

Summary : RESRAD Default Parameters

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Time = 0.000E+00 .....	11
Time = 1.000E+00 .....	12
Time = 3.000E+00 .....	13
Time = 1.000E+01 .....	14
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## Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ba-137m (Source: FGR 12)	3.606E+00	3.606E+00	DCF1( 1)
A-1	C-14 (Source: FGR 12)	1.345E-05	1.345E-05	DCF1( 2)
A-1	Co-60 (Source: FGR 12)	1.622E+01	1.622E+01	DCF1( 3)
A-1	Cs-137 (Source: FGR 12)	7.510E-04	7.510E-04	DCF1( 4)
A-1	Eu-152 (Source: FGR 12)	7.006E+00	7.006E+00	DCF1( 5)
A-1	Gd-152 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1( 6)
A-1	Ni-63 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1( 7)
A-1	Sr-90 (Source: FGR 12)	7.043E-04	7.043E-04	DCF1( 8)
A-1	Y-90 (Source: FGR 12)	2.391E-02	2.391E-02	DCF1( 9)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	C-14(p) (Class: ORGANIC)	2.090E-06	2.090E-06	DCF2( 1)
B-1	C-14(g) (Class: CO2)	2.350E-08	2.350E-08	C14GInhDCF
B-1	Co-60	2.190E-04	2.190E-04	DCF2( 2)
B-1	Cs-137+D	3.190E-05	3.190E-05	DCF2( 3)
B-1	Eu-152	2.210E-04	2.210E-04	DCF2( 4)
B-1	Gd-152	2.430E-01	2.430E-01	DCF2( 6)
B-1	Ni-63	6.290E-06	6.290E-06	DCF2( 7)
B-1	Sr-90+D	1.308E-03	1.300E-03	DCF2( 8)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	C-14	2.090E-06	2.090E-06	DCF3( 1)
D-1	Co-60	2.690E-05	2.690E-05	DCF3( 2)
D-1	Cs-137+D	5.000E-05	5.000E-05	DCF3( 3)
D-1	Eu-152	6.480E-06	6.480E-06	DCF3( 4)
D-1	Gd-152	1.610E-04	1.610E-04	DCF3( 6)
D-1	Ni-63	5.770E-07	5.770E-07	DCF3( 7)
D-1	Sr-90+D	1.528E-04	1.420E-04	DCF3( 8)
D-34	Food transfer factors:			
D-34	C-14 , plant/soil concentration ratio, dimensionless	1.280E+00	5.500E+00	RTF( 1,1)
D-34	C-14 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	6.110E-02	3.100E-02	RTF( 1,2)
D-34	C-14 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.250E-02	1.200E-02	RTF( 1,3)
D-34	Co-60 , plant/soil concentration ratio, dimensionless	1.460E-01	8.000E-02	RTF( 2,1)
D-34	Co-60 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.980E-02	2.000E-02	RTF( 2,2)
D-34	Co-60 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.220E-03	2.000E-03	RTF( 2,3)
D-34	Cs-137+D , plant/soil concentration ratio, dimensionless	7.830E-02	4.000E-02	RTF( 3,1)
D-34	Cs-137+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	6.560E-02	3.000E-02	RTF( 3,2)
D-34	Cs-137+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.370E-02	8.000E-03	RTF( 3,3)
D-34	Eu-152 , plant/soil concentration ratio, dimensionless	4.210E-03	2.500E-03	RTF( 4,1)
D-34	Eu-152 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	4.020E-03	2.000E-03	RTF( 4,2)
D-34	Eu-152 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.120E-04	5.000E-05	RTF( 4,3)
D-34	Gd-152 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF( 6,1)
D-34	Gd-152 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-03	2.000E-03	RTF( 6,2)
D-34	Gd-152 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF( 6,3)

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## Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-34	Ni-63 , plant/soil concentration ratio, dimensionless	9.130E-02	5.000E-02	RTF( 7,1)
D-34	Ni-63 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	9.260E-03	5.000E-03	RTF( 7,2)
D-34	Ni-63 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.190E-02	2.000E-02	RTF( 7,3)
D-34				
D-34	Sr-90+D , plant/soil concentration ratio, dimensionless	5.900E-01	3.000E-01	RTF( 8,1)
D-34	Sr-90+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.310E-02	8.000E-03	RTF( 8,2)
D-34	Sr-90+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.760E-03	2.000E-03	RTF( 8,3)
D-34				
D-5	Bioaccumulation factors, fresh water, L/kg:			
D-5	C-14 , fish	5.000E+04	5.000E+04	BIOFAC( 1,1)
D-5	C-14 , crustacea and mollusks	9.100E+03	9.100E+03	BIOFAC( 1,2)
D-5				
D-5	Co-60 , fish	3.000E+02	3.000E+02	BIOFAC( 2,1)
D-5	Co-60 , crustacea and mollusks	2.000E+02	2.000E+02	BIOFAC( 2,2)
D-5				
D-5	Cs-137+D , fish	2.000E+03	2.000E+03	BIOFAC( 3,1)
D-5	Cs-137+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC( 3,2)
D-5				
D-5	Eu-152 , fish	5.000E+01	5.000E+01	BIOFAC( 4,1)
D-5	Eu-152 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC( 4,2)
D-5				
D-5	Gd-152 , fish	2.500E+01	2.500E+01	BIOFAC( 6,1)
D-5	Gd-152 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC( 6,2)
D-5				
D-5	Ni-63 , fish	1.000E+02	1.000E+02	BIOFAC( 7,1)
D-5	Ni-63 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC( 7,2)
D-5				
D-5	Sr-90+D , fish	6.000E+01	6.000E+01	BIOFAC( 8,1)
D-5	Sr-90+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC( 8,2)

