Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary 6
Summary of Pathway Selections 13
Contaminated Zone and Total Dose Summary 14
Total Dose Components
Time = 0.000E+00 15
Time = 1.000E+00 16
Time = 3.000E+00 17
Time = 1.000E+01 18
Time = 3.000E+01 19
Time = 1.000E+02 20
Time = 3.000E+02 21
Time = 1.000E+03 22
Dose/Source Ratios Summed Over All Pathways 23
Single Radionuclide Soil Guidelines 24
Dose Per Nuclide Summed Over All Pathways 25
Soil Concentration Per Nuclide 26

Dose Conversion Factor (and Related) Parameter Summary
Dose Library: FGR 12 & FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)
A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-236 (Source: FGR 12)	2.148E-04	2.148E-04	DCF1(41)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(42)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)

Dose Conversion Factor (and Related) Parameter Summary (continued)
Dose Library: FGR 12 & FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-236	1.250E-01	1.250E-01	DCF2(11)
B-1	U-238	1.180E-01	1.180E-01	DCF2(12)
B-1	U-238+D	1.180E-01	1.180E-01	DCF2(13)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Ac-227+D	1.480E-02	1.410E-02	DCF3(1)
D-1	Pa-231	1.060E-02	1.060E-02	DCF3(2)
D-1	Pb-210+D	7.276E-03	5.370E-03	DCF3(3)
D-1	Ra-226+D	1.321E-03	1.320E-03	DCF3(4)
D-1	Ra-228+D	1.442E-03	1.440E-03	DCF3(5)
D-1	Th-228+D	8.086E-04	3.960E-04	DCF3(6)
D-1	Th-230	5.480E-04	5.480E-04	DCF3(7)
D-1	Th-232	2.730E-03	2.730E-03	DCF3(8)
D-1	U-234	2.830E-04	2.830E-04	DCF3(9)
D-1	U-235+D	2.673E-04	2.660E-04	DCF3(10)
D-1	U-236	2.690E-04	2.690E-04	DCF3(11)
D-1	U-238	2.550E-04	2.550E-04	DCF3(12)
D-1	U-238+D	2.687E-04	2.550E-04	DCF3(13)
D-34	Food transfer factors:			
D-34	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,1)
D-34	Ac-227+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,2)
D-34	Ac-227+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,3)
D-34				
D-34	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(2,2)
D-34	Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(2,3)
D-34				
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(3,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(3,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(3,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(4,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,3)
D-34				
D-34	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(5,1)
D-34	Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,2)
D-34	Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,3)
D-34				
D-34	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(6,3)
D-34				

Dose Conversion Factor (and Related) Parameter Summary (continued)
Dose Library: FGR 12 & FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-34	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(7,3)
D-34				
D-34	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,1)
D-34	Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(8,2)
D-34	Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(8,3)
D-34				
D-34	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(9,1)
D-34	U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(9,2)
D-34	U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(9,3)
D-34				
D-34	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(10,1)
D-34	U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(10,2)
D-34	U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(10,3)
D-34				
D-34	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(11,1)
D-34	U-236 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(11,2)
D-34	U-236 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(11,3)
D-34				
D-34	U-238 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(12,1)
D-34	U-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(12,2)
D-34	U-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(12,3)
D-34				
D-34	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(13,1)
D-34	U-238+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(13,2)
D-34	U-238+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(13,3)
D-5	Bioaccumulation factors, fresh water, L/kg:			
D-5	Ac-227+D , fish	1.500E+01	1.500E+01	BIOFAC(1,1)
D-5	Ac-227+D , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC(1,2)
D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(2,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(2,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(3,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(3,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(4,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(4,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(5,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(5,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(6,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(6,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(7,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(7,2)
D-5				

Dose Conversion Factor (and Related) Parameter Summary (continued)
Dose Library: FGR 12 & FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(8,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(8,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(9,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)
D-5				
D-5	U-236 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-236 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(13,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(13,2)

#For DCF1(xxx) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.
*Base Case means Default.Lib w/o Associate Nuclide contributions.

