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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	5.322E-01	5.322E-01	5.322E-01	5.322E-01	5.322E-01	5.322E-01	5.322E-01	5.322E-01
Cs-137	5.320E-10	5.469E-01	5.469E-01	5.469E-01	5.469E-01	5.469E-01	5.469E-01	5.469E-01	5.469E-01
Sr-90	4.820E-10	5.490E-01	5.490E-01	5.490E-01	5.490E-01	5.490E-01	5.490E-01	5.490E-01	5.490E-01
Y-90	1.910E-08	5.358E-01	5.358E-01	5.358E-01	5.358E-01	5.358E-01	5.358E-01	5.358E-01	5.358E-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	1.159E-03	8.004E+01	6.999E+00	2.285E+00	6.296E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.996E+01
Sr-90	5.292E-03	2.741E+03	5.530E+01	1.642E+01	2.874E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.815E+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	6.739E-07	0.1101	2.808E-12	0.0000	6.475E-08	0.0106	5.662E-09	0.0009	1.849E-09	0.0003	5.093E-10	0.0001
Sr-90	2.200E-08	0.0036	4.577E-11	0.0000	5.212E-06	0.8513	1.053E-07	0.0172	3.125E-08	0.0051	5.466E-09	0.0009
Total	6.959E-07	0.1137	4.858E-11	0.0000	5.277E-06	0.8618	1.109E-07	0.0181	3.310E-08	0.0054	5.975E-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	7.467E-07	0.1219
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	5.376E-06	0.8781
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	6.123E-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	6.739E-07	0.1101	2.808E-12	0.0000	0.000E+00	0.0000	6.475E-08	0.0106	5.662E-09	0.0009	1.849E-09	0.0003	5.093E-10	0.0001
Sr-90	2.200E-08	0.0036	4.577E-11	0.0000	0.000E+00	0.0000	5.212E-06	0.8513	1.053E-07	0.0172	3.125E-08	0.0051	5.466E-09	0.0009
Total	6.959E-07	0.1137	4.858E-11	0.0000	0.000E+00	0.0000	5.277E-06	0.8618	1.109E-07	0.0181	3.310E-08	0.0054	5.975E-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	7.467E-07	0.1219
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	5.376E-06	0.8781
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	6.123E-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	1.133E-03	7.821E+01	6.839E+00	2.233E+00	6.152E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.790E+01
Sr-90	5.139E-03	2.662E+03	5.376E+01	1.596E+01	2.791E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.734E+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	6.585E-07	0.1107	2.744E-12	0.0000	6.327E-08	0.0106	5.533E-09	0.0009	1.807E-09	0.0003	4.977E-10	0.0001
Sr-90	2.136E-08	0.0036	4.445E-11	0.0000	5.062E-06	0.8506	1.022E-07	0.0172	3.035E-08	0.0051	5.308E-09	0.0009
Total	6.799E-07	0.1142	4.719E-11	0.0000	5.125E-06	0.8613	1.078E-07	0.0181	3.215E-08	0.0054	5.806E-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	7.296E-07	0.1226
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	5.221E-06	0.8774
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	5.951E-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	6.585E-07	0.1107	2.744E-12	0.0000	0.000E+00	0.0000	6.327E-08	0.0106	5.533E-09	0.0009	1.807E-09	0.0003	4.977E-10	0.0001
Sr-90	2.136E-08	0.0036	4.445E-11	0.0000	0.000E+00	0.0000	5.062E-06	0.8506	1.022E-07	0.0172	3.035E-08	0.0051	5.308E-09	0.0009
Total	6.799E-07	0.1142	4.719E-11	0.0000	0.000E+00	0.0000	5.125E-06	0.8613	1.078E-07	0.0181	3.215E-08	0.0054	5.806E-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	7.296E-07	0.1226
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	5.221E-06	0.8774
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	5.951E-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	1.082E-03	7.467E+01	6.530E+00	2.132E+00	5.874E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.392E+01
Sr-90	4.847E-03	2.510E+03	5.069E+01	1.505E+01	2.632E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.579E+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	6.287E-07	0.1119	2.620E-12	0.0000	6.041E-08	0.0107	5.282E-09	0.0009	1.725E-09	0.0003	4.752E-10	0.0001
Sr-90	2.014E-08	0.0036	4.191E-11	0.0000	4.774E-06	0.8493	9.640E-08	0.0172	2.862E-08	0.0051	5.006E-09	0.0009
Total	6.489E-07	0.1154	4.453E-11	0.0000	4.834E-06	0.8601	1.017E-07	0.0181	3.034E-08	0.0054	5.481E-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	6.966E-07	0.1239
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	4.924E-06	0.8761
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	5.620E-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	6.287E-07	0.1119	2.620E-12	0.0000	0.000E+00	0.0000	6.041E-08	0.0107	5.282E-09	0.0009	1.725E-09	0.0003	4.752E-10	0.0001