#For DCF1(xxx) only, factors are for infinite depth &amp; area. See ETFG table in Ground Pathway of Detailed Report.

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

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## Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	5.000E+00	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	1.500E-01	2.000E+00	---	THICK0
R011	Fraction of contamination that is submerged	0.000E+00	0.000E+00	---	SUBMFRACT
R011	Length parallel to aquifer flow (m)	2.240E+00	1.000E+02	---	LCZPAQ
R011	Basic radiation dose limit (mrem/yr)	2.500E+01	3.000E+01	---	BRDL
R011	Time since placement of material (yr)	0.000E+00	0.000E+00	---	TI
R011	Times for calculations (yr)	1.000E+00	1.000E+00	---	T ( 2)
R011	Times for calculations (yr)	3.000E+00	3.000E+00	---	T ( 3)
R011	Times for calculations (yr)	1.000E+01	1.000E+01	---	T ( 4)
R011	Times for calculations (yr)	3.000E+01	3.000E+01	---	T ( 5)
R011	Times for calculations (yr)	1.000E+02	1.000E+02	---	T ( 6)
R011	Times for calculations (yr)	3.000E+02	3.000E+02	---	T ( 7)
R011	Times for calculations (yr)	1.000E+03	1.000E+03	---	T ( 8)
R011	Times for calculations (yr)	not used	0.000E+00	---	T ( 9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): C-14	1.000E+00	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Co-60	1.000E+00	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Cs-137	1.000E+00	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g): Eu-152	1.000E+00	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g): Ni-63	1.000E+00	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g): Sr-90	1.000E+00	0.000E+00	---	S1(8)
R012	Concentration in groundwater (pCi/L): C-14	not used	0.000E+00	---	W1( 1)
R012	Concentration in groundwater (pCi/L): Co-60	not used	0.000E+00	---	W1( 2)
R012	Concentration in groundwater (pCi/L): Cs-137	not used	0.000E+00	---	W1( 3)
R012	Concentration in groundwater (pCi/L): Eu-152	not used	0.000E+00	---	W1( 4)
R012	Concentration in groundwater (pCi/L): Ni-63	not used	0.000E+00	---	W1( 7)
R012	Concentration in groundwater (pCi/L): Sr-90	not used	0.000E+00	---	W1( 8)
R013	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	not used	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.500E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	7.590E-04	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	4.300E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity	2.800E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	3.440E+01	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	2.870E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)	3.270E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	8.700E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	7.600E-01	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	1.900E-01	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	6.300E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	1.000E+06	1.000E+06	---	WAREA
R013	Accuracy for water/soil computations	1.000E-03	1.000E-03	---	EPS
R014	Density of saturated zone (g/cm**3)	1.490E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.500E-01	4.000E-01	---	TPSZ