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)	1.200E+04	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	3.453E+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)	1.650E+02	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): Pa-231	7.000E-02	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Ra-226	3.400E-01	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g): Th-228	3.000E-02	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g): Th-230	8.300E-01	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g): Th-232	3.000E-02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g): U-234	1.186E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g): U-235	5.110E+00	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g): U-236	2.910E+00	0.000E+00	---	S1(11)
R012	Initial principal radionuclide (pCi/g): U-238	1.227E+02	0.000E+00	---	S1(12)
R012	Concentration in groundwater (pCi/L): Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L): Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L): Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L): Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L): Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L): U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L): U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L): U-236	not used	0.000E+00	---	W1(11)
R012	Concentration in groundwater (pCi/L): U-238	not used	0.000E+00	---	W1(12)
R013	Cover depth (m)	1.590E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	1.571E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	1.050E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.438E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	3.490E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	4.100E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity	2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	1.600E+00	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	1.350E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)	3.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	6.200E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	1.250E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Runoff coefficient	4.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.778E+05	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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.800E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	2.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.800E-03	2.000E-02	---	HGWT
R014	Saturated zone b parameter	9.700E-01	5.300E+00	---	BSZ
R014	Water table drop rate (m/yr)	1.000E-03	1.000E-03	---	VWT
R014	Well pump intake depth (m below water table)	1.050E+02	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	ND	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	2.500E+03	2.500E+02	---	UW
R015	Number of unsaturated zone strata	5	1	---	NS
R015	Unsat. zone 1, thickness (m)	6.860E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.695E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	9.870E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	1.262E+02	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.710E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.563E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.090E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.500E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	1.350E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	1.025E+03	1.000E+01	---	HCUZ(2)
R015	Unsat. zone 3, thickness (m)	1.710E+00	0.000E+00	---	H(3)
R015	Unsat. zone 3, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(3)
R015	Unsat. zone 3, total porosity	4.300E-01	4.000E-01	---	TPUZ(3)
R015	Unsat. zone 3, effective porosity	3.830E-01	2.000E-01	---	EPUZ(3)
R015	Unsat. zone 3, field capacity	2.000E-01	2.000E-01	---	FCUZ(3)
R015	Unsat. zone 3, soil-specific b parameter	9.700E-01	5.300E+00	---	BUZ(3)
R015	Unsat. zone 3, hydraulic conductivity (m/yr)	2.495E+03	1.000E+01	---	HCUZ(3)
R015	Unsat. zone 4, thickness (m)	4.000E+00	0.000E+00	---	H(4)
R015	Unsat. zone 4, soil density (g/cm**3)	1.562E+00	1.500E+00	---	DENSUZ(4)
R015	Unsat. zone 4, total porosity	3.890E-01	4.000E-01	---	TPUZ(4)
R015	Unsat. zone 4, effective porosity	3.180E-01	2.000E-01	---	EPUZ(4)
R015	Unsat. zone 4, field capacity	2.000E-01	2.000E-01	---	FCUZ(4)
R015	Unsat. zone 4, soil-specific b parameter	1.350E+00	5.300E+00	---	BUZ(4)
R015	Unsat. zone 4, hydraulic conductivity (m/yr)	1.021E+03	1.000E+01	---	HCUZ(4)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R015	Unsat. zone 5, thickness (m)	1.140E+00	0.000E+00	---	H(5)
R015	Unsat. zone 5, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(5)
R015	Unsat. zone 5, total porosity	4.300E-01	4.000E-01	---	TPUZ(5)
R015	Unsat. zone 5, effective porosity	3.830E-01	2.000E-01	---	EPUZ(5)
R015	Unsat. zone 5, field capacity	2.000E-01	2.000E-01	---	FCUZ(5)
R015	Unsat. zone 5, soil-specific b parameter	9.700E-01	5.300E+00	---	BUZ(5)
R015	Unsat. zone 5, hydraulic conductivity (m/yr)	2.494E+03	1.000E+01	---	HCUZ(5)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	3.743E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	3.707E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	3.751E+02	5.000E+01	---	DCNUCU(2,2)
R016	Unsaturated zone 3 (cm**3/g)	3.753E+02	5.000E+01	---	DCNUCU(2,3)
R016	Unsaturated zone 4 (cm**3/g)	3.782E+02	5.000E+01	---	DCNUCU(2,4)
R016	Unsaturated zone 5 (cm**3/g)	3.756E+02	5.000E+01	---	DCNUCU(2,5)
R016	Saturated zone (cm**3/g)	3.784E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.533E-04	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	3.501E+03	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.507E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.506E+03	7.000E+01	---	DCNUCU(4,2)
R016	Unsaturated zone 3 (cm**3/g)	3.523E+03	7.000E+01	---	DCNUCU(4,3)
R016	Unsaturated zone 4 (cm**3/g)	3.485E+03	7.000E+01	---	DCNUCU(4,4)
R016	Unsaturated zone 5 (cm**3/g)	3.496E+03	7.000E+01	---	DCNUCU(4,5)
R016	Saturated zone (cm**3/g)	3.529E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.640E-05	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	5.883E+03	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.736E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.825E+03	6.000E+04	---	DCNUCU(6,2)
R016	Unsaturated zone 3 (cm**3/g)	5.786E+03	6.000E+04	---	DCNUCU(6,3)
R016	Unsaturated zone 4 (cm**3/g)	5.775E+03	6.000E+04	---	DCNUCU(6,4)
R016	Unsaturated zone 5 (cm**3/g)	5.784E+03	6.000E+04	---	DCNUCU(6,5)
R016	Saturated zone (cm**3/g)	5.828E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.759E-06	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	5.771E+03	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.843E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.843E+03	6.000E+04	---	DCNUCU(7,2)
R016	Unsaturated zone 3 (cm**3/g)	5.882E+03	6.000E+04	---	DCNUCU(7,3)
R016	Unsaturated zone 4 (cm**3/g)	5.779E+03	6.000E+04	---	DCNUCU(7,4)
R016	Unsaturated zone 5 (cm**3/g)	5.860E+03	6.000E+04	---	DCNUCU(7,5)
R016	Saturated zone (cm**3/g)	5.849E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.949E-06	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	5.771E+03	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.809E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.744E+03	6.000E+04	---	DCNUCU(8,2)
R016	Unsaturated zone 3 (cm**3/g)	5.769E+03	6.000E+04	---	DCNUCU(8,3)
R016	Unsaturated zone 4 (cm**3/g)	5.779E+03	6.000E+04	---	DCNUCU(8,4)
R016	Unsaturated zone 5 (cm**3/g)	5.823E+03	6.000E+04	---	DCNUCU(8,5)
R016	Saturated zone (cm**3/g)	5.864E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.949E-06	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	1.235E+02	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.261E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.242E+02	5.000E+01	---	DCNUCU(9,2)
R016	Unsaturated zone 3 (cm**3/g)	1.242E+02	5.000E+01	---	DCNUCU(9,3)
R016	Unsaturated zone 4 (cm**3/g)	1.247E+02	5.000E+01	---	DCNUCU(9,4)
R016	Unsaturated zone 5 (cm**3/g)	1.257E+02	5.000E+01	---	DCNUCU(9,5)
R016	Saturated zone (cm**3/g)	1.264E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.641E-04	ALEACH(9)
R016	Solubility constant	2.940E-06	0.000E+00	Sol. Kd =-1.831E-01 not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.520E+01	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.258E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.233E+02	5.000E+01	---	DCNUCU(10,2)
R016	Unsaturated zone 3 (cm**3/g)	1.259E+02	5.000E+01	---	DCNUCU(10,3)
R016	Unsaturated zone 4 (cm**3/g)	1.249E+02	5.000E+01	---	DCNUCU(10,4)
R016	Unsaturated zone 5 (cm**3/g)	1.247E+02	5.000E+01	---	DCNUCU(10,5)
R016	Saturated zone (cm**3/g)	1.244E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.726E-03	ALEACH(10)
R016	Solubility constant	2.940E-06	0.000E+00	Sol. Kd = 3.211E+00 not used	SOLUBK(10)
R016	Distribution coefficients for U-236				
R016	Contaminated zone (cm**3/g)	1.239E+02	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.240E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.238E+02	5.000E+01	---	DCNUCU(11,2)
R016	Unsaturated zone 3 (cm**3/g)	1.239E+02	5.000E+01	---	DCNUCU(11,3)
R016	Unsaturated zone 4 (cm**3/g)	1.240E+02	5.000E+01	---	DCNUCU(11,4)
R016	Unsaturated zone 5 (cm**3/g)	1.259E+02	5.000E+01	---	DCNUCU(11,5)
R016	Saturated zone (cm**3/g)	1.258E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.626E-04	ALEACH(11)
R016	Solubility constant	2.940E-06	0.000E+00	Sol. Kd =-1.459E-01 not used	SOLUBK(11)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	1.240E+02	5.000E+01	5.214E+02	DCNUCC(12)
R016	Unsaturated zone 1 (cm**3/g)	1.238E+02	5.000E+01	5.214E+02	DCNUCU(12,1)
R016	Unsaturated zone 2 (cm**3/g)	1.245E+02	5.000E+01	5.214E+02	DCNUCU(12,2)
R016	Unsaturated zone 3 (cm**3/g)	1.234E+02	5.000E+01	5.214E+02	DCNUCU(12,3)
R016	Unsaturated zone 4 (cm**3/g)	1.240E+02	5.000E+01	5.214E+02	DCNUCU(12,4)
R016	Unsaturated zone 5 (cm**3/g)	1.262E+02	5.000E+01	5.214E+02	DCNUCU(12,5)
R016	Saturated zone (cm**3/g)	1.243E+02	5.000E+01	5.214E+02	DCNUCS(12)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.101E-04	ALEACH(12)
R016	Solubility constant	2.940E-06	0.000E+00	Sol. Kd = 5.214E+02 used	SOLUBK(12)
R016	Distribution coefficients for daughter Ac-227				
R016	Contaminated zone (cm**3/g)	8.245E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	8.184E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	8.284E+02	2.000E+01	---	DCNUCU(1,2)
R016	Unsaturated zone 3 (cm**3/g)	8.251E+02	2.000E+01	---	DCNUCU(1,3)
R016	Unsaturated zone 4 (cm**3/g)	8.097E+02	2.000E+01	---	DCNUCU(1,4)
R016	Unsaturated zone 5 (cm**3/g)	8.147E+02	2.000E+01	---	DCNUCU(1,5)
R016	Saturated zone (cm**3/g)	8.104E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.962E-05	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for daughter Pb-210				
R016	Contaminated zone (cm**3/g)	2.374E+03	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.347E+03	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.362E+03	1.000E+02	---	DCNUCU(3,2)
R016	Unsaturated zone 3 (cm**3/g)	2.357E+03	1.000E+02	---	DCNUCU(3,3)
R016	Unsaturated zone 4 (cm**3/g)	2.352E+03	1.000E+02	---	DCNUCU(3,4)
R016	Unsaturated zone 5 (cm**3/g)	2.380E+03	1.000E+02	---	DCNUCU(3,5)
R016	Saturated zone (cm**3/g)	2.360E+03	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.419E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for daughter Ra-228				
R016	Contaminated zone (cm**3/g)	3.490E+03	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.507E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.522E+03	7.000E+01	---	DCNUCU(5,2)
R016	Unsaturated zone 3 (cm**3/g)	3.513E+03	7.000E+01	---	DCNUCU(5,3)
R016	Unsaturated zone 4 (cm**3/g)	3.505E+03	7.000E+01	---	DCNUCU(5,4)
R016	Unsaturated zone 5 (cm**3/g)	3.484E+03	7.000E+01	---	DCNUCU(5,5)
R016	Saturated zone (cm**3/g)	3.521E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.645E-05	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	2.350E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	5.470E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.690E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	5.000E-01	5.000E-01	---	FIND

