

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

---



---

Dose Conversion Factor (and Related) Parameter Summary ...	2
Site-Specific Parameter Summary .....	12
Summary of Pathway Selections .....	22
Contaminated Zone and Total Dose Summary .....	23
Total Dose Components	
Time = 0.000E+00 .....	24
Time = 1.000E+00 .....	26
Time = 3.000E+00 .....	28
Time = 1.000E+01 .....	30
Time = 3.000E+01 .....	32
Time = 1.000E+02 .....	34
Time = 3.000E+02 .....	36
Time = 1.000E+03 .....	38
Dose/Source Ratios Summed Over All Pathways .....	40
Single Radionuclide Soil Guidelines .....	43
Dose Per Nuclide Summed Over All Pathways .....	45
Soil Concentration Per Nuclide .....	48

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-225 (Source: FGR 12)	6.371E-02	6.371E-02	DCF1 ( 1)
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1 ( 2)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1 ( 3)
A-1	Am-241 (Source: FGR 12)	4.372E-02	4.372E-02	DCF1 ( 4)
A-1	Am-243 (Source: FGR 12)	1.420E-01	1.420E-01	DCF1 ( 5)
A-1	At-217 (Source: FGR 12)	1.773E-03	1.773E-03	DCF1 ( 6)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1 ( 7)
A-1	Ba-137m (Source: FGR 12)	3.606E+00	3.606E+00	DCF1 ( 8)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1 ( 9)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1 ( 10)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1 ( 11)
A-1	Bi-213 (Source: FGR 12)	7.660E-01	7.660E-01	DCF1 ( 12)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1 ( 13)
A-1	C-14 (Source: FGR 12)	1.345E-05	1.345E-05	DCF1 ( 14)
A-1	Ce-144 (Source: FGR 12)	7.174E-02	7.174E-02	DCF1 ( 15)
A-1	Cm-243 (Source: FGR 12)	5.829E-01	5.829E-01	DCF1 ( 16)
A-1	Cm-244 (Source: FGR 12)	1.259E-04	1.259E-04	DCF1 ( 17)
A-1	Co-58 (Source: FGR 12)	5.960E+00	5.960E+00	DCF1 ( 18)
A-1	Co-60 (Source: FGR 12)	1.622E+01	1.622E+01	DCF1 ( 19)
A-1	Cs-134 (Source: FGR 12)	9.472E+00	9.472E+00	DCF1 ( 20)
A-1	Cs-137 (Source: FGR 12)	7.510E-04	7.510E-04	DCF1 ( 21)
A-1	Eu-152 (Source: FGR 12)	7.006E+00	7.006E+00	DCF1 ( 22)
A-1	Eu-154 (Source: FGR 12)	7.678E+00	7.678E+00	DCF1 ( 23)
A-1	Eu-155 (Source: FGR 12)	1.822E-01	1.822E-01	DCF1 ( 24)
A-1	Fe-55 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1 ( 25)
A-1	Fr-221 (Source: FGR 12)	1.536E-01	1.536E-01	DCF1 ( 26)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1 ( 27)
A-1	Gd-152 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1 ( 28)
A-1	H-3 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1 ( 29)
A-1	Ni-59 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1 ( 30)
A-1	Ni-63 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1 ( 31)
A-1	Np-237 (Source: FGR 12)	7.790E-02	7.790E-02	DCF1 ( 32)
A-1	Np-239 (Source: FGR 12)	7.529E-01	7.529E-01	DCF1 ( 33)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1 ( 34)
A-1	Pa-233 (Source: FGR 12)	1.020E+00	1.020E+00	DCF1 ( 35)
A-1	Pb-209 (Source: FGR 12)	7.734E-04	7.734E-04	DCF1 ( 36)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1 ( 37)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1 ( 38)
A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1 ( 39)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1 ( 40)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1 ( 41)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1 ( 42)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1 ( 43)
A-1	Po-213 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1 ( 44)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1 ( 45)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1 ( 46)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1 ( 47)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1 ( 48)
A-1	Pr-144 (Source: FGR 12)	2.522E-01	2.522E-01	DCF1 ( 49)