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## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R014	Saturated zone effective porosity	2.000E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.400E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	4.350E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	8.400E-04	2.000E-02	---	HGWT
R014	Saturated zone b parameter	not used	5.300E+00	---	BSZ
R014	Water table drop rate (m/yr)	0.000E+00	1.000E-03	---	VWT
R014	Well pump intake depth (m below water table)	2.140E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	ND	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	4.550E+03	2.500E+02	---	UW
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.000E-01	4.000E+00	---	H (1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.500E+00	1.500E+00	---	DENSUZ (1)
R015	Unsat. zone 1, total porosity	4.300E-01	4.000E-01	---	TPUZ (1)
R015	Unsat. zone 1, effective porosity	1.600E-01	2.000E-01	---	EPUZ (1)
R015	Unsat. zone 1, field capacity	2.800E-01	2.000E-01	---	FCUZ (1)
R015	Unsat. zone 1, soil-specific b parameter	3.600E+00	5.300E+00	---	BUZ (1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	3.440E+01	1.000E+01	---	HCUZ (1)
R016	Distribution coefficients for C-14				
R016	Contaminated zone (cm**3/g)	9.670E+01	0.000E+00	---	DCNUCC ( 1)
R016	Unsat. zone 1 (cm**3/g)	9.670E+01	0.000E+00	---	DCNUCU ( 1,1)
R016	Saturated zone (cm**3/g)	1.100E+01	0.000E+00	---	DCNUCS ( 1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.810E-03	ALEACH ( 1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK ( 1)
R016	Distribution coefficients for Co-60				
R016	Contaminated zone (cm**3/g)	5.050E+03	1.000E+03	---	DCNUCC ( 2)
R016	Unsat. zone 1 (cm**3/g)	5.050E+03	1.000E+03	---	DCNUCU ( 2,1)
R016	Saturated zone (cm**3/g)	2.600E+02	1.000E+03	---	DCNUCS ( 2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.391E-05	ALEACH ( 2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK ( 2)
R016	Distribution coefficients for Cs-137				
R016	Contaminated zone (cm**3/g)	3.500E+03	4.600E+03	---	DCNUCC ( 3)
R016	Unsat. zone 1 (cm**3/g)	3.500E+03	4.600E+03	---	DCNUCU ( 3,1)
R016	Saturated zone (cm**3/g)	5.280E+02	4.600E+03	---	DCNUCS ( 3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.778E-05	ALEACH ( 3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK ( 3)
R016	Distribution coefficients for Eu-152				
R016	Contaminated zone (cm**3/g)	7.270E+03	-1.000E+00	---	DCNUCC ( 4)
R016	Unsat. zone 1 (cm**3/g)	7.270E+03	-1.000E+00	---	DCNUCU ( 4,1)
R016	Saturated zone (cm**3/g)	8.290E+02	-1.000E+00	---	DCNUCS ( 4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.745E-05	ALEACH ( 4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK ( 4)

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## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Ni-63				
R016	Contaminated zone (cm**3/g)	5.320E+02	1.000E+03	---	DCNUCC ( 7)
R016	Unsaturated zone 1 (cm**3/g)	5.320E+02	1.000E+03	---	DCNUCU ( 7,1)
R016	Saturated zone (cm**3/g)	1.300E+02	1.000E+03	---	DCNUCS ( 7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.116E-04	ALEACH ( 7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK ( 7)
R016	Distribution coefficients for Sr-90				
R016	Contaminated zone (cm**3/g)	1.680E+02	3.000E+01	---	DCNUCC ( 8)
R016	Unsaturated zone 1 (cm**3/g)	1.680E+02	3.000E+01	---	DCNUCU ( 8,1)
R016	Saturated zone (cm**3/g)	2.200E+01	3.000E+01	---	DCNUCS ( 8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.619E-03	ALEACH ( 8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK ( 8)
R016	Distribution coefficients for daughter Gd-152				
R016	Contaminated zone (cm**3/g)	-1.000E+00	-1.000E+00	8.249E+02	DCNUCC ( 6)
R016	Unsaturated zone 1 (cm**3/g)	-1.000E+00	-1.000E+00	8.249E+02	DCNUCU ( 6,1)
R016	Saturated zone (cm**3/g)	-1.000E+00	-1.000E+00	8.249E+02	DCNUCS ( 6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.300E-04	ALEACH ( 6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK ( 6)
R017	Inhalation rate (m**3/yr)	8.600E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	2.870E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	7.500E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	5.520E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	6.600E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	1.200E-01	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE ( 1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE ( 2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE ( 3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE ( 4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE ( 5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE ( 6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE ( 7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE ( 8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE ( 9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE (10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE (11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE (12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA( 1)
R017	Ring 2	not used	2.732E-01	---	FRACA( 2)
R017	Ring 3	not used	0.000E+00	---	FRACA( 3)
R017	Ring 4	not used	0.000E+00	---	FRACA( 4)
R017	Ring 5	not used	0.000E+00	---	FRACA( 5)
R017	Ring 6	not used	0.000E+00	---	FRACA( 6)
R017	Ring 7	not used	0.000E+00	---	FRACA( 7)
R017	Ring 8	not used	0.000E+00	---	FRACA( 8)
R017	Ring 9	not used	0.000E+00	---	FRACA( 9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	2.240E+02	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	4.280E+01	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	2.330E+02	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.510E+01	6.300E+01	---	DIET(4)
R018	Fish consumption (kg/yr)	not used	5.400E+00	---	DIET(5)
R018	Other seafood consumption (kg/yr)	not used	9.000E-01	---	DIET(6)
R018	Soil ingestion rate (g/yr)	1.830E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	4.780E+02	5.100E+02	---	DWI
R018	Contamination fraction of drinking water	1.000E+00	1.000E+00	---	FDW
R018	Contamination fraction of household water	not used	1.000E+00	---	FHHW
R018	Contamination fraction of livestock water	1.000E+00	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	1.000E+00	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	-1	-1	0.250E-02	FPLANT
R018	Contamination fraction of meat	-1	-1	0.250E-03	FMEAT
R018	Contamination fraction of milk	-1	-1	0.250E-03	FMILK
R019	Livestock fodder intake for meat (kg/day)	2.710E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	6.321E+01	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.060E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	6.000E+01	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	7.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	4.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	2.300E-01	1.500E-01	---	DM
R019	Depth of roots (m)	1.230E+00	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	1.750E+00	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	2.890E+00	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.890E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	2.460E-01	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	1.230E-01	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.200E-02	8.000E-02	---	TE(3)