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fraction of time spent outdoors (on site)	2.500E-01	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	-1.000E+00	1.000E+00	-1 shows non-circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	7.667E+00	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	1.533E+01	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	2.300E+01	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	3.067E+01	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	3.833E+01	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	4.600E+01	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	5.367E+01	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	6.133E+01	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	6.900E+01	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	7.667E+01	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	8.433E+01	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	9.200E+01	0.000E+00	---	RAD_SHAPE(12)
R017	Fractions of annular areas within AREA:				
R017	Ring 1	1.000E+00	1.000E+00	---	FRACA(1)
R017	Ring 2	1.000E+00	2.732E-01	---	FRACA(2)
R017	Ring 3	1.000E+00	0.000E+00	---	FRACA(3)
R017	Ring 4	9.800E-01	0.000E+00	---	FRACA(4)
R017	Ring 5	9.800E-01	0.000E+00	---	FRACA(5)
R017	Ring 6	6.800E-01	0.000E+00	---	FRACA(6)
R017	Ring 7	5.300E-01	0.000E+00	---	FRACA(7)
R017	Ring 8	4.400E-01	0.000E+00	---	FRACA(8)
R017	Ring 9	3.900E-01	0.000E+00	---	FRACA(9)
R017	Ring 10	3.300E-01	0.000E+00	---	FRACA(10)
R017	Ring 11	2.800E-01	0.000E+00	---	FRACA(11)
R017	Ring 12	5.700E-02	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	1.120E+02	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	2.100E+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)	6.500E+01	6.300E+01	---	DIET(4)
R018	Fish consumption (kg/yr)	2.100E+01	5.400E+00	---	DIET(5)
R018	Other seafood consumption (kg/yr)	9.000E-01	9.000E-01	---	DIET(6)
R018	Soil ingestion rate (g/yr)	3.650E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	4.785E+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	3.900E-01	5.000E-01	---	FR9
R018	Contamination fraction of plant food	1.000E+00	-1	---	FPLANT
R018	Contamination fraction of meat	1.000E+00	-1	---	FMEAT
R018	Contamination fraction of milk	1.000E+00	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	2.710E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	6.320E+01	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.060E+01	5.000E+01	---	LWI5