Sr-90	2.014E-08	0.0036	4.191E-11	0.0000	0.000E+00	0.0000	4.774E-06	0.8493	9.640E-08	0.0172	2.862E-08	0.0051	5.006E-09	0.0009
Total	6.489E-07	0.1154	4.453E-11	0.0000	0.000E+00	0.0000	4.834E-06	0.8601	1.017E-07	0.0181	3.034E-08	0.0054	5.481E-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	6.966E-07	0.1239
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	4.924E-06	0.8761
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	5.620E-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	9.198E-04	6.351E+01	5.553E+00	1.813E+00	4.996E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.137E+01
Sr-90	3.947E-03	2.044E+03	4.129E+01	1.226E+01	2.144E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.100E+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	5.347E-07	0.1162	2.228E-12	0.0000	5.137E-08	0.0112	4.492E-09	0.0010	1.467E-09	0.0003	4.041E-10	0.0001
Sr-90	1.641E-08	0.0036	3.414E-11	0.0000	3.888E-06	0.8447	7.852E-08	0.0171	2.331E-08	0.0051	4.077E-09	0.0009
Total	5.511E-07	0.1197	3.637E-11	0.0000	3.939E-06	0.8559	8.301E-08	0.0180	2.478E-08	0.0054	4.481E-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	5.924E-07	0.1287
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	4.010E-06	0.8713
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	4.603E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 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	5.347E-07	0.1162	2.228E-12	0.0000	0.000E+00	0.0000	5.137E-08	0.0112	4.492E-09	0.0010	1.467E-09	0.0003	4.041E-10	0.0001
Sr-90	1.641E-08	0.0036	3.414E-11	0.0000	0.000E+00	0.0000	3.888E-06	0.8447	7.852E-08	0.0171	2.331E-08	0.0051	4.077E-09	0.0009
Total	5.511E-07	0.1197	3.637E-11	0.0000	0.000E+00	0.0000	3.939E-06	0.8559	8.301E-08	0.0180	2.478E-08	0.0054	4.481E-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	5.924E-07	0.1287
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	4.010E-06	0.8713
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	4.603E-06	1.0000

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

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 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	5.790E-04	3.998E+01	3.496E+00	1.141E+00	3.145E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.493E+01
Sr-90	2.196E-03	1.137E+03	2.297E+01	6.819E+00	1.193E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.168E+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	3.366E-07	0.1293	1.403E-12	0.0000	3.234E-08	0.0124	2.828E-09	0.0011	9.234E-10	0.0004	2.544E-10	0.0001
Sr-90	9.128E-09	0.0035	1.899E-11	0.0000	2.163E-06	0.8306	4.368E-08	0.0168	1.297E-08	0.0050	2.268E-09	0.0009
Total	3.457E-07	0.1328	2.039E-11	0.0000	2.195E-06	0.8431	4.651E-08	0.0179	1.389E-08	0.0053	2.523E-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	3.729E-07	0.1432
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	2.231E-06	0.8568
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	2.604E-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	3.366E-07	0.1293	1.403E-12	0.0000	0.000E+00	0.0000	3.234E-08	0.0124	2.828E-09	0.0011	9.234E-10	0.0004	2.544E-10	0.0001
Sr-90	9.128E-09	0.0035	1.899E-11	0.0000	0.000E+00	0.0000	2.163E-06	0.8306	4.368E-08	0.0168	1.297E-08	0.0050	2.268E-09	0.0009
Total	3.457E-07	0.1328	2.039E-11	0.0000	0.000E+00	0.0000	2.195E-06	0.8431	4.651E-08	0.0179	1.389E-08	0.0053	2.523E-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	3.729E-07	0.1432
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	2.231E-06	0.8568
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	2.604E-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	1.146E-04	7.912E+00	6.919E-01	2.259E-01	6.224E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.893E+00
Sr-90	2.820E-04	1.461E+02	2.950E+00	8.758E-01	1.532E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.501E+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	6.662E-08	0.1849	2.776E-13	0.0000	6.401E-09	0.0178	5.597E-10	0.0016	1.828E-10	0.0005	5.035E-11	0.0001
Sr-90	1.172E-09	0.0033	2.439E-12	0.0000	2.778E-07	0.7709	5.610E-09	0.0156	1.665E-09	0.0046	2.913E-10	0.0008