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	Pr-144m (Source: FGR 12)	1.437E-02	1.437E-02	DCF1 ( 50)
A-1	Pu-238 (Source: FGR 12)	1.513E-04	1.513E-04	DCF1 ( 51)
A-1	Pu-239 (Source: FGR 12)	2.952E-04	2.952E-04	DCF1 ( 52)
A-1	Pu-240 (Source: FGR 12)	1.467E-04	1.467E-04	DCF1 ( 53)
A-1	Pu-241 (Source: FGR 12)	5.904E-06	5.904E-06	DCF1 ( 54)
A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1 ( 55)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1 ( 56)
A-1	Ra-225 (Source: FGR 12)	1.102E-02	1.102E-02	DCF1 ( 57)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1 ( 58)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1 ( 59)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1 ( 60)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1 ( 61)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1 ( 62)
A-1	Sb-125 (Source: FGR 12)	2.447E+00	2.447E+00	DCF1 ( 63)
A-1	Sr-90 (Source: FGR 12)	7.043E-04	7.043E-04	DCF1 ( 64)
A-1	Tc-99 (Source: FGR 12)	1.255E-04	1.255E-04	DCF1 ( 65)
A-1	Te-125m (Source: FGR 12)	1.515E-02	1.515E-02	DCF1 ( 66)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1 ( 67)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1 ( 68)
A-1	Th-229 (Source: FGR 12)	3.213E-01	3.213E-01	DCF1 ( 69)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1 ( 70)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1 ( 71)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1 ( 72)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1 ( 73)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1 ( 74)
A-1	Tl-209 (Source: FGR 12)	1.293E+01	1.293E+01	DCF1 ( 75)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1 ( 76)
A-1	U-233 (Source: FGR 12)	1.397E-03	1.397E-03	DCF1 ( 77)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1 ( 78)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1 ( 79)
A-1	U-236 (Source: FGR 12)	2.148E-04	2.148E-04	DCF1 ( 80)
A-1	U-237 (Source: FGR 12)	5.306E-01	5.306E-01	DCF1 ( 81)
A-1	Y-90 (Source: FGR 12)	2.391E-02	2.391E-02	DCF1 ( 82)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2 ( 1)
B-1	Am-241	4.440E-01	4.440E-01	DCF2 ( 2)
B-1	Am-243+D	4.400E-01	4.400E-01	DCF2 ( 3)
B-1	C-14 (p) (Class: ORGANIC)	2.090E-06	2.090E-06	DCF2 ( 4)
B-1	C-14 (g) (Class: CO2)	2.350E-08	2.350E-08	C14GInhDCF
B-1	Ce-144+D	3.740E-04	3.740E-04	DCF2 ( 5)
B-1	Cm-243	3.070E-01	3.070E-01	DCF2 ( 6)
B-1	Cm-244	2.480E-01	2.480E-01	DCF2 ( 8)
B-1	Co-58	1.090E-05	1.090E-05	DCF2 ( 11)
B-1	Co-60	2.190E-04	2.190E-04	DCF2 ( 12)
B-1	Cs-134	4.620E-05	4.620E-05	DCF2 ( 13)
B-1	Cs-137+D	3.190E-05	3.190E-05	DCF2 ( 14)
B-1	Eu-152	2.210E-04	2.210E-04	DCF2 ( 15)
B-1	Eu-154	2.860E-04	2.860E-04	DCF2 ( 17)
B-1	Eu-155	4.140E-05	4.140E-05	DCF2 ( 18)