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R019	Livestock water intake for milk (L/day)	3.000E+01	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-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)	2.310E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	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)	7.000E-01	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	2.889E+00	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.887E+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)
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	3.500E-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	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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	1024	---	---	NPTS
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	active
7 -- drinking water	active
8 -- soil ingestion	active
9 -- radon	suppressed
Find peak pathway doses	suppressed

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	12000.00 square meters	Pa-231	7.000E-02
Thickness:	3.45 meters	Ra-226	3.400E-01
Cover Depth:	1.59 meters	Th-228	3.000E-02
		Th-230	8.300E-01
		Th-232	3.000E-02
		U-234	1.186E+02
		U-235	5.110E+00
		U-236	2.910E+00
		U-238	1.227E+02

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):	2.022E-08	1.746E-08	1.520E-08	1.756E-08	2.267E-08	2.552E-08	3.398E-08	9.794E-08
M(t):	8.089E-10	6.982E-10	6.081E-10	7.022E-10	9.067E-10	1.021E-09	1.359E-09	3.918E-09

Maximum TDOSE(t): 9.794E-08 mrem/yr at t = 1.000E+03 years

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	6.308E-15	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
Ra-226	8.560E-09	0.4233	0.000E+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
Th-228	1.059E-08	0.5235	0.000E+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
Th-230	4.527E-12	0.0002	0.000E+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
Th-232	8.522E-11	0.0042	0.000E+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
U-234	1.941E-15	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
U-235	1.417E-15	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
U-236	1.058E-19	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
U-238	9.872E-10	0.0488	0.000E+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	2.022E-08	1.0000	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 = 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	0.000E+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	6.308E-15	0.0000
Ra-226	0.000E+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	8.560E-09	0.4233
Th-228	0.000E+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-08	0.5235
Th-230	0.000E+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	4.527E-12	0.0002
Th-232	0.000E+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	8.522E-11	0.0042
U-234	0.000E+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	1.941E-15	0.0000
U-235	0.000E+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	1.417E-15	0.0000
U-236	0.000E+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	1.058E-19	0.0000
U-238	0.000E+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	9.872E-10	0.0488
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	2.022E-08	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	1.624E-14	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
Ra-226	8.566E-09	0.4907	0.000E+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
Th-228	7.376E-09	0.4226	0.000E+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
Th-230	1.359E-11	0.0008	0.000E+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
Th-232	5.115E-10	0.0293	0.000E+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
U-234	1.360E-14	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
U-235	1.433E-15	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
U-236	1.400E-18	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
U-238	9.886E-10	0.0566	0.000E+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	1.746E-08	1.0000	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+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	0.000E+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	1.624E-14	0.0000
Ra-226	0.000E+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	8.566E-09	0.4907
Th-228	0.000E+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	7.376E-09	0.4226
Th-230	0.000E+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	1.359E-11	0.0008
Th-232	0.000E+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	5.115E-10	0.0293
U-234	0.000E+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	1.360E-14	0.0000
U-235	0.000E+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	1.433E-15	0.0000
U-236	0.000E+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	1.400E-18	0.0000
U-238	0.000E+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	9.886E-10	0.0566
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	1.746E-08	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	3.528E-14	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
Ra-226	8.580E-09	0.5644	0.000E+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
Th-228	3.581E-09	0.2356	0.000E+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
Th-230	3.178E-11	0.0021	0.000E+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
Th-232	2.018E-09	0.1327	0.000E+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
U-234	7.199E-14	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
U-235	1.508E-15	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
U-236	1.307E-17	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
U-238	9.913E-10	0.0652	0.000E+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	1.520E-08	1.0000	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+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	0.000E+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	3.528E-14	0.0000
Ra-226	0.000E+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	8.580E-09	0.5644
Th-228	0.000E+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	3.581E-09	0.2356
Th-230	0.000E+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	3.178E-11	0.0021
Th-232	0.000E+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	2.018E-09	0.1327
U-234	0.000E+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	7.199E-14	0.0000
U-235	0.000E+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	1.508E-15	0.0000
U-236	0.000E+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	1.307E-17	0.0000
U-238	0.000E+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	9.913E-10	0.0652
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	1.520E-08	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	9.393E-14	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
Ra-226	8.627E-09	0.4914	0.000E+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
Th-228	2.856E-10	0.0163	0.000E+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
Th-230	9.602E-11	0.0055	0.000E+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
Th-232	7.546E-09	0.4298	0.000E+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
U-234	6.482E-13	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
U-235	2.197E-15	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
U-236	1.794E-16	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
U-238	1.001E-09	0.0570	0.000E+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	1.756E-08	1.0000	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+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	0.000E+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	9.393E-14	0.0000
Ra-226	0.000E+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	8.627E-09	0.4914
Th-228	0.000E+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-10	0.0163
Th-230	0.000E+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	9.602E-11	0.0055
Th-232	0.000E+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	7.546E-09	0.4298
U-234	0.000E+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	6.482E-13	0.0000
U-235	0.000E+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	2.197E-15	0.0000
U-236	0.000E+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	1.794E-16	0.0000
U-238	0.000E+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	1.001E-09	0.0570
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	1.756E-08	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	2.099E-13	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
Ra-226	8.764E-09	0.3866	0.000E+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
Th-228	2.078E-13	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
Th-230	2.846E-10	0.0126	0.000E+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
Th-232	1.258E-08	0.5552	0.000E+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
U-234	5.568E-12	0.0002	0.000E+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
U-235	6.892E-15	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
U-236	1.231E-15	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
U-238	1.029E-09	0.0454	0.000E+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	2.267E-08	1.0000	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+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	0.000E+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	2.099E-13	0.0000
Ra-226	0.000E+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	8.764E-09	0.3866
Th-228	0.000E+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	2.078E-13	0.0000
