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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	4.609E-01	4.609E-01	4.609E-01	4.609E-01	4.609E-01	4.609E-01	4.609E-01	4.609E-01
Cs-137	5.320E-10	4.810E-01	4.810E-01	4.810E-01	4.810E-01	4.810E-01	4.810E-01	4.810E-01	4.810E-01
Sr-90	4.820E-10	4.837E-01	4.837E-01	4.837E-01	4.837E-01	4.837E-01	4.837E-01	4.837E-01	4.837E-01
Y-90	1.910E-08	4.613E-01	4.613E-01	4.613E-01	4.613E-01	4.613E-01	4.613E-01	4.613E-01	4.613E-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	8.152E-04	6.212E+00	5.432E-01	1.774E-01	4.886E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.981E+00
Sr-90	4.736E-03	2.707E+02	5.462E+00	1.622E+00	2.839E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.780E+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	5.329E-07	0.4891	1.975E-12	0.0000	5.025E-09	0.0046	4.394E-10	0.0004	1.435E-10	0.0001	3.953E-11	0.0000
Sr-90	2.202E-08	0.0202	4.096E-11	0.0000	5.148E-07	0.4725	1.040E-08	0.0095	3.086E-09	0.0028	5.398E-10	0.0005
Total	5.549E-07	0.5094	4.293E-11	0.0000	5.198E-07	0.4772	1.083E-08	0.0099	3.230E-09	0.0030	5.794E-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	5.385E-07	0.4943
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	5.509E-07	0.5057
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	1.089E-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	5.329E-07	0.4891	1.975E-12	0.0000	0.000E+00	0.0000	5.025E-09	0.0046	4.394E-10	0.0004	1.435E-10	0.0001	3.953E-11	0.0000
Sr-90	2.202E-08	0.0202	4.096E-11	0.0000	0.000E+00	0.0000	5.148E-07	0.4725	1.040E-08	0.0095	3.086E-09	0.0028	5.398E-10	0.0005
Total	5.549E-07	0.5094	4.293E-11	0.0000	0.000E+00	0.0000	5.198E-07	0.4772	1.083E-08	0.0099	3.230E-09	0.0030	5.794E-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	5.385E-07	0.4943
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	5.509E-07	0.5057
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	1.089E-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	7.965E-04	6.070E+00	5.308E-01	1.733E-01	4.775E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.822E+00
Sr-90	4.599E-03	2.629E+02	5.309E+00	1.576E+00	2.757E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.700E+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	5.207E-07	0.4907	1.930E-12	0.0000	4.910E-09	0.0046	4.294E-10	0.0004	1.402E-10	0.0001	3.863E-11	0.0000
Sr-90	2.138E-08	0.0201	3.977E-11	0.0000	4.999E-07	0.4711	1.010E-08	0.0095	2.997E-09	0.0028	5.242E-10	0.0005
Total	5.421E-07	0.5108	4.170E-11	0.0000	5.048E-07	0.4757	1.053E-08	0.0099	3.137E-09	0.0030	5.629E-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	5.262E-07	0.4959
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	5.350E-07	0.5041
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	1.061E-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	5.207E-07	0.4907	1.930E-12	0.0000	0.000E+00	0.0000	4.910E-09	0.0046	4.294E-10	0.0004	1.402E-10	0.0001	3.863E-11	0.0000
Sr-90	2.138E-08	0.0201	3.977E-11	0.0000	0.000E+00	0.0000	4.999E-07	0.4711	1.010E-08	0.0095	2.997E-09	0.0028	5.242E-10	0.0005
Total	5.421E-07	0.5108	4.170E-11	0.0000	0.000E+00	0.0000	5.048E-07	0.4757	1.053E-08	0.0099	3.137E-09	0.0030	5.629E-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	5.262E-07	0.4959
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	5.350E-07	0.5041
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	1.061E-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	7.605E-04	5.795E+00	5.068E-01	1.655E-01	4.559E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.513E+00
Sr-90	4.337E-03	2.479E+02	5.007E+00	1.486E+00	2.600E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.547E+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	4.971E-07	0.4937	1.842E-12	0.0000	4.688E-09	0.0047	4.100E-10	0.0004	1.339E-10	0.0001	3.688E-11	0.0000
Sr-90	2.016E-08	0.0200	3.751E-11	0.0000	4.715E-07	0.4682	9.521E-09	0.0095	2.826E-09	0.0028	4.944E-10	0.0005
Total	5.173E-07	0.5138	3.935E-11	0.0000	4.761E-07	0.4729	9.931E-09	0.0099	2.960E-09	0.0029	5.313E-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	5.024E-07	0.4990
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	5.045E-07	0.5010
