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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	5.312E-01	5.312E-01	5.312E-01	5.312E-01	5.312E-01	5.312E-01	5.312E-01	5.312E-01
Cs-137	5.320E-10	5.463E-01	5.463E-01	5.463E-01	5.463E-01	5.463E-01	5.463E-01	5.463E-01	5.463E-01
Sr-90	4.820E-10	5.484E-01	5.484E-01	5.484E-01	5.484E-01	5.484E-01	5.484E-01	5.484E-01	5.484E-01
Y-90	1.910E-08	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-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	1.302E-03	8.505E+01	7.437E+00	2.429E+00	6.690E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.559E+01
Sr-90	6.009E-03	2.944E+03	5.941E+01	1.764E+01	3.088E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.024E+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	7.604E-07	0.1149	3.154E-12	0.0000	6.881E-08	0.0104	6.017E-09	0.0009	1.965E-09	0.0003	5.412E-10	0.0001
Sr-90	2.509E-08	0.0038	5.197E-11	0.0000	5.600E-06	0.8465	1.131E-07	0.0171	3.357E-08	0.0051	5.872E-09	0.0009
Total	7.855E-07	0.1187	5.512E-11	0.0000	5.668E-06	0.8569	1.191E-07	0.0180	3.553E-08	0.0054	6.413E-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	8.377E-07	0.1266
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	5.777E-06	0.8734
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	6.615E-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	7.604E-07	0.1149	3.154E-12	0.0000	0.000E+00	0.0000	6.881E-08	0.0104	6.017E-09	0.0009	1.965E-09	0.0003	5.412E-10	0.0001
Sr-90	2.509E-08	0.0038	5.197E-11	0.0000	0.000E+00	0.0000	5.600E-06	0.8465	1.131E-07	0.0171	3.357E-08	0.0051	5.872E-09	0.0009
Total	7.855E-07	0.1187	5.512E-11	0.0000	0.000E+00	0.0000	5.668E-06	0.8569	1.191E-07	0.0180	3.553E-08	0.0054	6.413E-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	8.377E-07	0.1266
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	5.777E-06	0.8734
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	6.615E-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	1.272E-03	8.311E+01	7.267E+00	2.373E+00	6.537E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.340E+01
Sr-90	5.836E-03	2.860E+03	5.775E+01	1.714E+01	2.999E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.937E+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	7.430E-07	0.1156	3.082E-12	0.0000	6.723E-08	0.0105	5.879E-09	0.0009	1.920E-09	0.0003	5.289E-10	0.0001
Sr-90	2.436E-08	0.0038	5.047E-11	0.0000	5.438E-06	0.8458	1.098E-07	0.0171	3.260E-08	0.0051	5.702E-09	0.0009
Total	7.674E-07	0.1194	5.355E-11	0.0000	5.505E-06	0.8563	1.157E-07	0.0180	3.452E-08	0.0054	6.231E-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	8.186E-07	0.1273
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	5.610E-06	0.8727
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	6.429E-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	7.430E-07	0.1156	3.082E-12	0.0000	0.000E+00	0.0000	6.723E-08	0.0105	5.879E-09	0.0009	1.920E-09	0.0003	5.289E-10	0.0001
Sr-90	2.436E-08	0.0038	5.047E-11	0.0000	0.000E+00	0.0000	5.438E-06	0.8458	1.098E-07	0.0171	3.260E-08	0.0051	5.702E-09	0.0009
Total	7.674E-07	0.1194	5.355E-11	0.0000	0.000E+00	0.0000	5.505E-06	0.8563	1.157E-07	0.0180	3.452E-08	0.0054	6.231E-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	8.186E-07	0.1273
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	5.610E-06	0.8727
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	6.429E-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	1.215E-03	7.935E+01	6.939E+00	2.266E+00	6.242E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.918E+01
Sr-90	5.503E-03	2.697E+03	5.446E+01	1.617E+01	2.828E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.770E+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	7.094E-07	0.1168	2.943E-12	0.0000	6.419E-08	0.0106	5.613E-09	0.0009	1.833E-09	0.0003	5.049E-10	0.0001
Sr-90	2.297E-08	0.0038	4.759E-11	0.0000	5.128E-06	0.8445	1.036E-07	0.0171	3.075E-08	0.0051	5.378E-09	0.0009
Total	7.324E-07	0.1206	5.054E-11	0.0000	5.192E-06	0.8551	1.092E-07	0.0180	3.258E-08	0.0054	5.883E-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	7.815E-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	5.291E-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	6.072E-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	7.094E-07	0.1168	2.943E-12	0.0000	0.000E+00	0.0000	6.419E-08	0.0106	5.613E-09	0.0009	1.833E-09	0.0003	5.049E-10	0.0001