Th-230	0.000E+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	2.846E-10	0.0126
Th-232	0.000E+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	1.258E-08	0.5552
U-234	0.000E+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	5.568E-12	0.0002
U-235	0.000E+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	6.892E-15	0.0000
U-236	0.000E+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	1.231E-15	0.0000
U-238	0.000E+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	1.029E-09	0.0454
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	2.267E-08	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	3.578E-13	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
Ra-226	9.261E-09	0.3629	0.000E+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
Th-228	2.159E-24	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
Th-230	1.006E-09	0.0394	0.000E+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
Th-232	1.406E-08	0.5508	0.000E+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
U-234	6.450E-11	0.0025	0.000E+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
U-235	3.652E-14	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
U-236	5.897E-15	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
U-238	1.132E-09	0.0443	0.000E+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	2.552E-08	1.0000	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+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	0.000E+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	3.578E-13	0.0000
Ra-226	0.000E+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	9.261E-09	0.3629
Th-228	0.000E+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	2.159E-24	0.0000
Th-230	0.000E+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	1.006E-09	0.0394
Th-232	0.000E+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	1.406E-08	0.5508
U-234	0.000E+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	6.450E-11	0.0025
U-235	0.000E+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	3.652E-14	0.0000
U-236	0.000E+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	5.897E-15	0.0000
U-238	0.000E+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	1.132E-09	0.0443
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	2.552E-08	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	4.958E-13	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
Ra-226	1.084E-08	0.3190	0.000E+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
Th-228	0.000E+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
Th-230	3.678E-09	0.1082	0.000E+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
Th-232	1.728E-08	0.5085	0.000E+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
U-234	6.942E-10	0.0204	0.000E+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
U-235	1.331E-13	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
U-236	2.243E-14	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
U-238	1.488E-09	0.0438	0.000E+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	3.398E-08	1.0000	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-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	0.000E+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	4.958E-13	0.0000
Ra-226	0.000E+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	1.084E-08	0.3190
Th-228	0.000E+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
Th-230	0.000E+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	3.678E-09	0.1082
Th-232	0.000E+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	1.728E-08	0.5085
U-234	0.000E+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	6.942E-10	0.0204
U-235	0.000E+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	1.331E-13	0.0000
U-236	0.000E+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	2.243E-14	0.0000
U-238	0.000E+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	1.488E-09	0.0438
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	3.398E-08	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	1.343E-12	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
Ra-226	1.881E-08	0.1921	0.000E+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
Th-228	0.000E+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
Th-230	2.488E-08	0.2541	0.000E+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
Th-232	3.557E-08	0.3632	0.000E+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
U-234	1.478E-08	0.1509	0.000E+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
U-235	5.654E-13	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
U-236	1.358E-13	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
U-238	3.892E-09	0.0397	0.000E+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	9.794E-08	1.0000	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-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pa-231	0.000E+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	1.343E-12	0.0000
Ra-226	0.000E+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	1.881E-08	0.1921
Th-228	0.000E+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
Th-230	0.000E+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	2.488E-08	0.2541
Th-232	0.000E+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	3.557E-08	0.3632
U-234	0.000E+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	1.478E-08	0.1509
U-235	0.000E+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	5.654E-13	0.0000
U-236	0.000E+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-13	0.0000
U-238	0.000E+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	3.892E-09	0.0397
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	9.794E-08	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
Pa-231	Pa-231	1.000E+00	1.778E-14	1.781E-14	1.787E-14	1.809E-14	1.873E-14	2.116E-14	2.996E-14	1.012E-13
Pa-231	Ac-227+D	1.000E+00	7.233E-14	2.142E-13	4.861E-13	1.324E-12	2.980E-12	5.090E-12	7.052E-12	1.908E-11
Pa-231	∑DSR(j)		9.011E-14	2.321E-13	5.040E-13	1.342E-12	2.999E-12	5.111E-12	7.082E-12	1.918E-11
Ra-226+D	Ra-226+D	1.000E+00	2.518E-08	2.520E-08	2.524E-08	2.537E-08	2.578E-08	2.724E-08	3.189E-08	5.534E-08
Ra-226+D	Pb-210+D	1.000E+00	4.956E-17	1.468E-16	3.332E-16	9.081E-16	2.046E-15	3.456E-15	4.456E-15	9.207E-15
Ra-226+D	∑DSR(j)		2.518E-08	2.520E-08	2.524E-08	2.537E-08	2.578E-08	2.724E-08	3.189E-08	5.534E-08
Th-228+D	Th-228+D	1.000E+00	3.529E-07	2.459E-07	1.194E-07	9.518E-09	6.926E-12	7.197E-23	0.000E+00	0.000E+00
Th-230	Th-230	1.000E+00	2.079E-24	2.085E-24	2.098E-24	2.144E-24	2.279E-24	2.825E-24	5.215E-24	4.460E-23
Th-230	Ra-226+D	1.000E+00	5.455E-12	1.638E-11	3.829E-11	1.157E-10	3.428E-10	1.212E-09	4.431E-09	2.998E-08
Th-230	Pb-210+D	1.000E+00	7.177E-21	4.985E-20	2.590E-19	2.181E-18	1.567E-17	1.108E-16	5.487E-16	4.791E-15
Th-230	∑DSR(j)		5.455E-12	1.638E-11	3.829E-11	1.157E-10	3.428E-10	1.212E-09	4.431E-09	2.998E-08
Th-232	Th-232	1.000E+00	4.462E-27	4.477E-27	4.508E-27	4.617E-27	4.944E-27	6.282E-27	1.245E-26	1.366E-25
Th-232	Ra-228+D	1.000E+00	1.202E-10	3.425E-10	7.160E-10	1.509E-09	2.105E-09	2.376E-09	3.118E-09	8.073E-09
Th-232	Th-228+D	1.000E+00	2.720E-09	1.671E-08	6.654E-08	2.500E-07	4.174E-07	4.662E-07	5.728E-07	1.178E-06
Th-232	∑DSR(j)		2.841E-09	1.705E-08	6.726E-08	2.515E-07	4.195E-07	4.686E-07	5.760E-07	1.186E-06
U-234	U-234	1.000E+00	1.007E-25	1.010E-25	1.015E-25	1.035E-25	1.093E-25	1.324E-25	2.286E-25	1.549E-24
U-234	Th-230	1.000E+00	9.361E-30	2.815E-29	6.606E-29	2.022E-28	6.216E-28	2.499E-27	1.320E-26	3.237E-25
U-234	Ra-226+D	1.000E+00	1.637E-17	1.147E-16	6.072E-16	5.467E-15	4.696E-14	5.440E-13	5.854E-12	1.247E-10
U-234	Pb-210+D	1.000E+00	1.618E-26	2.413E-25	2.781E-24	7.059E-23	1.537E-21	3.983E-20	6.575E-19	1.934E-17
U-234	∑DSR(j)		1.637E-17	1.147E-16	6.072E-16	5.467E-15	4.696E-14	5.440E-13	5.854E-12	1.247E-10
U-235+D	U-235+D	1.000E+00	2.767E-16	2.763E-16	2.755E-16	2.727E-16	2.649E-16	2.393E-16	1.791E-16	6.493E-17
U-235+D	Pa-231	1.000E+00	1.879E-19	5.638E-19	1.315E-18	3.946E-18	1.146E-17	3.784E-17	1.171E-16	5.857E-16
U-235+D	Ac-227+D	1.000E+00	5.111E-19	3.546E-18	1.838E-17	1.533E-16	1.072E-15	6.869E-15	2.574E-14	1.100E-13
U-235+D	∑DSR(j)		2.774E-16	2.804E-16	2.952E-16	4.300E-16	1.349E-15	7.146E-15	2.604E-14	1.107E-13
U-236	U-236	1.000E+00	1.626E-26	1.631E-26	1.640E-26	1.672E-26	1.769E-26	2.152E-26	3.771E-26	2.683E-25
U-236	Th-232	1.000E+00	1.101E-37	3.313E-37	7.779E-37	2.386E-36	7.389E-36	3.045E-35	1.726E-34	5.420E-33
U-236	Ra-228+D	1.000E+00	1.996E-21	1.352E-20	6.653E-20	4.706E-19	2.375E-18	1.058E-17	4.210E-17	3.183E-16
U-236	Th-228+D	1.000E+00	3.435E-20	4.675E-19	4.425E-18	6.118E-17	4.207E-16	2.016E-15	7.666E-15	4.633E-14
U-236	∑DSR(j)		3.635E-20	4.810E-19	4.492E-18	6.165E-17	4.231E-16	2.027E-15	7.708E-15	4.665E-14
U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238+D	U-238+D	9.999E-01	8.046E-12	8.057E-12	8.079E-12	8.157E-12	8.383E-12	9.226E-12	1.213E-11	3.160E-11
U-238+D	U-234	9.999E-01	1.428E-31	4.295E-31	1.008E-30	3.086E-30	9.502E-30	3.839E-29	2.056E-28	5.280E-27
U-238+D	Th-230	9.999E-01	8.848E-36	6.209E-35	3.300E-34	3.012E-33	2.691E-32	3.576E-31	5.696E-30	4.780E-28
U-238+D	Ra-226+D	9.999E-01	1.160E-23	1.742E-22	2.036E-21	5.435E-20	1.356E-18	5.192E-17	1.688E-15	1.238E-13
U-238+D	Pb-210+D	9.999E-01	9.183E-33	2.834E-31	7.075E-30	5.350E-28	3.471E-26	3.186E-24	1.731E-22	1.860E-20
U-238+D	∑DSR(j)		8.046E-12	8.057E-12	8.079E-12	8.157E-12	8.383E-12	9.226E-12	1.213E-11	3.172E-11

