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

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

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

Risk Slope and Environmental Transport Factors for the Ground Pathway

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

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

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

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	8.940E-04	2.227E+01	1.948E+00	6.359E-01	1.752E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.503E+01
Sr-90	6.794E-03	1.270E+03	2.562E+01	7.607E+00	1.332E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.304E+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	5.621E-07	0.1817	2.166E-12	0.0000	1.802E-08	0.0058	1.576E-09	0.0005	5.145E-10	0.0002	1.417E-10	0.0000
Sr-90	3.045E-08	0.0098	5.876E-11	0.0000	2.415E-06	0.7806	4.876E-08	0.0158	1.448E-08	0.0047	2.532E-09	0.0008
Total	5.926E-07	0.1916	6.092E-11	0.0000	2.433E-06	0.7864	5.033E-08	0.0163	1.499E-08	0.0048	2.674E-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	5.824E-07	0.1883
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	2.511E-06	0.8117
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	3.093E-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	5.621E-07	0.1817	2.166E-12	0.0000	0.000E+00	0.0000	1.802E-08	0.0058	1.576E-09	0.0005	5.145E-10	0.0002	1.417E-10	0.0000
Sr-90	3.045E-08	0.0098	5.876E-11	0.0000	0.000E+00	0.0000	2.415E-06	0.7806	4.876E-08	0.0158	1.448E-08	0.0047	2.532E-09	0.0008
Total	5.926E-07	0.1916	6.092E-11	0.0000	0.000E+00	0.0000	2.433E-06	0.7864	5.033E-08	0.0163	1.499E-08	0.0048	2.674E-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	5.824E-07	0.1883
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	2.511E-06	0.8117
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	3.093E-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	8.735E-04	2.176E+01	1.903E+00	6.214E-01	1.712E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.446E+01
Sr-90	6.598E-03	1.233E+03	2.490E+01	7.393E+00	1.293E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.267E+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	5.493E-07	0.1826	2.116E-12	0.0000	1.761E-08	0.0059	1.540E-09	0.0005	5.027E-10	0.0002	1.385E-10	0.0000
Sr-90	2.957E-08	0.0098	5.706E-11	0.0000	2.345E-06	0.7797	4.735E-08	0.0157	1.406E-08	0.0047	2.459E-09	0.0008
Total	5.788E-07	0.1925	5.918E-11	0.0000	2.362E-06	0.7855	4.889E-08	0.0163	1.456E-08	0.0048	2.597E-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	5.691E-07	0.1892
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	2.438E-06	0.8108
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	3.007E-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	5.493E-07	0.1826	2.116E-12	0.0000	0.000E+00	0.0000	1.761E-08	0.0059	1.540E-09	0.0005	5.027E-10	0.0002	1.385E-10	0.0000
Sr-90	2.957E-08	0.0098	5.706E-11	0.0000	0.000E+00	0.0000	2.345E-06	0.7797	4.735E-08	0.0157	1.406E-08	0.0047	2.459E-09	0.0008
Total	5.788E-07	0.1925	5.918E-11	0.0000	0.000E+00	0.0000	2.362E-06	0.7855	4.889E-08	0.0163	1.456E-08	0.0048	2.597E-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	5.691E-07	0.1892
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	2.438E-06	0.8108
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	3.007E-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	8.340E-04	2.078E+01	1.817E+00	5.933E-01	1.634E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.335E+01
Sr-90	6.222E-03	1.163E+03	2.348E+01	6.972E+00	1.219E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.195E+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	5.244E-07	0.1845	2.020E-12	0.0000	1.681E-08	0.0059	1.470E-09	0.0005	4.800E-10	0.0002	1.322E-10	0.0000
Sr-90	2.789E-08	0.0098	5.381E-11	0.0000	2.211E-06	0.7779	4.466E-08	0.0157	1.326E-08	0.0047	2.319E-09	0.0008
Total	5.523E-07	0.1943	5.583E-11	0.0000	2.228E-06	0.7838	4.613E-08	0.0162	1.374E-08	0.0048	2.451E-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	5.433E-07	0.1911
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	2.300E-06	0.8089
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	2.843E-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	5.244E-07	0.1845	2.020E-12	0.0000	0.000E+00	0.0000	1.681E-08	0.0059	1.470E-09	0.0005	4.800E-10	0.0002	1.322E-10	0.0000
Sr-90	2.789E-08	0.0098	5.381E-11	0.0000	0.000E+00	0.0000	2.211E-06	0.7779	4.466E-08	0.0157	1.326E-08	0.0047	2.319E-09	0.0008
Total	5.523E-07	0.1943	5.583E-11	0.0000	0.000E+00	0.0000	2.228E-06	0.7838	4.613E-08	0.0162	1.374E-08	0.0048	2.451E-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	5.433E-07	0.1911
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	2.300E-06	0.8089
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	2.843E-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	7.093E-04	1.767E+01	1.545E+00	5.046E-01	1.390E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.986E+01
Sr-90	5.068E-03	9.471E+02	1.913E+01	5.678E+00	9.932E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.729E+02