Summary : RESRAD Default Parameters

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## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	1.000E-01	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	1.000E+00	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	1.000E+00	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	3.500E-01	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	3.500E-01	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	3.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	3.500E-01	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	5.800E-01	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	3.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	3.300E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	2.000E-05	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	3.000E-02	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	2.000E-02	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	9.800E-01	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	3.000E-01	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	7.000E-07	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	1.000E-10	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	9.000E-02	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	3.000E-02	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
R021	Total porosity of the cover material	not used	4.000E-01	---	TPCV
R021	Total porosity of the building foundation	not used	1.000E-01	---	TPFL
R021	Volumetric water content of the cover material	not used	5.000E-02	---	PH2OCV
R021	Volumetric water content of the foundation	not used	3.000E-02	---	PH2OFL
R021	Diffusion coefficient for radon gas (m/sec):				
R021	in cover material	not used	2.000E-06	---	DIFCV
R021	in foundation material	not used	3.000E-07	---	DIFFL
R021	in contaminated zone soil	not used	2.000E-06	---	DIFCZ
R021	Radon vertical dimension of mixing (m)	not used	2.000E+00	---	HMIX
R021	Average building air exchange rate (1/hr)	not used	5.000E-01	---	REXG
R021	Height of the building (room) (m)	not used	2.500E+00	---	HRM
R021	Building interior area factor	not used	0.000E+00	---	FAI
R021	Building depth below ground surface (m)	not used	-1.000E+00	---	DMFL
R021	Emanating power of Rn-222 gas	not used	2.500E-01	---	EMANA(1)
R021	Emanating power of Rn-220 gas	not used	1.500E-01	---	EMANA(2)
TITL	Number of graphical time points	128	---	---	NPTS



Summary : RESRAD Default Parameters

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## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
TITL	Maximum number of integration points for dose	17	---	---	LYMAX
TITL	Maximum number of integration points for risk	1	---	---	KYMAX

## Summary of Pathway Selections

Pathway	User Selection
1 -- external gamma	active
2 -- inhalation (w/o radon)	active
3 -- plant ingestion	active
4 -- meat ingestion	active
5 -- milk ingestion	active
6 -- aquatic foods	suppressed
7 -- drinking water	active
8 -- soil ingestion	active
9 -- radon	suppressed
Find peak pathway doses	suppressed

Summary : RESRAD Default Parameters

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Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	5.00 square meters	C-14	1.000E+00
Thickness:	0.15 meters	Co-60	1.000E+00
Cover Depth:	0.00 meters	Cs-137	1.000E+00
		Eu-152	1.000E+00
		Ni-63	1.000E+00
		Sr-90	1.000E+00

Total Dose TDOSE(t), mrem/yr

Basic Radiation Dose Limit = 2.500E+01 mrem/yr

Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	2.879E+00	2.613E+00	2.167E+00	1.202E+00	3.605E-01	2.695E-02	5.049E-09	5.284E-20
M(t):	1.152E-01	1.045E-01	8.668E-02	4.808E-02	1.442E-02	1.078E-03	2.020E-10	2.113E-21

Maximum TDOSE(t): 2.879E+00 mrem/yr at t = 0.000E+00 years

Summary : RESRAD Default Parameters

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)  
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years

## Water Independent Pathways (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	1.054E-07	0.0000	1.955E-07	0.0000	0.000E+00	0.0000	8.879E-06	0.0000	4.431E-07	0.0000	2.511E-07	0.0000	4.469E-09	0.0000
Co-60	1.674E+00	0.5814	1.200E-06	0.0000	0.000E+00	0.0000	2.986E-04	0.0001	2.299E-05	0.0000	7.464E-06	0.0000	1.170E-06	0.0000
Cs-137	4.070E-01	0.1414	1.844E-07	0.0000	0.000E+00	0.0000	3.141E-04	0.0001	3.767E-05	0.0000	4.173E-05	0.0000	2.295E-06	0.0000
Eu-152	7.870E-01	0.2734	1.259E-06	0.0000	0.000E+00	0.0000	2.159E-06	0.0000	1.939E-07	0.0000	2.010E-08	0.0000	2.932E-07	0.0000
Ni-63	0.000E+00	0.0000	3.664E-08	0.0000	0.000E+00	0.0000	4.259E-06	0.0000	6.555E-08	0.0000	1.237E-06	0.0000	2.669E-08	0.0000
Sr-90	3.052E-03	0.0011	7.556E-06	0.0000	0.000E+00	0.0000	7.224E-03	0.0025	7.728E-05	0.0000	1.212E-04	0.0000	7.005E-06	0.0000
Total	2.871E+00	0.9972	1.043E-05	0.0000	0.000E+00	0.0000	7.852E-03	0.0027	1.386E-04	0.0000	1.719E-04	0.0001	1.079E-05	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)  
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years

