

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 FGR 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 FGR 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)	1.430E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	1.000E+00	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)	1.196E+01	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	4.215E-04	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	8.086E-06	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	1.167E-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	5.617E-06	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	7.673E-05	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	2.428E-04	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	4.950E-05	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	0.715E-01	FPLANT
R018	Contamination fraction of meat	-1	-1	0.715E-02	FMEAT
R018	Contamination fraction of milk	-1	-1	0.715E-02	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:	143.00 square meters	C-14	1.000E+00
Thickness:	1.00 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):	1.155E+01	1.059E+01	8.990E+00	5.437E+00	2.055E+00	2.716E-01	2.237E-03	1.741E-07
M(t):	4.620E-01	4.238E-01	3.596E-01	2.175E-01	8.220E-02	1.086E-02	8.948E-05	6.964E-09

Maximum TDOSE(t): 1.155E+01 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	8.340E-07	0.0000	6.835E-06	0.0000	0.000E+00	0.0000	8.555E-03	0.0007	2.462E-04	0.0000	2.044E-04	0.0000	6.419E-07	0.0000
Co-60	5.968E+00	0.5167	2.654E-06	0.0000	0.000E+00	0.0000	5.706E-02	0.0049	2.748E-03	0.0002	1.109E-03	0.0001	5.145E-05	0.0000
Cs-137	1.321E+00	0.1144	4.078E-07	0.0000	0.000E+00	0.0000	6.000E-02	0.0052	3.660E-03	0.0003	5.328E-03	0.0005	1.009E-04	0.0000
Eu-152	2.696E+00	0.2334	2.785E-06	0.0000	0.000E+00	0.0000	4.123E-04	0.0000	9.368E-06	0.0000	1.080E-06	0.0000	1.289E-05	0.0000
Ni-63	0.000E+00	0.0000	8.104E-08	0.0000	0.000E+00	0.0000	8.138E-04	0.0001	6.718E-06	0.0000	1.647E-04	0.0000	1.173E-06	0.0000
Sr-90	9.555E-03	0.0008	1.672E-05	0.0000	0.000E+00	0.0000	1.381E+00	0.1196	1.261E-02	0.0011	2.153E-02	0.0019	3.082E-04	0.0000
Total	9.994E+00	0.8653	2.948E-05	0.0000	0.000E+00	0.0000	1.508E+00	0.1306	1.928E-02	0.0017	2.834E-02	0.0025	4.752E-04	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	9.014E-03	0.0008
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	6.028E+00	0.5220
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	1.390E+00	0.1204
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	2.696E+00	0.2334
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	9.864E-04	0.0001
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	1.425E+00	0.1234
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	1.155E+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+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	1.087E-09	0.0000	8.906E-09	0.0000	0.000E+00	0.0000	1.295E-05	0.0000	5.610E-07	0.0000	4.099E-07	0.0000	8.364E-10	0.0000
Co-60	5.232E+00	0.4939	2.327E-06	0.0000	0.000E+00	0.0000	4.999E-02	0.0047	2.408E-03	0.0002	9.716E-04	0.0001	4.511E-05	0.0000
Cs-137	1.291E+00	0.1218	3.985E-07	0.0000	0.000E+00	0.0000	5.859E-02	0.0055	3.574E-03	0.0003	5.203E-03	0.0005	9.858E-05	0.0000
Eu-152	2.559E+00	0.2415	2.644E-06	0.0000	0.000E+00	0.0000	3.911E-04	0.0000	8.893E-06	0.0000	1.025E-06	0.0000	1.224E-05	0.0000
Ni-63	0.000E+00	0.0000	8.045E-08	0.0000	0.000E+00	0.0000	8.072E-04	0.0001	6.666E-06	0.0000	1.634E-04	0.0000	1.165E-06	0.0000
Sr-90	9.328E-03	0.0009	1.632E-05	0.0000	0.000E+00	0.0000	1.347E+00	0.1272	1.230E-02	0.0012	2.100E-02	0.0020	3.009E-04	0.0000
Total	9.091E+00	0.8581	2.178E-05	0.0000	0.000E+00	0.0000	1.457E+00	0.1375	1.830E-02	0.0017	2.734E-02	0.0026	4.579E-04	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	1.393E-05	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	5.286E+00	0.4989
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	1.358E+00	0.1282
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	2.559E+00	0.2416
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	9.786E-04	0.0001
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	1.390E+00	0.1312
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	1.059E+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 = 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	1.790E-15	0.0000	1.467E-14	0.0000	0.000E+00	0.0000	2.133E-11	0.0000	9.272E-13	0.0000	6.767E-13	0.0000	1.378E-15	0.0000
Co-60	4.022E+00	0.4474	1.789E-06	0.0000	0.000E+00	0.0000	3.837E-02	0.0043	1.848E-03	0.0002	7.459E-04	0.0001	3.468E-05	0.0000
Cs-137	1.233E+00	0.1371	3.804E-07	0.0000	0.000E+00	0.0000	5.585E-02	0.0062	3.409E-03	0.0004	4.961E-03	0.0006	9.413E-05	0.0000
Eu-152	2.306E+00	0.2565	2.382E-06	0.0000	0.000E+00	0.0000	3.519E-04	0.0000	8.013E-06	0.0000	9.235E-07	0.0000	1.103E-05	0.0000
Ni-63	0.000E+00	0.0000	7.929E-08	0.0000	0.000E+00	0.0000	7.943E-04	0.0001	6.562E-06	0.0000	1.608E-04	0.0000	1.148E-06	0.0000
Sr-90	8.890E-03	0.0010	1.555E-05	0.0000	0.000E+00	0.0000	1.282E+00	0.1426	1.171E-02	0.0013	1.999E-02	0.0022	2.867E-04	0.0000
Total	7.570E+00	0.8420	2.018E-05	0.0000	0.000E+00	0.0000	1.377E+00	0.1532	1.698E-02	0.0019	2.586E-02	0.0029	4.277E-04	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	2.296E-11	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	4.063E+00	0.4519
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	1.297E+00	0.1443
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	2.307E+00	0.2566
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	9.630E-04	0.0001
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	1.323E+00	0.1471
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.990E+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	1.602E+00	0.2947	7.123E-07	0.0000	0.000E+00	0.0000	1.520E-02	0.0028	7.330E-04	0.0001	2.956E-04	0.0001	1.381E-05	0.0000
Cs-137	1.048E+00	0.1928	3.236E-07	0.0000	0.000E+00	0.0000	4.726E-02	0.0087	2.889E-03	0.0005	4.201E-03	0.0008	8.007E-05	0.0000
Eu-152	1.603E+00	0.2948	1.656E-06	0.0000	0.000E+00	0.0000	2.432E-04	0.0000	5.564E-06	0.0000	6.409E-07	0.0000	7.662E-06	0.0000
Ni-63	0.000E+00	0.0000	7.534E-08	0.0000	0.000E+00	0.0000	7.508E-04	0.0001	6.210E-06	0.0000	1.521E-04	0.0000	1.091E-06	0.0000
Sr-90	7.513E-03	0.0014	1.314E-05	0.0000	0.000E+00	0.0000	1.078E+00	0.1982	9.843E-03	0.0018	1.680E-02	0.0031	2.423E-04	0.0000
Total	4.260E+00	0.7836	1.591E-05	0.0000	0.000E+00	0.0000	1.141E+00	0.2099	1.348E-02	0.0025	2.145E-02	0.0039	3.449E-04	0.0001