Sr-90	2.297E-08	0.0038	4.759E-11	0.0000	0.000E+00	0.0000	5.128E-06	0.8445	1.036E-07	0.0171	3.075E-08	0.0051	5.378E-09	0.0009
Total	7.324E-07	0.1206	5.054E-11	0.0000	0.000E+00	0.0000	5.192E-06	0.8551	1.092E-07	0.0180	3.258E-08	0.0054	5.883E-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	7.815E-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	5.291E-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	6.072E-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	1.033E-03	6.748E+01	5.901E+00	1.927E+00	5.308E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.584E+01
Sr-90	4.482E-03	2.196E+03	4.436E+01	1.317E+01	2.303E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.256E+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	6.033E-07	0.1213	2.503E-12	0.0000	5.459E-08	0.0110	4.774E-09	0.0010	1.559E-09	0.0003	4.294E-10	0.0001
Sr-90	1.871E-08	0.0038	3.876E-11	0.0000	4.177E-06	0.8397	8.435E-08	0.0170	2.504E-08	0.0050	4.380E-09	0.0009
Total	6.220E-07	0.1251	4.126E-11	0.0000	4.231E-06	0.8507	8.912E-08	0.0179	2.660E-08	0.0053	4.809E-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	6.647E-07	0.1336
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	4.309E-06	0.8664
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	4.974E-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	6.033E-07	0.1213	2.503E-12	0.0000	0.000E+00	0.0000	5.459E-08	0.0110	4.774E-09	0.0010	1.559E-09	0.0003	4.294E-10	0.0001
Sr-90	1.871E-08	0.0038	3.876E-11	0.0000	0.000E+00	0.0000	4.177E-06	0.8397	8.435E-08	0.0170	2.504E-08	0.0050	4.380E-09	0.0009
Total	6.220E-07	0.1251	4.126E-11	0.0000	0.000E+00	0.0000	4.231E-06	0.8507	8.912E-08	0.0179	2.660E-08	0.0053	4.809E-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	6.647E-07	0.1336
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	4.309E-06	0.8664
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	4.974E-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	6.503E-04	4.248E+01	3.715E+00	1.213E+00	3.342E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.774E+01
Sr-90	2.494E-03	1.222E+03	2.468E+01	7.326E+00	1.281E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.255E+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	3.798E-07	0.1349	1.575E-12	0.0000	3.437E-08	0.0122	3.005E-09	0.0011	9.812E-10	0.0003	2.703E-10	0.0001
Sr-90	1.041E-08	0.0037	2.156E-11	0.0000	2.324E-06	0.8252	4.693E-08	0.0167	1.393E-08	0.0049	2.437E-09	0.0009
Total	3.902E-07	0.1386	2.314E-11	0.0000	2.358E-06	0.8374	4.993E-08	0.0177	1.491E-08	0.0053	2.707E-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	4.184E-07	0.1486
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	2.397E-06	0.8514
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	2.816E-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	3.798E-07	0.1349	1.575E-12	0.0000	0.000E+00	0.0000	3.437E-08	0.0122	3.005E-09	0.0011	9.812E-10	0.0003	2.703E-10	0.0001
Sr-90	1.041E-08	0.0037	2.156E-11	0.0000	0.000E+00	0.0000	2.324E-06	0.8252	4.693E-08	0.0167	1.393E-08	0.0049	2.437E-09	0.0009
Total	3.902E-07	0.1386	2.314E-11	0.0000	0.000E+00	0.0000	2.358E-06	0.8374	4.993E-08	0.0177	1.491E-08	0.0053	2.707E-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	4.184E-07	0.1486
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	2.397E-06	0.8514
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	2.816E-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	1.287E-04	8.408E+00	7.352E-01	2.401E-01	6.614E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.449E+00
Sr-90	3.203E-04	1.569E+02	3.169E+00	9.409E-01	1.646E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.612E+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	7.517E-08	0.1924	3.118E-13	0.0000	6.802E-09	0.0174	5.948E-10	0.0015	1.942E-10	0.0005	5.350E-11	0.0001
Sr-90	1.337E-09	0.0034	2.770E-12	0.0000	2.984E-07	0.7638	6.027E-09	0.0154	1.789E-09	0.0046	3.129E-10	0.0008
Total	7.650E-08	0.1958	3.081E-12	0.0000	3.052E-07	0.7812	6.622E-09	0.0169	1.983E-09	0.0051	3.665E-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	8.281E-08	0.2120