## Water Dependent Pathways

Radio- Nuclide	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	9.879E-06	0.0000
Co-60	0.000E+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	1.674E+00	0.5815
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	4.074E-01	0.1415
Eu-152	0.000E+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	7.870E-01	0.2734
Ni-63	0.000E+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	5.624E-06	0.0000
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.049E-02	0.0036
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	2.879E+00	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

## Water Independent Pathways (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	2.601E-17	0.0000	4.799E-17	0.0000	0.000E+00	0.0000	5.484E-15	0.0000	1.835E-15	0.0000	5.897E-16	0.0000	1.097E-18	0.0000
Co-60	1.462E+00	0.5594	1.047E-06	0.0000	0.000E+00	0.0000	2.605E-04	0.0001	2.006E-05	0.0000	6.511E-06	0.0000	1.021E-06	0.0000
Cs-137	3.963E-01	0.1517	1.793E-07	0.0000	0.000E+00	0.0000	3.053E-04	0.0001	3.662E-05	0.0000	4.057E-05	0.0000	2.231E-06	0.0000
Eu-152	7.444E-01	0.2848	1.190E-06	0.0000	0.000E+00	0.0000	2.040E-06	0.0000	1.832E-07	0.0000	1.898E-08	0.0000	2.769E-07	0.0000
Ni-63	0.000E+00	0.0000	3.618E-08	0.0000	0.000E+00	0.0000	4.205E-06	0.0000	6.473E-08	0.0000	1.221E-06	0.0000	2.635E-08	0.0000
Sr-90	2.967E-03	0.0011	7.329E-06	0.0000	0.000E+00	0.0000	7.007E-03	0.0027	7.497E-05	0.0000	1.175E-04	0.0000	6.794E-06	0.0000
Total	2.606E+00	0.9970	9.781E-06	0.0000	0.000E+00	0.0000	7.579E-03	0.0029	1.319E-04	0.0001	1.659E-04	0.0001	1.035E-05	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

## Water Dependent Pathways

Radio- Nuclide	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	7.983E-15	0.0000
Co-60	0.000E+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	1.462E+00	0.5595
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	3.967E-01	0.1518
Eu-152	0.000E+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	7.444E-01	0.2848
Ni-63	0.000E+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	5.553E-06	0.0000
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.018E-02	0.0039
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	2.613E+00	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	1.115E+00	0.5146	7.965E-07	0.0000	0.000E+00	0.0000	1.982E-04	0.0001	1.526E-05	0.0000	4.954E-06	0.0000	7.767E-07	0.0000
Cs-137	3.757E-01	0.1734	1.694E-07	0.0000	0.000E+00	0.0000	2.885E-04	0.0001	3.461E-05	0.0000	3.833E-05	0.0000	2.108E-06	0.0000
Eu-152	6.659E-01	0.3073	1.061E-06	0.0000	0.000E+00	0.0000	1.819E-06	0.0000	1.634E-07	0.0000	1.693E-08	0.0000	2.470E-07	0.0000
Ni-63	0.000E+00	0.0000	3.526E-08	0.0000	0.000E+00	0.0000	4.098E-06	0.0000	6.308E-08	0.0000	1.190E-06	0.0000	2.568E-08	0.0000
Sr-90	2.803E-03	0.0013	6.894E-06	0.0000	0.000E+00	0.0000	6.592E-03	0.0030	7.053E-05	0.0000	1.106E-04	0.0001	6.392E-06	0.0000
Total	2.160E+00	0.9966	8.957E-06	0.0000	0.000E+00	0.0000	7.084E-03	0.0033	1.206E-04	0.0001	1.551E-04	0.0001	9.549E-06	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Dependent Pathways

Radio- Nuclide	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	0.000E+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	1.115E+00	0.5147
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	3.761E-01	0.1736
Eu-152	0.000E+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	6.659E-01	0.3073
Ni-63	0.000E+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	5.412E-06	0.0000
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	9.589E-03	0.0044
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	2.167E+00	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