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Fe-55	2.690E-06	2.690E-06	DCF2 ( 19)
B-1	Gd-152	2.430E-01	2.430E-01	DCF2 ( 20)
B-1	H-3	6.400E-08	6.400E-08	DCF2 ( 21)
B-1	Ni-59	2.700E-06	2.700E-06	DCF2 ( 22)
B-1	Ni-63	6.290E-06	6.290E-06	DCF2 ( 23)
B-1	Np-237+D	5.400E-01	5.400E-01	DCF2 ( 24)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2 ( 25)
B-1	Pb-210+D	1.380E-02	1.360E-02	DCF2 ( 26)
B-1	Po-210	9.400E-03	9.400E-03	DCF2 ( 27)
B-1	Pu-238	3.920E-01	3.920E-01	DCF2 ( 28)
B-1	Pu-239	4.290E-01	4.290E-01	DCF2 ( 30)
B-1	Pu-240	4.290E-01	4.290E-01	DCF2 ( 31)
B-1	Pu-241	8.250E-03	8.250E-03	DCF2 ( 33)
B-1	Pu-241+D	8.254E-03	8.250E-03	DCF2 ( 34)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2 ( 35)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2 ( 36)
B-1	Sb-125	1.220E-05	1.220E-05	DCF2 ( 37)
B-1	Sr-90+D	1.308E-03	1.300E-03	DCF2 ( 39)
B-1	Tc-99	8.320E-06	8.320E-06	DCF2 ( 40)
B-1	Te-125m	7.290E-06	7.290E-06	DCF2 ( 41)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2 ( 42)
B-1	Th-229+D	2.169E+00	2.150E+00	DCF2 ( 43)
B-1	Th-230	3.260E-01	3.260E-01	DCF2 ( 44)
B-1	Th-232	1.640E+00	1.640E+00	DCF2 ( 45)
B-1	U-233	1.350E-01	1.350E-01	DCF2 ( 46)
B-1	U-234	1.320E-01	1.320E-01	DCF2 ( 47)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2 ( 48)
B-1	U-236	1.250E-01	1.250E-01	DCF2 ( 49)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Ac-227+D	1.480E-02	1.410E-02	DCF3 ( 1)
D-1	Am-241	3.640E-03	3.640E-03	DCF3 ( 2)
D-1	Am-243+D	3.623E-03	3.620E-03	DCF3 ( 3)
D-1	C-14	2.090E-06	2.090E-06	DCF3 ( 4)
D-1	Ce-144+D	2.112E-05	2.100E-05	DCF3 ( 5)
D-1	Cm-243	2.510E-03	2.510E-03	DCF3 ( 6)
D-1	Cm-244	2.020E-03	2.020E-03	DCF3 ( 8)
D-1	Co-58	3.580E-06	3.580E-06	DCF3 ( 11)
D-1	Co-60	2.690E-05	2.690E-05	DCF3 ( 12)
D-1	Cs-134	7.330E-05	7.330E-05	DCF3 ( 13)
D-1	Cs-137+D	5.000E-05	5.000E-05	DCF3 ( 14)
D-1	Eu-152	6.480E-06	6.480E-06	DCF3 ( 15)
D-1	Eu-154	9.550E-06	9.550E-06	DCF3 ( 17)
D-1	Eu-155	1.530E-06	1.530E-06	DCF3 ( 18)
D-1	Fe-55	6.070E-07	6.070E-07	DCF3 ( 19)
D-1	Gd-152	1.610E-04	1.610E-04	DCF3 ( 20)
D-1	H-3	6.400E-08	6.400E-08	DCF3 ( 21)
D-1	Ni-59	2.100E-07	2.100E-07	DCF3 ( 22)
D-1	Ni-63	5.770E-07	5.770E-07	DCF3 ( 23)
D-1	Np-237+D	4.444E-03	4.440E-03	DCF3 ( 24)