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	1.007E-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= 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	4.971E-07	0.4937	1.842E-12	0.0000	0.000E+00	0.0000	4.688E-09	0.0047	4.100E-10	0.0004	1.339E-10	0.0001	3.688E-11	0.0000
Sr-90	2.016E-08	0.0200	3.751E-11	0.0000	0.000E+00	0.0000	4.715E-07	0.4682	9.521E-09	0.0095	2.826E-09	0.0028	4.944E-10	0.0005
Total	5.173E-07	0.5138	3.935E-11	0.0000	0.000E+00	0.0000	4.761E-07	0.4729	9.931E-09	0.0099	2.960E-09	0.0029	5.313E-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	5.024E-07	0.4990
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	5.045E-07	0.5010
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	1.007E-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= 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	6.468E-04	4.929E+00	4.310E-01	1.407E-01	3.877E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.539E+00
Sr-90	3.532E-03	2.019E+02	4.078E+00	1.211E+00	2.117E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.074E+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	4.228E-07	0.5044	1.567E-12	0.0000	3.987E-09	0.0048	3.486E-10	0.0004	1.138E-10	0.0001	3.136E-11	0.0000
Sr-90	1.642E-08	0.0196	3.055E-11	0.0000	3.840E-07	0.4581	7.754E-09	0.0093	2.302E-09	0.0027	4.027E-10	0.0005
Total	4.392E-07	0.5240	3.211E-11	0.0000	3.880E-07	0.4629	8.103E-09	0.0097	2.416E-09	0.0029	4.340E-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	4.273E-07	0.5098
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	4.109E-07	0.4902
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	8.382E-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+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	4.228E-07	0.5044	1.567E-12	0.0000	0.000E+00	0.0000	3.987E-09	0.0048	3.486E-10	0.0004	1.138E-10	0.0001	3.136E-11	0.0000
Sr-90	1.642E-08	0.0196	3.055E-11	0.0000	0.000E+00	0.0000	3.840E-07	0.4581	7.754E-09	0.0093	2.302E-09	0.0027	4.027E-10	0.0005
Total	4.392E-07	0.5240	3.211E-11	0.0000	0.000E+00	0.0000	3.880E-07	0.4629	8.103E-09	0.0097	2.416E-09	0.0029	4.340E-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	4.273E-07	0.5098
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	4.109E-07	0.4902
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	8.382E-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+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	4.071E-04	3.103E+00	2.713E-01	8.859E-02	2.441E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.487E+00
Sr-90	1.965E-03	1.123E+02	2.269E+00	6.735E-01	1.178E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.154E+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	2.661E-07	0.5349	9.863E-13	0.0000	2.510E-09	0.0050	2.195E-10	0.0004	7.166E-11	0.0001	1.974E-11	0.0000
Sr-90	9.137E-09	0.0184	1.699E-11	0.0000	2.136E-07	0.4293	4.314E-09	0.0087	1.281E-09	0.0026	2.240E-10	0.0005
Total	2.753E-07	0.5533	1.798E-11	0.0000	2.161E-07	0.4344	4.534E-09	0.0091	1.352E-09	0.0027	2.438E-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	2.690E-07	0.5406
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	2.286E-07	0.4594
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	4.976E-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	2.661E-07	0.5349	9.863E-13	0.0000	0.000E+00	0.0000	2.510E-09	0.0050	2.195E-10	0.0004	7.166E-11	0.0001	1.974E-11	0.0000
Sr-90	9.137E-09	0.0184	1.699E-11	0.0000	0.000E+00	0.0000	2.136E-07	0.4293	4.314E-09	0.0087	1.281E-09	0.0026	2.240E-10	0.0005
Total	2.753E-07	0.5533	1.798E-11	0.0000	0.000E+00	0.0000	2.161E-07	0.4344	4.534E-09	0.0091	1.352E-09	0.0027	2.438E-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	2.690E-07	0.5406
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	2.286E-07	0.4594
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	4.976E-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	8.058E-05	6.141E-01	5.370E-02	1.753E-02	4.830E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.901E-01
Sr-90	2.524E-04	1.443E+01	2.914E-01	8.649E-02	1.513E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.482E+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	5.268E-08	0.6378	1.952E-13	0.0000	4.968E-10	0.0060	4.344E-11	0.0005	1.418E-11	0.0002	3.908E-12	0.0000
Sr-90	1.173E-09	0.0142	2.183E-12	0.0000	2.744E-08	0.3322	5.541E-10	0.0067	1.645E-10	0.0020	2.877E-11	0.0003