The DSR includes contributions from associated (half-life ≤ 180 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
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Ra-226	9.930E+08	9.922E+08	9.907E+08	9.852E+08	9.698E+08	9.178E+08	7.841E+08	4.518E+08
Th-228	7.085E+07	1.017E+08	2.094E+08	2.626E+09	3.610E+12	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	5.642E+09	8.338E+08
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-236	*6.468E+07	*6.468E+07	*6.468E+07	*6.468E+07	*6.468E+07	*6.468E+07	*6.468E+07	*6.468E+07
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*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 = 1.000E+03 years

Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Pa-231	7.000E-02	1.000E+03	1.918E-11	*4.723E+10	1.918E-11	*4.723E+10
Ra-226	3.400E-01	1.000E+03	5.534E-08	4.518E+08	5.534E-08	4.518E+08
Th-228	3.000E-02	0.000E+00	3.529E-07	7.085E+07	0.000E+00	*8.195E+14
Th-230	8.300E-01	1.000E+03	2.998E-08	8.338E+08	2.998E-08	8.338E+08
Th-232	3.000E-02	1.000E+03	1.186E-06	*1.097E+05	1.186E-06	*1.097E+05
U-234	1.186E+02	1.000E+03	1.247E-10	*6.247E+09	1.247E-10	*6.247E+09
U-235	5.110E+00	1.000E+03	1.107E-13	*2.161E+06	1.107E-13	*2.161E+06
U-236	2.910E+00	1.000E+03	4.665E-14	*6.468E+07	4.665E-14	*6.468E+07
U-238	1.227E+02	1.000E+03	3.172E-11	*3.361E+05	3.172E-11	*3.361E+05