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-1	Pa-231	1.060E-02	1.060E-02	DCF3 ( 25)
D-1	Pb-210+D	5.376E-03	5.370E-03	DCF3 ( 26)
D-1	Po-210	1.900E-03	1.900E-03	DCF3 ( 27)
D-1	Pu-238	3.200E-03	3.200E-03	DCF3 ( 28)
D-1	Pu-239	3.540E-03	3.540E-03	DCF3 ( 30)
D-1	Pu-240	3.540E-03	3.540E-03	DCF3 ( 31)
D-1	Pu-241	6.840E-05	6.840E-05	DCF3 ( 33)
D-1	Pu-241+D	7.157E-05	6.840E-05	DCF3 ( 34)
D-1	Ra-226+D	1.321E-03	1.320E-03	DCF3 ( 35)
D-1	Ra-228+D	1.442E-03	1.440E-03	DCF3 ( 36)
D-1	Sb-125	2.810E-06	2.810E-06	DCF3 ( 37)
D-1	Sr-90+D	1.528E-04	1.420E-04	DCF3 ( 39)
D-1	Tc-99	1.460E-06	1.460E-06	DCF3 ( 40)
D-1	Te-125m	3.670E-06	3.670E-06	DCF3 ( 41)
D-1	Th-228+D	8.086E-04	3.960E-04	DCF3 ( 42)
D-1	Th-229+D	4.027E-03	3.530E-03	DCF3 ( 43)
D-1	Th-230	5.480E-04	5.480E-04	DCF3 ( 44)
D-1	Th-232	2.730E-03	2.730E-03	DCF3 ( 45)
D-1	U-233	2.890E-04	2.890E-04	DCF3 ( 46)
D-1	U-234	2.830E-04	2.830E-04	DCF3 ( 47)
D-1	U-235+D	2.673E-04	2.660E-04	DCF3 ( 48)
D-1	U-236	2.690E-04	2.690E-04	DCF3 ( 49)
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	Am-241 , plant/soil concentration ratio, dimensionless	1.830E-03	1.000E-03	RTF( 2,1)
D-34	Am-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.740E-05	5.000E-05	RTF( 2,2)
D-34	Am-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.260E-06	2.000E-06	RTF( 2,3)
D-34	Am-243+D , plant/soil concentration ratio, dimensionless	1.830E-03	1.000E-03	RTF( 3,1)
D-34	Am-243+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.740E-05	5.000E-05	RTF( 3,2)
D-34	Am-243+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.260E-06	2.000E-06	RTF( 3,3)
D-34	C-14 , plant/soil concentration ratio, dimensionless	1.280E+00	5.500E+00	RTF( 4,1)
D-34	C-14 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	6.110E-02	3.100E-02	RTF( 4,2)
D-34	C-14 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.250E-02	1.200E-02	RTF( 4,3)
D-34	Ce-144+D , plant/soil concentration ratio, dimensionless	3.940E-03	2.000E-03	RTF( 5,1)
D-34	Ce-144+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.790E-05	2.000E-05	RTF( 5,2)
D-34	Ce-144+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	4.840E-05	5.000E-05	RTF( 5,3)
D-34	Cm-243 , plant/soil concentration ratio, dimensionless	1.830E-03	1.000E-03	RTF( 6,1)
D-34	Cm-243 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	4.080E-05	2.000E-05	RTF( 6,2)
D-34	Cm-243 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.800E-06	2.000E-06	RTF( 6,3)

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-34	Cm-244 , plant/soil concentration ratio, dimensionless	1.830E-03	1.000E-03	RTF( 8,1)
D-34	Cm-244 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	4.080E-05	2.000E-05	RTF( 8,2)
D-34	Cm-244 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.800E-06	2.000E-06	RTF( 8,3)
D-34				
D-34	Co-58 , plant/soil concentration ratio, dimensionless	1.460E-01	8.000E-02	RTF( 11,1)
D-34	Co-58 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.980E-02	2.000E-02	RTF( 11,2)
D-34	Co-58 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.220E-03	2.000E-03	RTF( 11,3)
D-34				
D-34	Co-60 , plant/soil concentration ratio, dimensionless	1.460E-01	8.000E-02	RTF( 12,1)
D-34	Co-60 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.980E-02	2.000E-02	RTF( 12,2)
D-34	Co-60 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.220E-03	2.000E-03	RTF( 12,3)
D-34				
D-34	Cs-134 , plant/soil concentration ratio, dimensionless	7.830E-02	4.000E-02	RTF( 13,1)
D-34	Cs-134 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	6.560E-02	3.000E-02	RTF( 13,2)
D-34	Cs-134 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.370E-02	8.000E-03	RTF( 13,3)
D-34				
D-34	Cs-137+D , plant/soil concentration ratio, dimensionless	7.830E-02	4.000E-02	RTF( 14,1)
D-34	Cs-137+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	6.560E-02	3.000E-02	RTF( 14,2)
D-34	Cs-137+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.370E-02	8.000E-03	RTF( 14,3)
D-34				
D-34	Eu-152 , plant/soil concentration ratio, dimensionless	4.210E-03	2.500E-03	RTF( 15,1)
D-34	Eu-152 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	4.020E-03	2.000E-03	RTF( 15,2)
D-34	Eu-152 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.120E-04	5.000E-05	RTF( 15,3)
D-34				
D-34	Eu-154 , plant/soil concentration ratio, dimensionless	4.210E-03	2.500E-03	RTF( 17,1)
D-34	Eu-154 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	4.020E-03	2.000E-03	RTF( 17,2)
D-34	Eu-154 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.120E-04	5.000E-05	RTF( 17,3)
D-34				
D-34	Eu-155 , plant/soil concentration ratio, dimensionless	4.210E-03	2.500E-03	RTF( 18,1)
D-34	Eu-155 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	4.020E-03	2.000E-03	RTF( 18,2)
D-34	Eu-155 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.120E-04	5.000E-05	RTF( 18,3)
D-34				
D-34	Fe-55 , plant/soil concentration ratio, dimensionless	1.830E-03	1.000E-03	RTF( 19,1)
D-34	Fe-55 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.940E-02	2.000E-02	RTF( 19,2)
D-34	Fe-55 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	4.780E-04	3.000E-04	RTF( 19,3)
D-34				
D-34	Gd-152 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF( 20,1)
D-34	Gd-152 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-03	2.000E-03	RTF( 20,2)
D-34	Gd-152 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF( 20,3)
D-34				
D-34	H-3 , plant/soil concentration ratio, dimensionless	1.010E+01	4.800E+00	RTF( 21,1)
D-34	H-3 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.360E-02	1.200E-02	RTF( 21,2)
D-34	H-3 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.850E-02	1.000E-02	RTF( 21,3)
D-34				
D-34	Ni-59 , plant/soil concentration ratio, dimensionless	9.130E-02	5.000E-02	RTF( 22,1)
D-34	Ni-59 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	9.260E-03	5.000E-03	RTF( 22,2)
D-34	Ni-59 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.190E-02	2.000E-02	RTF( 22,3)
D-34				