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	1.618E+00	0.2976
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	1.103E+00	0.2028
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	1.603E+00	0.2948
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	9.102E-04	0.0002
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	1.112E+00	0.2045
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	5.437E+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	1.154E-01	0.0562	5.133E-08	0.0000	0.000E+00	0.0000	1.079E-03	0.0005	5.216E-05	0.0000	2.101E-05	0.0000	9.953E-07	0.0000
Cs-137	6.603E-01	0.3213	2.038E-07	0.0000	0.000E+00	0.0000	2.931E-02	0.0143	1.800E-03	0.0009	2.611E-03	0.0013	5.043E-05	0.0000
Eu-152	5.664E-01	0.2756	5.851E-07	0.0000	0.000E+00	0.0000	8.465E-05	0.0000	1.963E-06	0.0000	2.257E-07	0.0000	2.708E-06	0.0000
Ni-63	0.000E+00	0.0000	6.511E-08	0.0000	0.000E+00	0.0000	6.389E-04	0.0003	5.306E-06	0.0000	1.297E-04	0.0001	9.428E-07	0.0000
Sr-90	4.645E-03	0.0023	8.126E-06	0.0000	0.000E+00	0.0000	6.560E-01	0.3192	5.997E-03	0.0029	1.023E-02	0.0050	1.498E-04	0.0001
Total	1.347E+00	0.6554	9.032E-06	0.0000	0.000E+00	0.0000	6.871E-01	0.3344	7.856E-03	0.0038	1.299E-02	0.0063	2.049E-04	0.0001