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

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	4.460E-07	0.1910	1.718E-12	0.0000	1.430E-08	0.0061	1.250E-09	0.0005	4.082E-10	0.0002	1.125E-10	0.0000
Sr-90	2.271E-08	0.0097	4.383E-11	0.0000	1.801E-06	0.7713	3.637E-08	0.0156	1.080E-08	0.0046	1.889E-09	0.0008
Total	4.687E-07	0.2007	4.554E-11	0.0000	1.815E-06	0.7775	3.762E-08	0.0161	1.121E-08	0.0048	2.001E-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	4.621E-07	0.1979
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	1.873E-06	0.8021
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	2.335E-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	4.460E-07	0.1910	1.718E-12	0.0000	0.000E+00	0.0000	1.430E-08	0.0061	1.250E-09	0.0005	4.082E-10	0.0002	1.125E-10	0.0000
Sr-90	2.271E-08	0.0097	4.383E-11	0.0000	0.000E+00	0.0000	1.801E-06	0.7713	3.637E-08	0.0156	1.080E-08	0.0046	1.889E-09	0.0008
Total	4.687E-07	0.2007	4.554E-11	0.0000	0.000E+00	0.0000	1.815E-06	0.7775	3.762E-08	0.0161	1.121E-08	0.0048	2.001E-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	4.621E-07	0.1979
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	1.873E-06	0.8021
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	2.335E-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	4.465E-04	1.112E+01	9.727E-01	3.176E-01	8.750E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.250E+01
Sr-90	2.819E-03	5.269E+02	1.064E+01	3.159E+00	5.525E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.412E+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	2.808E-07	0.2107	1.082E-12	0.0000	8.999E-09	0.0068	7.869E-10	0.0006	2.570E-10	0.0002	7.079E-11	0.0001
Sr-90	1.264E-08	0.0095	2.438E-11	0.0000	1.002E-06	0.7518	2.023E-08	0.0152	6.007E-09	0.0045	1.051E-09	0.0008
Total	2.934E-07	0.2201	2.546E-11	0.0000	1.011E-06	0.7585	2.102E-08	0.0158	6.264E-09	0.0047	1.121E-09	0.0008

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+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	2.909E-07	0.2182
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	1.042E-06	0.7818
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	1.333E-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	2.808E-07	0.2107	1.082E-12	0.0000	0.000E+00	0.0000	8.999E-09	0.0068	7.869E-10	0.0006	2.570E-10	0.0002	7.079E-11	0.0001
Sr-90	1.264E-08	0.0095	2.438E-11	0.0000	0.000E+00	0.0000	1.002E-06	0.7518	2.023E-08	0.0152	6.007E-09	0.0045	1.051E-09	0.0008
Total	2.934E-07	0.2201	2.546E-11	0.0000	0.000E+00	0.0000	1.011E-06	0.7585	2.102E-08	0.0158	6.264E-09	0.0047	1.121E-09	0.0008

