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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	4.782E-01	4.782E-01	4.782E-01	4.782E-01	4.782E-01	4.782E-01	4.782E-01	4.782E-01
Cs-137	5.320E-10	4.987E-01	4.987E-01	4.987E-01	4.987E-01	4.987E-01	4.987E-01	4.987E-01	4.987E-01
Sr-90	4.820E-10	5.014E-01	5.014E-01	5.014E-01	5.014E-01	5.014E-01	5.014E-01	5.014E-01	5.014E-01
Y-90	1.910E-08	4.790E-01	4.790E-01	4.790E-01	4.790E-01	4.790E-01	4.790E-01	4.790E-01	4.790E-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	1.289E-03	1.336E+01	1.169E+00	3.816E-01	1.051E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.502E+01
Sr-90	5.236E-03	4.072E+02	8.216E+00	2.440E+00	4.270E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.182E+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= 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	8.426E-07	0.5031	3.122E-12	0.0000	1.081E-08	0.0065	9.453E-10	0.0006	3.087E-10	0.0002	8.504E-11	0.0001
Sr-90	2.436E-08	0.0145	4.528E-11	0.0000	7.744E-07	0.4624	1.564E-08	0.0093	4.643E-09	0.0028	8.121E-10	0.0005
Total	8.669E-07	0.5177	4.840E-11	0.0000	7.852E-07	0.4689	1.658E-08	0.0099	4.951E-09	0.0030	8.971E-10	0.0005

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	8.547E-07	0.5104
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	8.199E-07	0.4896
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	1.675E-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	8.426E-07	0.5031	3.122E-12	0.0000	0.000E+00	0.0000	1.081E-08	0.0065	9.453E-10	0.0006	3.087E-10	0.0002	8.504E-11	0.0001
Sr-90	2.436E-08	0.0145	4.528E-11	0.0000	0.000E+00	0.0000	7.744E-07	0.4624	1.564E-08	0.0093	4.643E-09	0.0028	8.121E-10	0.0005
Total	8.669E-07	0.5177	4.840E-11	0.0000	0.000E+00	0.0000	7.852E-07	0.4689	1.658E-08	0.0099	4.951E-09	0.0030	8.971E-10	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= 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	8.547E-07	0.5104
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	8.199E-07	0.4896
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	1.675E-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	1.259E-03	1.306E+01	1.142E+00	3.728E-01	1.027E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.468E+01
Sr-90	5.084E-03	3.955E+02	7.987E+00	2.371E+00	4.147E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.062E+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+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	8.233E-07	0.5046	3.051E-12	0.0000	1.056E-08	0.0065	9.237E-10	0.0006	3.016E-10	0.0002	8.309E-11	0.0001
Sr-90	2.365E-08	0.0145	4.397E-11	0.0000	7.521E-07	0.4610	1.519E-08	0.0093	4.509E-09	0.0028	7.886E-10	0.0005
Total	8.469E-07	0.5191	4.702E-11	0.0000	7.626E-07	0.4675	1.611E-08	0.0099	4.810E-09	0.0029	8.717E-10	0.0005

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	8.352E-07	0.5119
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	7.962E-07	0.4881
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	1.631E-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	8.233E-07	0.5046	3.051E-12	0.0000	0.000E+00	0.0000	1.056E-08	0.0065	9.237E-10	0.0006	3.016E-10	0.0002	8.309E-11	0.0001
Sr-90	2.365E-08	0.0145	4.397E-11	0.0000	0.000E+00	0.0000	7.521E-07	0.4610	1.519E-08	0.0093	4.509E-09	0.0028	7.886E-10	0.0005
Total	8.469E-07	0.5191	4.702E-11	0.0000	0.000E+00	0.0000	7.626E-07	0.4675	1.611E-08	0.0099	4.810E-09	0.0029	8.717E-10	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= 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	8.352E-07	0.5119
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	7.962E-07	0.4881
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	1.631E-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	1.202E-03	1.247E+01	1.090E+00	3.560E-01	9.807E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.401E+01
Sr-90	4.795E-03	3.730E+02	7.532E+00	2.236E+00	3.911E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.831E+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+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	7.860E-07	0.5077	2.913E-12	0.0000	1.009E-08	0.0065	8.819E-10	0.0006	2.880E-10	0.0002	7.934E-11	0.0001
Sr-90	2.231E-08	0.0144	4.147E-11	0.0000	7.092E-07	0.4581	1.432E-08	0.0093	4.252E-09	0.0027	7.437E-10	0.0005
Total	8.083E-07	0.5221	4.438E-11	0.0000	7.193E-07	0.4646	1.520E-08	0.0098	4.540E-09	0.0029	8.231E-10	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+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	7.974E-07	0.5150
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	7.509E-07	0.4850
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	1.548E-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	7.860E-07	0.5077	2.913E-12	0.0000	0.000E+00	0.0000	1.009E-08	0.0065	8.819E-10	0.0006	2.880E-10	0.0002	7.934E-11	0.0001
Sr-90	2.231E-08	0.0144	4.147E-11	0.0000	0.000E+00	0.0000	7.092E-07	0.4581	1.432E-08	0.0093	4.252E-09	0.0027	7.437E-10	0.0005
Total	8.083E-07	0.5221	4.438E-11	0.0000	0.000E+00	0.0000	7.193E-07	0.4646	1.520E-08	0.0098	4.540E-09	0.0029	8.231E-10	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+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	7.974E-07	0.5150
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	7.509E-07	0.4850
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	1.548E-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	1.023E-03	1.060E+01	9.271E-01	3.027E-01	8.340E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.192E+01
Sr-90	3.905E-03	3.038E+02	6.134E+00	1.821E+00	3.185E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.120E+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	6.685E-07	0.5183	2.477E-12	0.0000	8.577E-09	0.0067	7.500E-10	0.0006	2.449E-10	0.0002	6.747E-11	0.0001
Sr-90	1.817E-08	0.0141	3.377E-11	0.0000	5.776E-07	0.4479	1.167E-08	0.0090	3.463E-09	0.0027	6.057E-10	0.0005
Total	6.867E-07	0.5324	3.625E-11	0.0000	5.862E-07	0.4545	1.242E-08	0.0096	3.708E-09	0.0029	6.732E-10	0.0005