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	1.166E-01	0.0567
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	6.941E-01	0.3378
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	5.665E-01	0.2757
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	7.749E-04	0.0004
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.770E-01	0.3295
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	2.055E+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+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	1.160E-05	0.0000	5.157E-12	0.0000	0.000E+00	0.0000	1.025E-07	0.0000	5.007E-09	0.0000	2.006E-09	0.0000	9.999E-11	0.0000
Cs-137	1.309E-01	0.4821	4.041E-08	0.0000	0.000E+00	0.0000	5.495E-03	0.0202	3.431E-04	0.0013	4.939E-04	0.0018	9.998E-06	0.0000
Eu-152	1.486E-02	0.0547	1.535E-08	0.0000	0.000E+00	0.0000	2.101E-06	0.0000	5.120E-08	0.0000	5.848E-09	0.0000	7.107E-08	0.0000
Ni-63	0.000E+00	0.0000	3.907E-08	0.0000	0.000E+00	0.0000	3.625E-04	0.0013	3.056E-06	0.0000	7.415E-05	0.0003	5.657E-07	0.0000
Sr-90	8.629E-04	0.0032	1.510E-06	0.0000	0.000E+00	0.0000	1.152E-01	0.4244	1.057E-03	0.0039	1.800E-03	0.0066	2.783E-05	0.0001
Total	1.467E-01	0.5400	1.604E-06	0.0000	0.000E+00	0.0000	1.211E-01	0.4459	1.403E-03	0.0052	2.368E-03	0.0087	3.846E-05	0.0001

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	1.210E-07	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.308E-09	0.0000	4.520E-10	0.0000	2.888E-10	0.0000	1.230E-07	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	1.171E-05	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	1.373E-01	0.5054
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	1.487E-02	0.0547
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	4.403E-04	0.0016
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	1.190E-01	0.4382
Total	1.210E-07	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.308E-09	0.0000	4.520E-10	0.0000	2.888E-10	0.0000	2.716E-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 = 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	4.380E-17	0.0000	1.948E-23	0.0000	0.000E+00	0.0000	3.235E-19	0.0000	1.640E-20	0.0000	6.445E-21	0.0000	3.777E-22	0.0000
Cs-137	1.286E-03	0.5747	3.968E-10	0.0000	0.000E+00	0.0000	4.509E-05	0.0202	2.984E-06	0.0013	4.179E-06	0.0019	9.818E-08	0.0000
Eu-152	4.519E-07	0.0002	4.670E-13	0.0000	0.000E+00	0.0000	5.338E-11	0.0000	1.529E-12	0.0000	1.713E-13	0.0000	2.161E-12	0.0000
Ni-63	0.000E+00	0.0000	9.078E-09	0.0000	0.000E+00	0.0000	7.039E-05	0.0315	6.254E-07	0.0003	1.479E-05	0.0066	1.314E-07	0.0001
Sr-90	7.036E-06	0.0031	1.231E-08	0.0000	0.000E+00	0.0000	7.853E-04	0.3510	7.278E-06	0.0033	1.232E-05	0.0055	2.269E-07	0.0001
Total	1.293E-03	0.5780	2.179E-08	0.0000	0.000E+00	0.0000	9.008E-04	0.4027	1.089E-05	0.0049	3.130E-05	0.0140	4.566E-07	0.0002

