482	5.096E-08	0.0171	1.513E-08	0.0051	2.646E-09	0.0009
Total	3.472E-07	0.1167	2.396E-11	0.0000	0.000E+00	0.0000	2.555E-06	0.8589	5.373E-08	0.0181	1.603E-08	0.0054	2.896E-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	3.720E-07	0.1250
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	2.603E-06	0.8750
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	2.975E-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	1.144E-04	7.754E+00	6.781E-01	2.214E-01	6.100E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.715E+00
Sr-90	3.351E-04	1.704E+02	3.442E+00	1.022E+00	1.787E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.751E+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	6.658E-08	0.1632	2.770E-13	0.0000	6.273E-09	0.0154	5.485E-10	0.0013	1.791E-10	0.0004	4.934E-11	0.0001
Sr-90	1.395E-09	0.0034	2.898E-12	0.0000	3.241E-07	0.7945	6.545E-09	0.0160	1.943E-09	0.0048	3.399E-10	0.0008
Total	6.797E-08	0.1666	3.175E-12	0.0000	3.304E-07	0.8098	7.094E-09	0.0174	2.122E-09	0.0052	3.892E-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	7.363E-08	0.1805
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	3.343E-07	0.8195
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	4.079E-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	6.658E-08	0.1632	2.770E-13	0.0000	0.000E+00	0.0000	6.273E-09	0.0154	5.485E-10	0.0013	1.791E-10	0.0004	4.934E-11	0.0001
Sr-90	1.395E-09	0.0034	2.898E-12	0.0000	0.000E+00	0.0000	3.241E-07	0.7945	6.545E-09	0.0160	1.943E-09	0.0048	3.399E-10	0.0008
Total	6.797E-08	0.1666	3.175E-12	0.0000	0.000E+00	0.0000	3.304E-07	0.8098	7.094E-09	0.0174	2.122E-09	0.0052	3.892E-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	7.363E-08	0.1805
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	3.343E-07	0.8195
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	4.079E-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	1.117E-06	7.577E-02	6.626E-03	2.164E-03	5.961E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.516E-02
Sr-90	9.516E-07	4.841E-01	9.775E-03	2.902E-03	5.076E-04	2.247E-01	1.140E-04	1.825E-02	1.897E-03	1.035E-03	7.433E-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	6.506E-10	0.3095	2.707E-15	0.0000	6.130E-11	0.0292	5.360E-12	0.0026	1.750E-12	0.0008	4.822E-13	0.0002
Sr-90	3.961E-12	0.0019	8.230E-15	0.0000	9.205E-10	0.4380	1.859E-11	0.0088	5.519E-12	0.0026	9.653E-13	0.0005
Total	6.546E-10	0.3114	1.094E-14	0.0000	9.818E-10	0.4671	2.395E-11	0.0114	7.269E-12	0.0035	1.447E-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	7.195E-10	0.3423
Sr-90	3.857E-10	0.1835	2.520E-13	0.0001	4.034E-11	0.0192	4.192E-12	0.0020	2.288E-12	0.0011	1.382E-09	0.6577
Total	3.857E-10	0.1835	2.520E-13	0.0001	4.034E-11	0.0192	4.192E-12	0.0020	2.288E-12	0.0011	2.102E-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	6.506E-10	0.3095	2.707E-15	0.0000	0.000E+00	0.0000	6.130E-11	0.0292	5.360E-12	0.0026	1.750E-12	0.0008	4.822E-13	0.0002
Sr-90	3.961E-12	0.0019	8.230E-15	0.0000	0.000E+00	0.0000	9.205E-10	0.4380	1.859E-11	0.0088	5.519E-12	0.0026	9.653E-13	0.0005
Total	6.546E-10	0.3114	1.094E-14	0.0000	0.000E+00	0.0000	9.818E-10	0.4671	2.395E-11	0.0114	7.269E-12	0.0035	1.447E-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	7.195E-10	0.3423
Sr-90	3.857E-10	0.1835	2.520E-13	0.0001	0.000E+00	0.0000	4.034E-11	0.0192	4.192E-12	0.0020	2.288E-12	0.0011	1.382E-09	0.6577
Total	3.857E-10	0.1835	2.520E-13	0.0001	0.000E+00	0.0000	4.034E-11	0.0192	4.192E-12	0.0020	2.288E-12	0.0011	2.102E-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	1.031E-13	6.990E-09	6.112E-10	1.996E-10	5.498E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.856E-09
Sr-90	1.162E-15	5.911E-10	1.194E-11	3.544E-12	6.198E-13	3.685E-09	1.870E-12	2.994E-10	3.115E-11	1.698E-11	4.641E-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	6.002E-17	0.8154	2.497E-22	0.0000	5.655E-18	0.0768	4.945E-19	0.0067	1.615E-19	0.0022	4.448E-20	0.0006
Sr-90	4.837E-21	0.0001	1.005E-23	0.0000	1.124E-18	0.0153	2.270E-20	0.0003	6.739E-21	0.0001	1.179E-21	0.0000
Total	6.002E-17	0.8154	2.598E-22	0.0000	6.779E-18	0.0921	5.172E-19	0.0070	1.682E-19	0.0023	4.566E-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	6.637E-17	0.9017
Sr-90	5.415E-18	0.0736	3.539E-21	0.0000	5.666E-19	0.0077	5.896E-20	0.0008	3.214E-20	0.0004	7.236E-18	0.0983
Total	5.415E-18	0.0736	3.539E-21	0.0000	5.666E-19	0.0077	5.896E-20	0.0008	3.214E-20	0.0004	7.361E-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	6.002E-17	0.8154	2.497E-22	0.0000	0.000E+00	0.0000	5.655E-18	0.0768	4.945E-19	0.0067	1.615E-19	0.0022	4.448E-20	0.0006
Sr-90	4.837E-21	0.0001	1.005E-23	0.0000	0.000E+00	0.0000	1.124E-18	0.0153	2.270E-20	0.0003	6.739E-21	0.0001	1.179E-21	0.0000
Total	6.002E-17	0.8154	2.598E-22	0.0000	0.000E+00	0.0000	6.779E-18	0.0921	5.172E-19	0.0070	1.682E-19	0.0023	4.566E-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	6.637E-17	0.9017
Sr-90	5.415E-18	0.0736	3.539E-21	0.0000	0.000E+00	0.0000	5.666E-19	0.0077	5.896E-20	0.0008	3.214E-20	0.0004	7.236E-18	0.0983
Total	5.415E-18	0.0736	3.539E-21	0.0000	0.000E+00	0.0000	5.666E-19	0.0077	5.896E-20	0.0008	3.214E-20	0.0004	7.361E-17	1.0000

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