## Water Independent Pathways (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	4.320E-01	0.3594	3.057E-07	0.0000	0.000E+00	0.0000	7.607E-05	0.0001	5.857E-06	0.0000	1.901E-06	0.0000	2.981E-07	0.0000
Cs-137	3.115E-01	0.2591	1.388E-07	0.0000	0.000E+00	0.0000	2.364E-04	0.0002	2.836E-05	0.0000	3.142E-05	0.0000	1.728E-06	0.0000
Eu-152	4.505E-01	0.3747	7.105E-07	0.0000	0.000E+00	0.0000	1.218E-06	0.0000	1.094E-07	0.0000	1.134E-08	0.0000	1.654E-07	0.0000
Ni-63	0.000E+00	0.0000	3.220E-08	0.0000	0.000E+00	0.0000	3.742E-06	0.0000	5.761E-08	0.0000	1.087E-06	0.0000	2.345E-08	0.0000
Sr-90	2.295E-03	0.0019	5.562E-06	0.0000	0.000E+00	0.0000	5.318E-03	0.0044	5.690E-05	0.0000	8.921E-05	0.0001	5.157E-06	0.0000
Total	1.196E+00	0.9951	6.750E-06	0.0000	0.000E+00	0.0000	5.636E-03	0.0047	9.129E-05	0.0001	1.236E-04	0.0001	7.371E-06	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

## Water Dependent Pathways

Radio- Nuclide	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	0.000E+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	4.321E-01	0.3594
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	3.118E-01	0.2594
Eu-152	0.000E+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	4.505E-01	0.3747
Ni-63	0.000E+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	4.942E-06	0.0000
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	7.770E-03	0.0065
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	1.202E+00	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

## Water Independent Pathways (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	2.855E-02	0.0792	1.966E-08	0.0000	0.000E+00	0.0000	4.892E-06	0.0000	3.767E-07	0.0000	1.223E-07	0.0000	1.917E-08	0.0000
Cs-137	1.811E-01	0.5023	7.799E-08	0.0000	0.000E+00	0.0000	1.328E-04	0.0004	1.593E-05	0.0000	1.765E-05	0.0000	9.705E-07	0.0000
Eu-152	1.465E-01	0.4063	2.241E-07	0.0000	0.000E+00	0.0000	3.843E-07	0.0000	3.452E-08	0.0000	3.577E-09	0.0000	5.217E-08	0.0000
Ni-63	0.000E+00	0.0000	2.464E-08	0.0000	0.000E+00	0.0000	2.863E-06	0.0000	4.408E-08	0.0000	8.316E-07	0.0000	1.794E-08	0.0000
Sr-90	1.289E-03	0.0036	2.988E-06	0.0000	0.000E+00	0.0000	2.857E-03	0.0079	3.057E-05	0.0001	4.793E-05	0.0001	2.770E-06	0.0000
Total	3.574E-01	0.9913	3.334E-06	0.0000	0.000E+00	0.0000	2.998E-03	0.0083	4.696E-05	0.0001	6.653E-05	0.0002	3.830E-06	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

## Water Dependent Pathways

Radio- Nuclide	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	0.000E+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	2.856E-02	0.0792
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	1.813E-01	0.5028
Eu-152	0.000E+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	1.465E-01	0.4063
Ni-63	0.000E+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	3.781E-06	0.0000
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	4.230E-03	0.0117
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	3.605E-01	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	1.864E-06	0.0001	1.144E-12	0.0000	0.000E+00	0.0000	2.848E-10	0.0000	2.193E-11	0.0000	7.119E-12	0.0000	1.116E-12	0.0000
Cs-137	2.395E-02	0.8887	8.945E-09	0.0000	0.000E+00	0.0000	1.524E-05	0.0006	1.828E-06	0.0001	2.025E-06	0.0001	1.113E-07	0.0000
Eu-152	2.534E-03	0.0941	3.411E-09	0.0000	0.000E+00	0.0000	5.849E-09	0.0000	5.254E-10	0.0000	5.444E-11	0.0000	7.940E-10	0.0000
Ni-63	0.000E+00	0.0000	8.333E-09	0.0000	0.000E+00	0.0000	9.686E-07	0.0000	1.492E-08	0.0000	2.814E-07	0.0000	6.069E-09	0.0000
Sr-90	1.532E-04	0.0057	2.930E-07	0.0000	0.000E+00	0.0000	2.802E-04	0.0104	2.999E-06	0.0001	4.702E-06	0.0002	2.716E-07	0.0000
Total	2.664E-02	0.9885	3.137E-07	0.0000	0.000E+00	0.0000	2.964E-04	0.0110	4.843E-06	0.0002	7.008E-06	0.0003	3.898E-07	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

Water Dependent Pathways

Radio- Nuclide	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	0.000E+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	1.864E-06	0.0001
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	2.397E-02	0.8894
Eu-152	0.000E+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	2.534E-03	0.0941
Ni-63	0.000E+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	1.279E-06	0.0000
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	4.416E-04	0.0164
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	2.695E-02	1.0000

\*Sum of all water independent and dependent pathways.