Total	6.779E-08	0.1881	2.717E-12	0.0000	2.842E-07	0.7887	6.170E-09	0.0171	1.848E-09	0.0051	3.417E-10	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+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	7.381E-08	0.2048
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	2.865E-07	0.7952
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	3.604E-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	6.662E-08	0.1849	2.776E-13	0.0000	0.000E+00	0.0000	6.401E-09	0.0178	5.597E-10	0.0016	1.828E-10	0.0005	5.035E-11	0.0001
Sr-90	1.172E-09	0.0033	2.439E-12	0.0000	0.000E+00	0.0000	2.778E-07	0.7709	5.610E-09	0.0156	1.665E-09	0.0046	2.913E-10	0.0008
Total	6.779E-08	0.1881	2.717E-12	0.0000	0.000E+00	0.0000	2.842E-07	0.7887	6.170E-09	0.0171	1.848E-09	0.0051	3.417E-10	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+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	7.381E-08	0.2048
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	2.865E-07	0.7952
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	3.604E-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	1.120E-06	7.732E-02	6.761E-03	2.208E-03	6.082E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.690E-02
Sr-90	8.011E-07	4.149E-01	8.379E-03	2.487E-03	4.351E-04	1.926E-01	9.773E-05	1.597E-02	1.659E-03	9.054E-04	6.375E-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	6.510E-10	0.3414	2.713E-15	0.0000	6.255E-11	0.0328	5.470E-12	0.0029	1.786E-12	0.0009	4.920E-13	0.0003
Sr-90	3.330E-12	0.0017	6.928E-15	0.0000	7.890E-10	0.4138	1.593E-11	0.0084	4.730E-12	0.0025	8.274E-13	0.0004
Total	6.543E-10	0.3431	9.641E-15	0.0000	8.516E-10	0.4466	2.140E-11	0.0112	6.516E-12	0.0034	1.319E-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	7.213E-10	0.3783
Sr-90	3.306E-10	0.1734	2.160E-13	0.0001	3.528E-11	0.0185	3.666E-12	0.0019	2.001E-12	0.0010	1.186E-09	0.6217
Total	3.306E-10	0.1734	2.160E-13	0.0001	3.528E-11	0.0185	3.666E-12	0.0019	2.001E-12	0.0010	1.907E-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	6.510E-10	0.3414	2.713E-15	0.0000	0.000E+00	0.0000	6.255E-11	0.0328	5.470E-12	0.0029	1.786E-12	0.0009	4.920E-13	0.0003
Sr-90	3.330E-12	0.0017	6.928E-15	0.0000	0.000E+00	0.0000	7.890E-10	0.4138	1.593E-11	0.0084	4.730E-12	0.0025	8.274E-13	0.0004
Total	6.543E-10	0.3431	9.641E-15	0.0000	0.000E+00	0.0000	8.516E-10	0.4466	2.140E-11	0.0112	6.516E-12	0.0034	1.319E-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	7.213E-10	0.3783
Sr-90	3.306E-10	0.1734	2.160E-13	0.0001	0.000E+00	0.0000	3.528E-11	0.0185	3.666E-12	0.0019	2.001E-12	0.0010	1.186E-09	0.6217
Total	3.306E-10	0.1734	2.160E-13	0.0001	0.000E+00	0.0000	3.528E-11	0.0185	3.666E-12	0.0019	2.001E-12	0.0010	1.907E-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	1.033E-13	7.133E-09	6.237E-10	2.037E-10	5.611E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.016E-09
Sr-90	9.782E-16	5.066E-10	1.023E-11	3.037E-12	5.313E-13	3.158E-09	1.603E-12	2.619E-10	2.725E-11	1.485E-11	3.984E-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	6.005E-17	0.8255	2.503E-22	0.0000	5.770E-18	0.0793	5.046E-19	0.0069	1.648E-19	0.0023	4.539E-20	0.0006
Sr-90	4.066E-21	0.0001	8.459E-24	0.0000	9.634E-19	0.0132	1.946E-20	0.0003	5.776E-21	0.0001	1.010E-21	0.0000
Total	6.006E-17	0.8255	2.587E-22	0.0000	6.733E-18	0.0926	5.240E-19	0.0072	1.705E-19	0.0023	4.640E-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	6.654E-17	0.9146
Sr-90	4.642E-18	0.0638	3.033E-21	0.0000	4.956E-19	0.0068	5.157E-20	0.0007	2.811E-20	0.0004	6.214E-18	0.0854
Total	4.642E-18	0.0638	3.033E-21	0.0000	4.956E-19	0.0068	5.157E-20	0.0007	2.811E-20	0.0004	7.275E-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	6.005E-17	0.8255	2.503E-22	0.0000	0.000E+00	0.0000	5.770E-18	0.0793	5.046E-19	0.0069	1.648E-19	0.0023	4.539E-20	0.0006
Sr-90	4.066E-21	0.0001	8.459E-24	0.0000	0.000E+00	0.0000	9.634E-19	0.0132	1.946E-20	0.0003	5.776E-21	0.0001	1.010E-21	0.0000
Total	6.006E-17	0.8255	2.587E-22	0.0000	0.000E+00	0.0000	6.733E-18	0.0926	5.240E-19	0.0072	1.705E-19	0.0023	4.640E-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	6.654E-17	0.9146
Sr-90	4.642E-18	0.0638	3.033E-21	0.0000	0.000E+00	0.0000	4.956E-19	0.0068	5.157E-20	0.0007	2.811E-20	0.0004	6.214E-18	0.0854
Total	4.642E-18	0.0638	3.033E-21	0.0000	0.000E+00	0.0000	4.956E-19	0.0068	5.157E-20	0.0007	2.811E-20	0.0004	7.275E-17	1.0000

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