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	4.415E-17	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	1.338E-03	0.5981
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	4.520E-07	0.0002
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	8.595E-05	0.0384
Sr-90	5.758E-07	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	8.038E-09	0.0000	5.750E-10	0.0000	6.900E-10	0.0000	8.128E-04	0.3633
Total	5.758E-07	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	8.038E-09	0.0000	5.750E-10	0.0000	6.900E-10	0.0000	2.237E-03	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	1.188E-10	0.0007	3.724E-17	0.0000	0.000E+00	0.0000	1.319E-12	0.0000	1.538E-13	0.0000	1.719E-13	0.0000	9.214E-15	0.0000
Eu-152	6.753E-23	0.0000	1.031E-16	0.0000	0.000E+00	0.0000	4.943E-17	0.0000	3.510E-18	0.0000	1.288E-19	0.0000	1.079E-17	0.0000
Ni-63	0.000E+00	0.0000	5.491E-11	0.0003	0.000E+00	0.0000	1.327E-07	0.7624	1.989E-09	0.0114	3.788E-08	0.2176	7.951E-10	0.0046
Sr-90	3.448E-13	0.0000	6.028E-16	0.0000	0.000E+00	0.0000	1.199E-11	0.0001	1.271E-13	0.0000	2.002E-13	0.0000	1.111E-14	0.0000
Total	1.191E-10	0.0007	5.491E-11	0.0003	0.000E+00	0.0000	1.328E-07	0.7625	1.989E-09	0.0114	3.788E-08	0.2176	7.951E-10	0.0046

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	1.204E-10	0.0007
Eu-152	7.173E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.989E-21	0.0000	1.083E-22	0.0000	6.143E-24	0.0000	1.677E-16	0.0000
Ni-63	5.062E-10	0.0029	0.000E+00	0.0000	0.000E+00	0.0000	5.855E-12	0.0000	3.546E-13	0.0000	6.931E-12	0.0000	1.740E-07	0.9992
Sr-90	1.167E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.629E-16	0.0000	1.166E-17	0.0000	1.399E-17	0.0000	1.268E-11	0.0001
Total	5.062E-10	0.0029	0.000E+00	0.0000	0.000E+00	0.0000	5.855E-12	0.0000	3.546E-13	0.0000	6.931E-12	0.0000	1.741E-07	1.0000

\*Sum of all water independent and dependent pathways.



Summary : RESRAD Default Parameters

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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	9.014E-03	1.393E-05	2.296E-11	9.577E-32	0.000E+00	1.230E-07	0.000E+00	0.000E+00
Co-60	Co-60	1.000E+00	6.028E+00	5.286E+00	4.063E+00	1.618E+00	1.166E-01	1.171E-05	4.415E-17	0.000E+00
Cs-137+D	Cs-137+D	1.000E+00	1.390E+00	1.358E+00	1.297E+00	1.103E+00	6.941E-01	1.373E-01	1.338E-03	1.204E-10
Eu-152	Eu-152	7.208E-01	1.943E+00	1.845E+00	1.663E+00	1.155E+00	4.083E-01	1.072E-02	3.258E-07	4.868E-23
Eu-152	Eu-152	2.792E-01	7.528E-01	7.146E-01	6.440E-01	4.475E-01	1.582E-01	4.151E-03	1.262E-07	1.886E-23
Eu-152	Gd-152	2.792E-01	8.876E-18	2.562E-17	5.648E-17	1.420E-16	2.653E-16	3.194E-16	2.857E-16	1.677E-16
Eu-152	ΣDSR(j)		7.528E-01	7.146E-01	6.440E-01	4.475E-01	1.582E-01	4.151E-03	1.262E-07	1.677E-16
Ni-63	Ni-63	1.000E+00	9.864E-04	9.786E-04	9.630E-04	9.102E-04	7.749E-04	4.403E-04	8.595E-05	1.740E-07
Sr-90+D	Sr-90+D	1.000E+00	1.425E+00	1.390E+00	1.323E+00	1.112E+00	6.770E-01	1.190E-01	8.128E-04	1.268E-11

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	2.773E+03	1.795E+06	1.089E+12	*4.455E+12	*4.455E+12	2.032E+08	*4.455E+12	*4.455E+12
Co-60	4.147E+00	4.730E+00	6.153E+00	1.545E+01	2.144E+02	2.135E+06	*1.132E+15	*1.132E+15
Cs-137	1.798E+01	1.840E+01	1.928E+01	2.267E+01	3.602E+01	1.821E+02	1.869E+04	2.076E+11
Eu-152	9.273E+00	9.768E+00	1.084E+01	1.560E+01	4.413E+01	1.682E+03	5.531E+07	*1.765E+14
Ni-63	2.534E+04	2.555E+04	2.596E+04	2.747E+04	3.226E+04	5.678E+04	2.909E+05	1.437E+08
Sr-90	1.754E+01	1.798E+01	1.890E+01	2.248E+01	3.693E+01	2.101E+02	3.076E+04	1.971E+12