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+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	2.909E-07	0.2182
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	1.042E-06	0.7818
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	1.333E-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	8.837E-05	2.202E+00	1.925E-01	6.287E-02	1.732E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.474E+00
Sr-90	3.621E-04	6.767E+01	1.367E+00	4.057E-01	7.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.951E+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	5.557E-08	0.2903	2.141E-13	0.0000	1.781E-09	0.0093	1.557E-10	0.0008	5.086E-11	0.0003	1.401E-11	0.0001
Sr-90	1.623E-09	0.0085	3.131E-12	0.0000	1.287E-07	0.6724	2.599E-09	0.0136	7.715E-10	0.0040	1.349E-10	0.0007
Total	5.719E-08	0.2988	3.346E-12	0.0000	1.305E-07	0.6817	2.755E-09	0.0144	8.224E-10	0.0043	1.490E-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	5.757E-08	0.3008
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	1.338E-07	0.6992
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	1.914E-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	5.557E-08	0.2903	2.141E-13	0.0000	0.000E+00	0.0000	1.781E-09	0.0093	1.557E-10	0.0008	5.086E-11	0.0003	1.401E-11	0.0001
Sr-90	1.623E-09	0.0085	3.131E-12	0.0000	0.000E+00	0.0000	1.287E-07	0.6724	2.599E-09	0.0136	7.715E-10	0.0040	1.349E-10	0.0007
Total	5.719E-08	0.2988	3.346E-12	0.0000	0.000E+00	0.0000	1.305E-07	0.6817	2.755E-09	0.0144	8.224E-10	0.0043	1.490E-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	5.757E-08	0.3008
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	1.338E-07	0.6992
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	1.914E-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	8.636E-07	2.152E-02	1.881E-03	6.143E-04	1.692E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.418E-02
Sr-90	1.028E-06	1.922E-01	3.881E-03	1.152E-03	2.015E-04	8.924E-02	4.527E-05	2.367E-03	2.459E-04	1.342E-04	2.895E-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	5.430E-10	0.4928	2.092E-15	0.0000	1.741E-11	0.0158	1.522E-12	0.0014	4.970E-13	0.0005	1.369E-13	0.0001
Sr-90	4.610E-12	0.0042	8.894E-15	0.0000	3.655E-10	0.3317	7.381E-12	0.0067	2.191E-12	0.0020	3.833E-13	0.0003
Total	5.476E-10	0.4970	1.099E-14	0.0000	3.829E-10	0.3475	8.903E-12	0.0081	2.688E-12	0.0024	5.202E-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	5.626E-10	0.5105
Sr-90	1.531E-10	0.1390	1.000E-13	0.0001	5.230E-12	0.0047	5.435E-13	0.0005	2.966E-13	0.0003	5.394E-10	0.4895
Total	1.531E-10	0.1390	1.000E-13	0.0001	5.230E-12	0.0047	5.435E-13	0.0005	2.966E-13	0.0003	1.102E-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	5.430E-10	0.4928	2.092E-15	0.0000	0.000E+00	0.0000	1.741E-11	0.0158	1.522E-12	0.0014	4.970E-13	0.0005	1.369E-13	0.0001
Sr-90	4.610E-12	0.0042	8.894E-15	0.0000	0.000E+00	0.0000	3.655E-10	0.3317	7.381E-12	0.0067	2.191E-12	0.0020	3.833E-13	0.0003
Total	5.476E-10	0.4970	1.099E-14	0.0000	0.000E+00	0.0000	3.829E-10	0.3475	8.903E-12	0.0081	2.688E-12	0.0024	5.202E-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	5.626E-10	0.5105
Sr-90	1.531E-10	0.1390	1.000E-13	0.0001	0.000E+00	0.0000	5.230E-12	0.0047	5.435E-13	0.0005	2.966E-13	0.0003	5.394E-10	0.4895
Total	1.531E-10	0.1390	1.000E-13	0.0001	0.000E+00	0.0000	5.230E-12	0.0047	5.435E-13	0.0005	2.966E-13	0.0003	1.102E-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	7.966E-14	1.985E-09	1.736E-10	5.667E-11	1.561E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.231E-09
Sr-90	1.256E-15	2.347E-10	4.740E-12	1.407E-12	2.461E-13	1.463E-09	7.424E-13	3.882E-11	4.039E-12	2.202E-12	1.750E-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	5.009E-17	0.9175	1.930E-22	0.0000	1.606E-18	0.0294	1.404E-19	0.0026	4.584E-20	0.0008	1.263E-20	0.0002
Sr-90	5.629E-21	0.0001	1.086E-23	0.0000	4.463E-19	0.0082	9.013E-21	0.0002	2.676E-21	0.0000	4.680E-22	0.0000
Total	5.010E-17	0.9176	2.039E-22	0.0000	2.052E-18	0.0376	1.494E-19	0.0027	4.852E-20	0.0009	1.310E-20	0.0002

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

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.190E-17	0.9505
Sr-90	2.150E-18	0.0394	1.405E-21	0.0000	7.346E-20	0.0013	7.644E-21	0.0001	4.168E-21	0.0001	2.701E-18	0.0495
Total	2.150E-18	0.0394	1.405E-21	0.0000	7.346E-20	0.0013	7.644E-21	0.0001	4.168E-21	0.0001	5.460E-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	5.009E-17	0.9175	1.930E-22	0.0000	0.000E+00	0.0000	1.606E-18	0.0294	1.404E-19	0.0026	4.584E-20	0.0008	1.263E-20	0.0002
Sr-90	5.629E-21	0.0001	1.086E-23	0.0000	0.000E+00	0.0000	4.463E-19	0.0082	9.013E-21	0.0002	2.676E-21	0.0000	4.680E-22	0.0000
Total	5.010E-17	0.9176	2.039E-22	0.0000	0.000E+00	0.0000	2.052E-18	0.0376	1.494E-19	0.0027	4.852E-20	0.0009	1.310E-20	0.0002

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

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.190E-17	0.9505
Sr-90	2.150E-18	0.0394	1.405E-21	0.0000	0.000E+00	0.0000	7.346E-20	0.0013	7.644E-21	0.0001	4.168E-21	0.0001	2.701E-18	0.0495
Total	2.150E-18	0.0394	1.405E-21	0.0000	0.000E+00	0.0000	7.346E-20	0.0013	7.644E-21	0.0001	4.168E-21	0.0001	5.460E-17	1.0000

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