Total	5.385E-08	0.6520	2.378E-12	0.0000	2.793E-08	0.3382	5.975E-10	0.0072	1.787E-10	0.0022	3.268E-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	5.323E-08	0.6445
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	2.936E-08	0.3555
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	8.259E-08	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	5.268E-08	0.6378	1.952E-13	0.0000	0.000E+00	0.0000	4.968E-10	0.0060	4.344E-11	0.0005	1.418E-11	0.0002	3.908E-12	0.0000
Sr-90	1.173E-09	0.0142	2.183E-12	0.0000	0.000E+00	0.0000	2.744E-08	0.3322	5.541E-10	0.0067	1.645E-10	0.0020	2.877E-11	0.0003
Total	5.385E-08	0.6520	2.378E-12	0.0000	0.000E+00	0.0000	2.793E-08	0.3382	5.975E-10	0.0072	1.787E-10	0.0022	3.268E-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	5.323E-08	0.6445
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	2.936E-08	0.3555
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	8.259E-08	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	7.874E-07	6.001E-03	5.247E-04	1.713E-04	4.720E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.744E-03
Sr-90	7.168E-07	4.098E-02	8.275E-04	2.457E-04	4.297E-05	1.903E-02	9.652E-06	1.340E-04	1.392E-05	7.601E-06	6.128E-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	5.148E-10	0.8086	1.908E-15	0.0000	4.854E-12	0.0076	4.245E-13	0.0007	1.386E-13	0.0002	3.819E-14	0.0001
Sr-90	3.333E-12	0.0052	6.199E-15	0.0000	7.792E-11	0.1224	1.574E-12	0.0025	4.672E-13	0.0007	8.171E-14	0.0001
Total	5.181E-10	0.8138	8.107E-15	0.0000	8.278E-11	0.1300	1.998E-12	0.0031	6.058E-13	0.0010	1.199E-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	5.202E-10	0.8172
Sr-90	3.265E-11	0.0513	2.133E-14	0.0000	2.962E-13	0.0005	3.078E-14	0.0000	1.680E-14	0.0000	1.164E-10	0.1828
Total	3.265E-11	0.0513	2.133E-14	0.0000	2.962E-13	0.0005	3.078E-14	0.0000	1.680E-14	0.0000	6.366E-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	5.148E-10	0.8086	1.908E-15	0.0000	0.000E+00	0.0000	4.854E-12	0.0076	4.245E-13	0.0007	1.386E-13	0.0002	3.819E-14	0.0001
Sr-90	3.333E-12	0.0052	6.199E-15	0.0000	0.000E+00	0.0000	7.792E-11	0.1224	1.574E-12	0.0025	4.672E-13	0.0007	8.171E-14	0.0001
Total	5.181E-10	0.8138	8.107E-15	0.0000	0.000E+00	0.0000	8.278E-11	0.1300	1.998E-12	0.0031	6.058E-13	0.0010	1.199E-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	5.202E-10	0.8172
Sr-90	3.265E-11	0.0513	2.133E-14	0.0000	0.000E+00	0.0000	2.962E-13	0.0005	3.078E-14	0.0000	1.680E-14	0.0000	1.164E-10	0.1828
Total	3.265E-11	0.0513	2.133E-14	0.0000	0.000E+00	0.0000	2.962E-13	0.0005	3.078E-14	0.0000	1.680E-14	0.0000	6.366E-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	7.264E-14	5.536E-10	4.840E-11	1.581E-11	4.354E-12	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.221E-10
Sr-90	8.753E-16	5.004E-11	1.010E-12	3.000E-13	5.247E-14	3.119E-10	1.583E-13	2.198E-12	2.287E-13	1.247E-13	3.660E-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	4.748E-17	0.9780	1.760E-22	0.0000	4.478E-19	0.0092	3.916E-20	0.0008	1.279E-20	0.0003	3.523E-21	0.0001
Sr-90	4.070E-21	0.0001	7.570E-24	0.0000	9.515E-20	0.0020	1.922E-21	0.0000	5.704E-22	0.0000	9.978E-23	0.0000
Total	4.749E-17	0.9781	1.835E-22	0.0000	5.430E-19	0.0112	4.108E-20	0.0008	1.336E-20	0.0003	3.622E-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	4.799E-17	0.9884
Sr-90	4.584E-19	0.0094	2.995E-22	0.0000	4.160E-21	0.0001	4.329E-22	0.0000	2.360E-22	0.0000	5.654E-19	0.0116
Total	4.584E-19	0.0094	2.995E-22	0.0000	4.160E-21	0.0001	4.329E-22	0.0000	2.360E-22	0.0000	4.855E-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	4.748E-17	0.9780	1.760E-22	0.0000	0.000E+00	0.0000	4.478E-19	0.0092	3.916E-20	0.0008	1.279E-20	0.0003	3.523E-21	0.0001
Sr-90	4.070E-21	0.0001	7.570E-24	0.0000	0.000E+00	0.0000	9.515E-20	0.0020	1.922E-21	0.0000	5.704E-22	0.0000	9.978E-23	0.0000
Total	4.749E-17	0.9781	1.835E-22	0.0000	0.000E+00	0.0000	5.430E-19	0.0112	4.108E-20	0.0008	1.336E-20	0.0003	3.622E-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	4.799E-17	0.9884
Sr-90	4.584E-19	0.0094	2.995E-22	0.0000	0.000E+00	0.0000	4.160E-21	0.0001	4.329E-22	0.0000	2.360E-22	0.0000	5.654E-19	0.0116
Total	4.584E-19	0.0094	2.995E-22	0.0000	0.000E+00	0.0000	4.160E-21	0.0001	4.329E-22	0.0000	2.360E-22	0.0000	4.855E-17	1.0000

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