\*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	9.014E-03	2.773E+03	9.014E-03	2.773E+03
Co-60	1.000E+00	0.000E+00	6.028E+00	4.147E+00	6.028E+00	4.147E+00
Cs-137	1.000E+00	0.000E+00	1.390E+00	1.798E+01	1.390E+00	1.798E+01
Eu-152	1.000E+00	0.000E+00	2.696E+00	9.273E+00	2.696E+00	9.273E+00
Ni-63	1.000E+00	0.000E+00	9.864E-04	2.534E+04	9.864E-04	2.534E+04
Sr-90	1.000E+00	0.000E+00	1.425E+00	1.754E+01	1.425E+00	1.754E+01



Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\AREA FACTOR\1M\FCS SOIL AF 143 DCGL 1M.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	9.014E-03	1.393E-05	2.296E-11	0.000E+00	0.000E+00	1.230E-07	0.000E+00	0.000E+00
Co-60	Co-60	1.000E+00	6.028E+00	5.286E+00	4.063E+00	1.618E+00	1.166E-01	1.171E-05	4.415E-17	0.000E+00
Cs-137	Cs-137	1.000E+00	1.390E+00	1.358E+00	1.297E+00	1.103E+00	6.941E-01	1.373E-01	1.338E-03	1.204E-10
Eu-152	Eu-152	7.208E-01	1.943E+00	1.845E+00	1.663E+00	1.155E+00	4.083E-01	1.072E-02	3.258E-07	4.868E-23
Eu-152	Eu-152	2.792E-01	7.528E-01	7.146E-01	6.440E-01	4.475E-01	1.582E-01	4.151E-03	1.262E-07	1.886E-23
Eu-152	ΣDOSE(j)		2.696E+00	2.559E+00	2.307E+00	1.603E+00	5.665E-01	1.487E-02	4.520E-07	6.754E-23
Gd-152	Eu-152	2.792E-01	8.876E-18	2.562E-17	5.648E-17	1.420E-16	2.653E-16	3.194E-16	2.857E-16	1.677E-16
Ni-63	Ni-63	1.000E+00	9.864E-04	9.786E-04	9.630E-04	9.102E-04	7.749E-04	4.403E-04	8.595E-05	1.740E-07
Sr-90	Sr-90	1.000E+00	1.425E+00	1.390E+00	1.323E+00	1.112E+00	6.770E-01	1.190E-01	8.128E-04	1.268E-11

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	1.305E-03	2.156E-09	9.067E-30	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Co-60	Co-60	1.000E+00	1.000E+00	8.768E-01	6.740E-01	2.684E-01	1.935E-02	1.944E-06	7.341E-18	0.000E+00
Cs-137	Cs-137	1.000E+00	1.000E+00	9.771E-01	9.330E-01	7.936E-01	4.998E-01	9.910E-02	9.732E-04	9.133E-11
Eu-152	Eu-152	7.208E-01	7.208E-01	6.843E-01	6.167E-01	4.285E-01	1.514E-01	3.974E-03	1.208E-07	1.873E-23
Eu-152	Eu-152	2.792E-01	2.792E-01	2.651E-01	2.389E-01	1.660E-01	5.866E-02	1.540E-03	4.681E-08	7.254E-24
Eu-152	ΣS(j):		1.000E+00	9.493E-01	8.555E-01	5.945E-01	2.101E-01	5.514E-03	1.676E-07	2.598E-23
Gd-152	Eu-152	2.792E-01	0.000E+00	1.746E-15	4.977E-15	1.397E-14	2.719E-14	3.413E-14	3.398E-14	3.282E-14
Ni-63	Ni-63	1.000E+00	1.000E+00	9.927E-01	9.783E-01	9.296E-01	8.034E-01	4.821E-01	1.120E-01	6.776E-04
Sr-90	Sr-90	1.000E+00	1.000E+00	9.762E-01	9.304E-01	7.863E-01	4.861E-01	9.030E-02	7.364E-04	3.606E-11

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

RESCALC.EXE execution time = 0.83 seconds