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	6.781E-07	0.5258
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	6.116E-07	0.4742
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	1.290E-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	6.685E-07	0.5183	2.477E-12	0.0000	0.000E+00	0.0000	8.577E-09	0.0067	7.500E-10	0.0006	2.449E-10	0.0002	6.747E-11	0.0001
Sr-90	1.817E-08	0.0141	3.377E-11	0.0000	0.000E+00	0.0000	5.776E-07	0.4479	1.167E-08	0.0090	3.463E-09	0.0027	6.057E-10	0.0005
Total	6.867E-07	0.5324	3.625E-11	0.0000	0.000E+00	0.0000	5.862E-07	0.4545	1.242E-08	0.0096	3.708E-09	0.0029	6.732E-10	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= 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	6.781E-07	0.5258
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	6.116E-07	0.4742
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	1.290E-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	6.437E-04	6.674E+00	5.836E-01	1.906E-01	5.250E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.501E+00
Sr-90	2.173E-03	1.690E+02	3.413E+00	1.013E+00	1.772E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.736E+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	4.208E-07	0.5486	1.559E-12	0.0000	5.399E-09	0.0070	4.721E-10	0.0006	1.542E-10	0.0002	4.247E-11	0.0001
Sr-90	1.011E-08	0.0132	1.879E-11	0.0000	3.214E-07	0.4189	6.490E-09	0.0085	1.927E-09	0.0025	3.370E-10	0.0004
Total	4.309E-07	0.5617	2.035E-11	0.0000	3.268E-07	0.4259	6.962E-09	0.0091	2.081E-09	0.0027	3.795E-10	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+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	4.269E-07	0.5565
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	3.402E-07	0.4435
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	7.671E-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= 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	4.208E-07	0.5486	1.559E-12	0.0000	0.000E+00	0.0000	5.399E-09	0.0070	4.721E-10	0.0006	1.542E-10	0.0002	4.247E-11	0.0001
Sr-90	1.011E-08	0.0132	1.879E-11	0.0000	0.000E+00	0.0000	3.214E-07	0.4189	6.490E-09	0.0085	1.927E-09	0.0025	3.370E-10	0.0004
Total	4.309E-07	0.5617	2.035E-11	0.0000	0.000E+00	0.0000	3.268E-07	0.4259	6.962E-09	0.0091	2.081E-09	0.0027	3.795E-10	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+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	4.269E-07	0.5565
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	3.402E-07	0.4435
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	7.671E-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= 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	1.274E-04	1.321E+00	1.155E-01	3.772E-02	1.039E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.485E+00
Sr-90	2.790E-04	2.170E+01	4.383E-01	1.301E-01	2.276E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.229E+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	8.329E-08	0.6497	3.086E-13	0.0000	1.069E-09	0.0083	9.345E-11	0.0007	3.051E-11	0.0002	8.406E-12	0.0001
Sr-90	1.298E-09	0.0101	2.413E-12	0.0000	4.127E-08	0.3220	8.335E-10	0.0065	2.474E-10	0.0019	4.328E-11	0.0003
Total	8.459E-08	0.6599	2.722E-12	0.0000	4.234E-08	0.3303	9.269E-10	0.0072	2.780E-10	0.0022	5.169E-11	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+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	8.449E-08	0.6591
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	4.370E-08	0.3409
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	1.282E-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	8.329E-08	0.6497	3.086E-13	0.0000	0.000E+00	0.0000	1.069E-09	0.0083	9.345E-11	0.0007	3.051E-11	0.0002	8.406E-12	0.0001
Sr-90	1.298E-09	0.0101	2.413E-12	0.0000	0.000E+00	0.0000	4.127E-08	0.3220	8.335E-10	0.0065	2.474E-10	0.0019	4.328E-11	0.0003
Total	8.459E-08	0.6599	2.722E-12	0.0000	0.000E+00	0.0000	4.234E-08	0.3303	9.269E-10	0.0072	2.780E-10	0.0022	5.169E-11	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+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	8.449E-08	0.6591
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	4.370E-08	0.3409
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	1.282E-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	1.245E-06	1.291E-02	1.129E-03	3.686E-04	1.015E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.451E-02
Sr-90	7.925E-07	6.164E-02	1.245E-03	3.696E-04	6.464E-05	2.862E-02	1.452E-05	2.846E-04	2.957E-05	1.614E-05	9.229E-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+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	8.139E-10	0.8142	3.016E-15	0.0000	1.044E-11	0.0104	9.132E-13	0.0009	2.982E-13	0.0003	8.215E-14	0.0001
Sr-90	3.687E-12	0.0037	6.854E-15	0.0000	1.172E-10	0.1173	2.367E-12	0.0024	7.028E-13	0.0007	1.229E-13	0.0001
Total	8.176E-10	0.8179	9.870E-15	0.0000	1.277E-10	0.1277	3.281E-12	0.0033	1.001E-12	0.0010	2.051E-13	0.0002