*At specific activity limit

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
Pa-231	Pa-231	1.000E+00	1.245E-15	1.247E-15	1.251E-15	1.267E-15	1.311E-15	1.481E-15	2.097E-15	7.085E-15
Pa-231	U-235	1.000E+00	9.604E-19	2.881E-18	6.722E-18	2.016E-17	5.855E-17	1.934E-16	5.984E-16	2.993E-15
Pa-231	∑DOSE(j)		1.246E-15	1.250E-15	1.258E-15	1.287E-15	1.370E-15	1.674E-15	2.696E-15	1.008E-14
Ac-227	Pa-231	1.000E+00	5.063E-15	1.500E-14	3.403E-14	9.266E-14	2.086E-13	3.563E-13	4.937E-13	1.335E-12
Ac-227	U-235	1.000E+00	2.612E-18	1.812E-17	9.390E-17	7.836E-16	5.480E-15	3.510E-14	1.316E-13	5.621E-13
Ac-227	∑DOSE(j)		5.066E-15	1.501E-14	3.412E-14	9.344E-14	2.141E-13	3.914E-13	6.252E-13	1.898E-12
Ra-226	Ra-226	1.000E+00	8.560E-09	8.566E-09	8.580E-09	8.627E-09	8.764E-09	9.261E-09	1.084E-08	1.881E-08
Ra-226	Th-230	1.000E+00	4.527E-12	1.359E-11	3.178E-11	9.602E-11	2.846E-10	1.006E-09	3.678E-09	2.488E-08
Ra-226	U-234	1.000E+00	1.941E-15	1.360E-14	7.199E-14	6.482E-13	5.568E-12	6.450E-11	6.942E-10	1.478E-08
Ra-226	U-238	9.999E-01	1.423E-21	2.137E-20	2.498E-19	6.669E-18	1.663E-16	6.370E-15	2.070E-13	1.518E-11
Ra-226	∑DOSE(j)		8.564E-09	8.580E-09	8.612E-09	8.724E-09	9.054E-09	1.033E-08	1.521E-08	5.849E-08
Pb-210	Ra-226	1.000E+00	1.685E-17	4.992E-17	1.133E-16	3.088E-16	6.958E-16	1.175E-15	1.515E-15	3.130E-15
Pb-210	Th-230	1.000E+00	5.957E-21	4.138E-20	2.150E-19	1.810E-18	1.301E-17	9.195E-17	4.554E-16	3.976E-15
Pb-210	U-234	1.000E+00	1.918E-24	2.861E-23	3.297E-22	8.370E-21	1.822E-19	4.723E-18	7.796E-17	2.294E-15
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	8.680E-28	6.564E-26	4.258E-24	3.909E-22	2.124E-20	2.282E-18
Pb-210	∑DOSE(j)		1.686E-17	4.996E-17	1.135E-16	3.106E-16	7.090E-16	1.272E-15	2.048E-15	9.403E-15
Th-228	Th-228	1.000E+00	1.059E-08	7.376E-09	3.581E-09	2.856E-10	2.078E-13	2.159E-24	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	8.161E-11	5.012E-10	1.996E-09	7.500E-09	1.252E-08	1.399E-08	1.719E-08	3.533E-08
Th-228	U-236	1.000E+00	9.997E-20	1.360E-18	1.288E-17	1.780E-16	1.224E-15	5.866E-15	2.231E-14	1.348E-13
Th-228	∑DOSE(j)		1.067E-08	7.877E-09	5.577E-09	7.786E-09	1.252E-08	1.399E-08	1.719E-08	3.533E-08
Th-230	Th-230	1.000E+00	1.726E-24	1.731E-24	1.742E-24	1.779E-24	1.892E-24	2.345E-24	4.329E-24	3.701E-23
Th-230	U-234	1.000E+00	1.110E-27	3.338E-27	7.833E-27	2.397E-26	7.370E-26	2.963E-25	1.565E-24	3.838E-23
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.988E-28	5.865E-26
Th-230	∑DOSE(j)		1.727E-24	1.734E-24	1.749E-24	1.803E-24	1.966E-24	2.641E-24	5.895E-24	7.545E-23
Th-232	Th-232	1.000E+00	1.339E-28	1.343E-28	1.352E-28	1.385E-28	1.483E-28	1.885E-28	3.736E-28	4.097E-27
Th-232	U-236	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-232	∑DOSE(j)		1.339E-28	1.343E-28	1.352E-28	1.385E-28	1.483E-28	1.885E-28	3.736E-28	4.097E-27
Ra-228	Th-232	1.000E+00	3.605E-12	1.027E-11	2.148E-11	4.527E-11	6.316E-11	7.127E-11	9.353E-11	2.422E-10
Ra-228	U-236	1.000E+00	5.807E-21	3.935E-20	1.936E-19	1.369E-18	6.912E-18	3.080E-17	1.225E-16	9.264E-16
Ra-228	∑DOSE(j)		3.605E-12	1.027E-11	2.148E-11	4.527E-11	6.316E-11	7.127E-11	9.353E-11	2.422E-10
U-234	U-234	1.000E+00	1.194E-23	1.197E-23	1.204E-23	1.227E-23	1.296E-23	1.569E-23	2.711E-23	1.837E-22
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	1.237E-28	3.787E-28	1.166E-27	4.710E-27	2.522E-26	6.478E-25
U-234	∑DOSE(j)		1.194E-23	1.197E-23	1.204E-23	1.227E-23	1.296E-23	1.570E-23	2.713E-23	1.843E-22
U-235	U-235	1.000E+00	1.414E-15	1.412E-15	1.408E-15	1.393E-15	1.354E-15	1.223E-15	9.152E-16	3.318E-16
U-236	U-236	1.000E+00	4.732E-26	4.745E-26	4.772E-26	4.867E-26	5.147E-26	6.263E-26	1.097E-25	7.809E-25
U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	9.872E-10	9.886E-10	9.913E-10	1.001E-09	1.029E-09	1.132E-09	1.488E-09	3.877E-09
U-238	∑DOSE(j)		9.872E-10	9.886E-10	9.913E-10	1.001E-09	1.029E-09	1.132E-09	1.488E-09	3.877E-09