Summary : RESRAD Default Parameters

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

## Water Independent Pathways (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	0.000E+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	0.000E+00	0.0000
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	0.000E+00	0.0000
Eu-152	0.000E+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	0.000E+00	0.0000
Ni-63	0.000E+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	0.000E+00	0.0000
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	0.000E+00	0.0000
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	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

## Water Dependent Pathways

Radio- Nuclide	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	0.000E+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	0.000E+00	0.0000
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	0.000E+00	0.0000
Eu-152	0.000E+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	0.000E+00	0.0000
Ni-63	0.000E+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	0.000E+00	0.0000
Sr-90	5.046E-09	0.9994	0.000E+00	0.0000	0.000E+00	0.0000	2.464E-12	0.0005	1.765E-13	0.0000	2.117E-13	0.0000	5.049E-09	1.0000
Total	5.046E-09	0.9994	0.000E+00	0.0000	0.000E+00	0.0000	2.464E-12	0.0005	1.765E-13	0.0000	2.117E-13	0.0000	5.049E-09	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

## Water Independent Pathways (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	0.000E+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	0.000E+00	0.0000
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	0.000E+00	0.0000
Eu-152	0.000E+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	0.000E+00	0.0000
Ni-63	0.000E+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	0.000E+00	0.0000
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	0.000E+00	0.0000
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	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

## Water Dependent Pathways

Radio- Nuclide	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
C-14	0.000E+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	0.000E+00	0.0000
Co-60	0.000E+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	0.000E+00	0.0000
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	0.000E+00	0.0000
Eu-152	5.282E-20	0.9996	0.000E+00	0.0000	0.000E+00	0.0000	2.057E-23	0.0004	2.790E-25	0.0000	1.582E-26	0.0000	5.284E-20	1.0000
Ni-63	0.000E+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	0.000E+00	0.0000
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	0.000E+00	0.0000
Total	5.282E-20	0.9996	0.000E+00	0.0000	0.000E+00	0.0000	2.057E-23	0.0004	2.790E-25	0.0000	1.582E-26	0.0000	5.284E-20	1.0000

\*Sum of all water independent and dependent pathways.

Dose/Source Ratios Summed Over All Pathways  
Parent and Progeny Principal Radionuclide Contributions Indicated

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g)							
			0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
C-14	C-14	1.000E+00	9.879E-06	7.983E-15	4.809E-34	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Co-60	Co-60	1.000E+00	1.674E+00	1.462E+00	1.115E+00	4.321E-01	2.856E-02	1.864E-06	0.000E+00	0.000E+00
Cs-137+D	Cs-137+D	1.000E+00	4.074E-01	3.967E-01	3.761E-01	3.118E-01	1.813E-01	2.397E-02	0.000E+00	0.000E+00
Eu-152	Eu-152	7.208E-01	5.673E-01	5.366E-01	4.800E-01	3.247E-01	1.056E-01	1.827E-03	0.000E+00	0.000E+00
Eu-152	Eu-152	2.792E-01	2.197E-01	2.078E-01	1.859E-01	1.258E-01	4.089E-02	7.076E-04	0.000E+00	0.000E+00
Eu-152	Gd-152	2.792E-01	1.289E-18	3.760E-18	8.256E-18	2.010E-17	3.378E-17	2.405E-17	0.000E+00	5.284E-20
Eu-152	ΣDSR(j)		2.197E-01	2.078E-01	1.859E-01	1.258E-01	4.089E-02	7.076E-04	0.000E+00	5.284E-20
Ni-63	Ni-63	1.000E+00	5.624E-06	5.553E-06	5.412E-06	4.942E-06	3.781E-06	1.279E-06	0.000E+00	0.000E+00
Sr-90+D	Sr-90+D	1.000E+00	1.049E-02	1.018E-02	9.589E-03	7.770E-03	4.230E-03	4.416E-04	5.049E-09	0.000E+00

The DSR includes contributions from associated (half-life ≤ 30 days) daughters.

Single Radionuclide Soil Guidelines G(i,t) in pCi/g  
Basic Radiation Dose Limit = 2.500E+01 mrem/yr

Nuclide (i)	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
C-14	2.531E+06	*4.455E+12	*4.455E+12	*4.455E+12	*4.455E+12	*4.455E+12	*4.455E+12	*4.455E+12
Co-60	1.493E+01	1.710E+01	2.241E+01	5.786E+01	8.755E+02	1.341E+07	*1.132E+15	*1.132E+15
Cs-137	6.136E+01	6.302E+01	6.647E+01	8.018E+01	1.379E+02	1.043E+03	*8.704E+13	*8.704E+13
Eu-152	3.177E+01	3.358E+01	3.754E+01	5.550E+01	1.707E+02	9.865E+03	*1.765E+14	*1.765E+14
Ni-63	4.445E+06	4.502E+06	4.619E+06	5.059E+06	6.611E+06	1.954E+07	*5.917E+13	*5.917E+13
Sr-90	2.383E+03	2.456E+03	2.607E+03	3.218E+03	5.910E+03	5.661E+04	4.952E+09	*1.365E+14