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	8.256E-10	0.8259
Sr-90	4.912E-11	0.0491	3.209E-14	0.0000	6.291E-13	0.0006	6.537E-14	0.0001	3.568E-14	0.0000	1.740E-10	0.1741
Total	4.912E-11	0.0491	3.209E-14	0.0000	6.291E-13	0.0006	6.537E-14	0.0001	3.568E-14	0.0000	9.996E-10	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	8.139E-10	0.8142	3.016E-15	0.0000	0.000E+00	0.0000	1.044E-11	0.0104	9.132E-13	0.0009	2.982E-13	0.0003	8.215E-14	0.0001
Sr-90	3.687E-12	0.0037	6.854E-15	0.0000	0.000E+00	0.0000	1.172E-10	0.1173	2.367E-12	0.0024	7.028E-13	0.0007	1.229E-13	0.0001
Total	8.176E-10	0.8179	9.870E-15	0.0000	0.000E+00	0.0000	1.277E-10	0.1277	3.281E-12	0.0033	1.001E-12	0.0010	2.051E-13	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= 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	8.256E-10	0.8259
Sr-90	4.912E-11	0.0491	3.209E-14	0.0000	0.000E+00	0.0000	6.291E-13	0.0006	6.537E-14	0.0001	3.568E-14	0.0000	1.740E-10	0.1741
Total	4.912E-11	0.0491	3.209E-14	0.0000	0.000E+00	0.0000	6.291E-13	0.0006	6.537E-14	0.0001	3.568E-14	0.0000	9.996E-10	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	1.148E-13	1.191E-09	1.041E-10	3.400E-11	9.367E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.338E-09
Sr-90	9.677E-16	7.527E-11	1.520E-12	4.513E-13	7.893E-14	4.693E-10	2.381E-13	4.668E-12	4.858E-13	2.648E-13	5.522E-10

* 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	7.508E-17	0.9749	2.782E-22	0.0000	9.633E-19	0.0125	8.424E-20	0.0011	2.751E-20	0.0004	7.578E-21	0.0001
Sr-90	4.502E-21	0.0001	8.369E-24	0.0000	1.431E-19	0.0019	2.891E-21	0.0000	8.581E-22	0.0000	1.501E-22	0.0000
Total	7.509E-17	0.9749	2.866E-22	0.0000	1.106E-18	0.0144	8.713E-20	0.0011	2.836E-20	0.0004	7.728E-21	0.0001

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	7.616E-17	0.9889
Sr-90	6.896E-19	0.0090	4.506E-22	0.0000	8.835E-21	0.0001	9.193E-22	0.0000	5.012E-22	0.0000	8.519E-19	0.0111
Total	6.896E-19	0.0090	4.506E-22	0.0000	8.835E-21	0.0001	9.193E-22	0.0000	5.012E-22	0.0000	7.702E-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	7.508E-17	0.9749	2.782E-22	0.0000	0.000E+00	0.0000	9.633E-19	0.0125	8.424E-20	0.0011	2.751E-20	0.0004	7.578E-21	0.0001
Sr-90	4.502E-21	0.0001	8.369E-24	0.0000	0.000E+00	0.0000	1.431E-19	0.0019	2.891E-21	0.0000	8.581E-22	0.0000	1.501E-22	0.0000
Total	7.509E-17	0.9749	2.866E-22	0.0000	0.000E+00	0.0000	1.106E-18	0.0144	8.713E-20	0.0011	2.836E-20	0.0004	7.728E-21	0.0001

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	7.616E-17	0.9889
Sr-90	6.896E-19	0.0090	4.506E-22	0.0000	0.000E+00	0.0000	8.835E-21	0.0001	9.193E-22	0.0000	5.012E-22	0.0000	8.519E-19	0.0111
Total	6.896E-19	0.0090	4.506E-22	0.0000	0.000E+00	0.0000	8.835E-21	0.0001	9.193E-22	0.0000	5.012E-22	0.0000	7.702E-17	1.0000

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