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	3.079E-07	0.7880
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	3.907E-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	7.517E-08	0.1924	3.118E-13	0.0000	0.000E+00	0.0000	6.802E-09	0.0174	5.948E-10	0.0015	1.942E-10	0.0005	5.350E-11	0.0001
Sr-90	1.337E-09	0.0034	2.770E-12	0.0000	0.000E+00	0.0000	2.984E-07	0.7638	6.027E-09	0.0154	1.789E-09	0.0046	3.129E-10	0.0008
Total	7.650E-08	0.1958	3.081E-12	0.0000	0.000E+00	0.0000	3.052E-07	0.7812	6.622E-09	0.0169	1.983E-09	0.0051	3.665E-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	8.281E-08	0.2120
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	3.079E-07	0.7880
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	3.907E-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	1.258E-06	8.216E-02	7.185E-03	2.346E-03	6.463E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.234E-02
Sr-90	9.096E-07	4.457E-01	9.001E-03	2.672E-03	4.674E-04	2.070E-01	1.050E-04	1.612E-02	1.675E-03	9.143E-04	6.836E-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	7.345E-10	0.3531	3.047E-15	0.0000	6.647E-11	0.0319	5.812E-12	0.0028	1.898E-12	0.0009	5.228E-13	0.0003
Sr-90	3.797E-12	0.0018	7.866E-15	0.0000	8.476E-10	0.4074	1.712E-11	0.0082	5.082E-12	0.0024	8.888E-13	0.0004
Total	7.383E-10	0.3549	1.091E-14	0.0000	9.141E-10	0.4394	2.293E-11	0.0110	6.980E-12	0.0034	1.412E-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	8.092E-10	0.3890
Sr-90	3.551E-10	0.1707	2.320E-13	0.0001	3.563E-11	0.0171	3.702E-12	0.0018	2.021E-12	0.0010	1.271E-09	0.6110
Total	3.551E-10	0.1707	2.320E-13	0.0001	3.563E-11	0.0171	3.702E-12	0.0018	2.021E-12	0.0010	2.080E-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	7.345E-10	0.3531	3.047E-15	0.0000	0.000E+00	0.0000	6.647E-11	0.0319	5.812E-12	0.0028	1.898E-12	0.0009	5.228E-13	0.0003
Sr-90	3.797E-12	0.0018	7.866E-15	0.0000	0.000E+00	0.0000	8.476E-10	0.4074	1.712E-11	0.0082	5.082E-12	0.0024	8.888E-13	0.0004
Total	7.383E-10	0.3549	1.091E-14	0.0000	0.000E+00	0.0000	9.141E-10	0.4394	2.293E-11	0.0110	6.980E-12	0.0034	1.412E-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	8.092E-10	0.3890
Sr-90	3.551E-10	0.1707	2.320E-13	0.0001	0.000E+00	0.0000	3.563E-11	0.0171	3.702E-12	0.0018	2.021E-12	0.0010	1.271E-09	0.6110
Total	3.551E-10	0.1707	2.320E-13	0.0001	0.000E+00	0.0000	3.563E-11	0.0171	3.702E-12	0.0018	2.021E-12	0.0010	2.080E-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	1.160E-13	7.579E-09	6.628E-10	2.164E-10	5.962E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.518E-09
Sr-90	1.111E-15	5.443E-10	1.099E-11	3.263E-12	5.707E-13	3.393E-09	1.722E-12	2.644E-10	2.751E-11	1.500E-11	4.261E-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	6.776E-17	0.8336	2.811E-22	0.0000	6.131E-18	0.0754	5.362E-19	0.0066	1.751E-19	0.0022	4.823E-20	0.0006
Sr-90	4.637E-21	0.0001	9.605E-24	0.0000	1.035E-18	0.0127	2.090E-20	0.0003	6.205E-21	0.0001	1.085E-21	0.0000
Total	6.776E-17	0.8336	2.907E-22	0.0000	7.166E-18	0.0882	5.571E-19	0.0069	1.813E-19	0.0022	4.932E-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	7.465E-17	0.9183
Sr-90	4.986E-18	0.0613	3.258E-21	0.0000	5.004E-19	0.0062	5.207E-20	0.0006	2.839E-20	0.0003	6.638E-18	0.0817
Total	4.986E-18	0.0613	3.258E-21	0.0000	5.004E-19	0.0062	5.207E-20	0.0006	2.839E-20	0.0003	8.129E-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	6.776E-17	0.8336	2.811E-22	0.0000	0.000E+00	0.0000	6.131E-18	0.0754	5.362E-19	0.0066	1.751E-19	0.0022	4.823E-20	0.0006
Sr-90	4.637E-21	0.0001	9.605E-24	0.0000	0.000E+00	0.0000	1.035E-18	0.0127	2.090E-20	0.0003	6.205E-21	0.0001	1.085E-21	0.0000
Total	6.776E-17	0.8336	2.907E-22	0.0000	0.000E+00	0.0000	7.166E-18	0.0882	5.571E-19	0.0069	1.813E-19	0.0022	4.932E-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	7.465E-17	0.9183
Sr-90	4.986E-18	0.0613	3.258E-21	0.0000	0.000E+00	0.0000	5.004E-19	0.0062	5.207E-20	0.0006	2.839E-20	0.0003	6.638E-18	0.0817
Total	4.986E-18	0.0613	3.258E-21	0.0000	0.000E+00	0.0000	5.004E-19	0.0062	5.207E-20	0.0006	2.839E-20	0.0003	8.129E-17	1.0000

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