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-34	Ni-63 , plant/soil concentration ratio, dimensionless	9.130E-02	5.000E-02	RTF( 23,1)
D-34	Ni-63 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	9.260E-03	5.000E-03	RTF( 23,2)
D-34	Ni-63 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.190E-02	2.000E-02	RTF( 23,3)
D-34				
D-34	Np-237+D , plant/soil concentration ratio, dimensionless	3.670E-02	2.000E-02	RTF( 24,1)
D-34	Np-237+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.590E-03	1.000E-03	RTF( 24,2)
D-34	Np-237+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.610E-05	5.000E-06	RTF( 24,3)
D-34				
D-34	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF( 25,1)
D-34	Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF( 25,2)
D-34	Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF( 25,3)
D-34				
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF( 26,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF( 26,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF( 26,3)
D-34				
D-34	Po-210 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF( 27,1)
D-34	Po-210 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF( 27,2)
D-34	Po-210 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.400E-04	3.400E-04	RTF( 27,3)
D-34				
D-34	Pu-238 , plant/soil concentration ratio, dimensionless	1.830E-03	1.000E-03	RTF( 28,1)
D-34	Pu-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.140E-04	1.000E-04	RTF( 28,2)
D-34	Pu-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.390E-06	1.000E-06	RTF( 28,3)
D-34				
D-34	Pu-239 , plant/soil concentration ratio, dimensionless	1.830E-03	1.000E-03	RTF( 30,1)
D-34	Pu-239 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.140E-04	1.000E-04	RTF( 30,2)
D-34	Pu-239 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.390E-06	1.000E-06	RTF( 30,3)
D-34				
D-34	Pu-240 , plant/soil concentration ratio, dimensionless	1.830E-03	1.000E-03	RTF( 31,1)
D-34	Pu-240 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.140E-04	1.000E-04	RTF( 31,2)
D-34	Pu-240 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.390E-06	1.000E-06	RTF( 31,3)
D-34				
D-34	Pu-241 , plant/soil concentration ratio, dimensionless	1.830E-03	1.000E-03	RTF( 33,1)
D-34	Pu-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.140E-04	1.000E-04	RTF( 33,2)
D-34	Pu-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.390E-06	1.000E-06	RTF( 33,3)
D-34				
D-34	Pu-241+D , plant/soil concentration ratio, dimensionless	1.830E-03	1.000E-03	RTF( 34,1)
D-34	Pu-241+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.140E-04	1.000E-04	RTF( 34,2)
D-34	Pu-241+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.390E-06	1.000E-06	RTF( 34,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF( 35,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF( 35,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF( 35,3)
D-34				
D-34	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF( 36,1)
D-34	Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF( 36,2)
D-34	Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF( 36,3)
D-34				