\*At specific activity limit

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)  
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g  
at tmin = time of minimum single radionuclide soil guideline  
and at tmax = time of maximum total dose = 0.000E+00 years

Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
C-14	1.000E+00	0.000E+00	9.879E-06	2.531E+06	9.879E-06	2.531E+06
Co-60	1.000E+00	0.000E+00	1.674E+00	1.493E+01	1.674E+00	1.493E+01
Cs-137	1.000E+00	0.000E+00	4.074E-01	6.136E+01	4.074E-01	6.136E+01
Eu-152	1.000E+00	0.000E+00	7.870E-01	3.177E+01	7.870E-01	3.177E+01
Ni-63	1.000E+00	0.000E+00	5.624E-06	4.445E+06	5.624E-06	4.445E+06
Sr-90	1.000E+00	0.000E+00	1.049E-02	2.383E+03	1.049E-02	2.383E+03

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\AREA FACTOR\FCS SOIL AF 5 DCGL 0.15 M.RAD

## Individual Nuclide Dose Summed Over All Pathways

Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr							
			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
C-14	C-14	1.000E+00	9.879E-06	7.983E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Co-60	Co-60	1.000E+00	1.674E+00	1.462E+00	1.115E+00	4.321E-01	2.856E-02	1.864E-06	0.000E+00	0.000E+00
Cs-137	Cs-137	1.000E+00	4.074E-01	3.967E-01	3.761E-01	3.118E-01	1.813E-01	2.397E-02	0.000E+00	0.000E+00
Eu-152	Eu-152	7.208E-01	5.673E-01	5.366E-01	4.800E-01	3.247E-01	1.056E-01	1.827E-03	0.000E+00	0.000E+00
Eu-152	Eu-152	2.792E-01	2.197E-01	2.078E-01	1.859E-01	1.258E-01	4.089E-02	7.076E-04	0.000E+00	0.000E+00
Eu-152	ΣDOSE(j)		7.870E-01	7.444E-01	6.659E-01	4.505E-01	1.465E-01	2.534E-03	0.000E+00	0.000E+00
Gd-152	Eu-152	2.792E-01	1.289E-18	3.760E-18	8.256E-18	2.010E-17	3.378E-17	2.405E-17	0.000E+00	5.284E-20
Ni-63	Ni-63	1.000E+00	5.624E-06	5.553E-06	5.412E-06	4.942E-06	3.781E-06	1.279E-06	0.000E+00	0.000E+00
Sr-90	Sr-90	1.000E+00	1.049E-02	1.018E-02	9.589E-03	7.770E-03	4.230E-03	4.416E-04	5.049E-09	0.000E+00

THF(i) is the thread fraction of the parent nuclide.

## Individual Nuclide Soil Concentration

Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g							
			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
C-14	C-14	1.000E+00	1.000E+00	2.467E-10	1.501E-29	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Co-60	Co-60	1.000E+00	1.000E+00	8.767E-01	6.739E-01	2.683E-01	1.932E-02	1.935E-06	7.241E-18	0.000E+00
Cs-137	Cs-137	1.000E+00	1.000E+00	9.771E-01	9.328E-01	7.931E-01	4.988E-01	9.844E-02	9.540E-04	8.548E-11
Eu-152	Eu-152	7.208E-01	7.208E-01	6.843E-01	6.166E-01	4.284E-01	1.513E-01	3.962E-03	1.197E-07	1.814E-23
Eu-152	Eu-152	2.792E-01	2.792E-01	2.650E-01	2.388E-01	1.659E-01	5.861E-02	1.535E-03	4.636E-08	7.027E-24
Eu-152	ΣS(j):		1.000E+00	9.493E-01	8.555E-01	5.943E-01	2.099E-01	5.496E-03	1.661E-07	2.517E-23
Gd-152	Eu-152	2.792E-01	0.000E+00	1.746E-15	4.975E-15	1.395E-14	2.704E-14	3.334E-14	3.139E-14	2.492E-14
Ni-63	Ni-63	1.000E+00	1.000E+00	9.923E-01	9.771E-01	9.256E-01	7.930E-01	4.615E-01	9.832E-02	4.386E-04
Sr-90	Sr-90	1.000E+00	1.000E+00	9.749E-01	9.266E-01	7.755E-01	4.664E-01	7.869E-02	4.873E-04	9.108E-12

THF(i) is the thread fraction of the parent nuclide.

RESCALC.EXE execution time = 0.77 seconds