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
Pa-231	Pa-231	1.000E+00	7.000E-02	6.999E-02	6.996E-02	6.988E-02	6.963E-02	6.879E-02	6.643E-02	5.879E-02
Pa-231	U-235	1.000E+00	0.000E+00	1.079E-04	3.225E-04	1.060E-03	3.061E-03	8.943E-03	1.894E-02	2.484E-02
Pa-231	∑S(j):		7.000E-02	7.010E-02	7.029E-02	7.094E-02	7.270E-02	7.773E-02	8.537E-02	8.363E-02
Ac-227	Pa-231	1.000E+00	0.000E+00	2.193E-03	6.374E-03	1.906E-02	4.290E-02	6.613E-02	6.664E-02	5.899E-02
Ac-227	U-235	1.000E+00	0.000E+00	1.701E-06	1.495E-05	1.531E-04	1.107E-03	6.479E-03	1.774E-02	2.483E-02
Ac-227	∑S(j):		0.000E+00	2.195E-03	6.389E-03	1.922E-02	4.400E-02	7.261E-02	8.439E-02	8.381E-02
Ra-226	Ra-226	1.000E+00	3.400E-01	3.398E-01	3.395E-01	3.385E-01	3.354E-01	3.251E-01	2.971E-01	2.169E-01
Ra-226	Th-230	1.000E+00	0.000E+00	3.595E-04	1.078E-03	3.587E-03	1.071E-02	3.513E-02	1.006E-01	2.867E-01
Ra-226	U-234	1.000E+00	0.000E+00	2.311E-07	2.079E-06	2.305E-05	2.061E-04	2.241E-03	1.896E-02	1.702E-01
Ra-226	U-238	9.999E-01	0.000E+00	2.260E-13	6.099E-12	2.255E-10	6.056E-09	2.202E-07	5.645E-06	1.748E-04
Ra-226	∑S(j):		3.400E-01	3.402E-01	3.406E-01	3.421E-01	3.464E-01	3.624E-01	4.167E-01	6.739E-01
Pb-210	Ra-226	1.000E+00	0.000E+00	1.040E-02	3.025E-02	9.061E-02	2.045E-01	3.142E-01	3.012E-01	2.199E-01
Pb-210	Th-230	1.000E+00	0.000E+00	5.530E-06	4.874E-05	5.043E-04	3.752E-03	2.443E-02	9.036E-02	2.791E-01
Pb-210	U-234	1.000E+00	0.000E+00	2.376E-09	6.315E-08	2.215E-06	5.164E-05	1.248E-03	1.544E-02	1.609E-01
Pb-210	U-238	9.999E-01	0.000E+00	1.745E-15	1.396E-13	1.649E-11	1.186E-09	1.027E-07	4.200E-06	1.600E-04
Pb-210	∑S(j):		0.000E+00	1.041E-02	3.030E-02	9.112E-02	2.083E-01	3.399E-01	4.070E-01	6.601E-01
Th-228	Th-228	1.000E+00	3.000E-02	2.088E-02	1.012E-02	8.009E-04	5.707E-07	5.514E-18	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	5.593E-04	3.730E-03	1.693E-02	2.878E-02	2.997E-02	2.991E-02	2.970E-02
Th-228	U-236	1.000E+00	0.000E+00	9.281E-13	2.001E-11	3.772E-10	2.753E-09	1.250E-08	3.876E-08	1.133E-07
Th-228	∑S(j):		3.000E-02	2.144E-02	1.385E-02	1.773E-02	2.878E-02	2.997E-02	2.991E-02	2.970E-02
Th-230	Th-230	1.000E+00	8.300E-01	8.300E-01	8.300E-01	8.298E-01	8.295E-01	8.284E-01	8.253E-01	8.144E-01
Th-230	U-234	1.000E+00	0.000E+00	1.067E-03	3.200E-03	1.065E-02	3.179E-02	1.042E-01	2.979E-01	8.442E-01
Th-230	U-238	9.999E-01	0.000E+00	1.565E-09	1.408E-08	1.562E-07	1.401E-06	1.535E-05	1.328E-04	1.289E-03
Th-230	∑S(j):		8.300E-01	8.311E-01	8.332E-01	8.405E-01	8.613E-01	9.326E-01	1.123E+00	1.660E+00
Th-232	Th-232	1.000E+00	3.000E-02	3.000E-02	3.000E-02	3.000E-02	2.999E-02	2.997E-02	2.991E-02	2.970E-02
Th-232	U-236	1.000E+00	0.000E+00	1.435E-10	4.304E-10	1.432E-09	4.276E-09	1.402E-08	4.015E-08	1.143E-07
Th-232	∑S(j):		3.000E-02	3.000E-02	3.000E-02	3.000E-02	2.999E-02	2.997E-02	2.991E-02	2.970E-02
Ra-228	Th-232	1.000E+00	0.000E+00	3.407E-03	9.104E-03	2.101E-02	2.918E-02	2.997E-02	2.991E-02	2.970E-02
Ra-228	U-236	1.000E+00	0.000E+00	8.314E-12	6.925E-11	6.004E-10	3.130E-09	1.288E-08	3.911E-08	1.136E-07
Ra-228	∑S(j):		0.000E+00	3.407E-03	9.104E-03	2.101E-02	2.918E-02	2.997E-02	2.991E-02	2.970E-02
U-234	U-234	1.000E+00	1.186E+02	1.185E+02	1.184E+02	1.180E+02	1.169E+02	1.132E+02	1.031E+02	7.433E+01
U-234	U-238	9.999E-01	0.000E+00	3.477E-04	1.043E-03	3.468E-03	1.034E-02	3.379E-02	9.573E-02	2.620E-01
U-234	∑S(j):		1.186E+02	1.185E+02	1.184E+02	1.180E+02	1.169E+02	1.132E+02	1.032E+02	7.459E+01
U-235	U-235	1.000E+00	5.110E+00	5.091E+00	5.053E+00	4.923E+00	4.570E+00	3.521E+00	1.671E+00	1.231E-01
U-236	U-236	1.000E+00	2.910E+00	2.909E+00	2.906E+00	2.897E+00	2.870E+00	2.778E+00	2.533E+00	1.832E+00
U-238	U-238	5.400E-05	6.625E-03	6.625E-03	6.623E-03	6.618E-03	6.603E-03	6.553E-03	6.410E-03	5.935E-03
U-238	U-238	9.999E-01	1.227E+02	1.227E+02	1.226E+02	1.225E+02	1.223E+02	1.213E+02	1.187E+02	1.099E+02
U-238	∑S(j):		1.227E+02	1.227E+02	1.226E+02	1.226E+02	1.223E+02	1.213E+02	1.187E+02	1.099E+02

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

RESCALC.EXE execution time = 75.63 seconds