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-34	Sb-125 , plant/soil concentration ratio, dimensionless	1.950E-02	1.000E-02	RTF( 37,1)
D-34	Sb-125 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.850E-03	1.000E-03	RTF( 37,2)
D-34	Sb-125 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.120E-04	1.000E-04	RTF( 37,3)
D-34				
D-34	Sr-90+D , plant/soil concentration ratio, dimensionless	5.900E-01	3.000E-01	RTF( 39,1)
D-34	Sr-90+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.310E-02	8.000E-03	RTF( 39,2)
D-34	Sr-90+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.760E-03	2.000E-03	RTF( 39,3)
D-34				
D-34	Tc-99 , plant/soil concentration ratio, dimensionless	9.170E+00	5.000E+00	RTF( 40,1)
D-34	Tc-99 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.590E-04	1.000E-04	RTF( 40,2)
D-34	Tc-99 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.590E-03	1.000E-03	RTF( 40,3)
D-34				
D-34	Te-125m , plant/soil concentration ratio, dimensionless	6.000E-01	6.000E-01	RTF( 41,1)
D-34	Te-125m , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	7.000E-03	7.000E-03	RTF( 41,2)
D-34	Te-125m , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-04	5.000E-04	RTF( 41,3)
D-34				
D-34	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF( 42,1)
D-34	Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF( 42,2)
D-34	Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF( 42,3)
D-34				
D-34	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF( 43,1)
D-34	Th-229+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF( 43,2)
D-34	Th-229+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF( 43,3)
D-34				
D-34	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF( 44,1)
D-34	Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF( 44,2)
D-34	Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF( 44,3)
D-34				
D-34	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF( 45,1)
D-34	Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF( 45,2)
D-34	Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF( 45,3)
D-34				
D-34	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF( 46,1)
D-34	U-233 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF( 46,2)
D-34	U-233 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF( 46,3)
D-34				
D-34	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF( 47,1)
D-34	U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF( 47,2)
D-34	U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF( 47,3)
D-34				
D-34	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF( 48,1)
D-34	U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF( 48,2)
D-34	U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF( 48,3)
D-34				
D-34	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF( 49,1)
D-34	U-236 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF( 49,2)
D-34	U-236 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF( 49,3)
D-34				



Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
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	Am-241 , fish	3.000E+01	3.000E+01	BIOFAC ( 2,1)
D-5	Am-241 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC ( 2,2)
D-5				
D-5	Am-243+D , fish	3.000E+01	3.000E+01	BIOFAC ( 3,1)
D-5	Am-243+D , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC ( 3,2)
D-5				
D-5	C-14 , fish	5.000E+04	5.000E+04	BIOFAC ( 4,1)
D-5	C-14 , crustacea and mollusks	9.100E+03	9.100E+03	BIOFAC ( 4,2)
D-5				
D-5	Ce-144+D , fish	3.000E+01	3.000E+01	BIOFAC ( 5,1)
D-5	Ce-144+D , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC ( 5,2)
D-5				
D-5	Cm-243 , fish	3.000E+01	3.000E+01	BIOFAC ( 6,1)
D-5	Cm-243 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC ( 6,2)
D-5				
D-5	Cm-244 , fish	3.000E+01	3.000E+01	BIOFAC ( 8,1)
D-5	Cm-244 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC ( 8,2)
D-5				
D-5	Co-58 , fish	3.000E+02	3.000E+02	BIOFAC ( 11,1)
D-5	Co-58 , crustacea and mollusks	2.000E+02	2.000E+02	BIOFAC ( 11,2)
D-5				
D-5	Co-60 , fish	3.000E+02	3.000E+02	BIOFAC ( 12,1)
D-5	Co-60 , crustacea and mollusks	2.000E+02	2.000E+02	BIOFAC ( 12,2)
D-5				
D-5	Cs-134 , fish	2.000E+03	2.000E+03	BIOFAC ( 13,1)
D-5	Cs-134 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC ( 13,2)
D-5				
D-5	Cs-137+D , fish	2.000E+03	2.000E+03	BIOFAC ( 14,1)
D-5	Cs-137+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC ( 14,2)
D-5				
D-5	Eu-152 , fish	5.000E+01	5.000E+01	BIOFAC ( 15,1)
D-5	Eu-152 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC ( 15,2)
D-5				
D-5	Eu-154 , fish	5.000E+01	5.000E+01	BIOFAC ( 17,1)
D-5	Eu-154 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC ( 17,2)
D-5				
D-5	Eu-155 , fish	5.000E+01	5.000E+01	BIOFAC ( 18,1)
D-5	Eu-155 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC ( 18,2)
D-5				
D-5	Fe-55 , fish	2.000E+02	2.000E+02	BIOFAC ( 19,1)
D-5	Fe-55 , crustacea and mollusks	3.200E+03	3.200E+03	BIOFAC ( 19,2)
D-5				
D-5	Gd-152 , fish	2.500E+01	2.500E+01	BIOFAC ( 20,1)
D-5	Gd-152 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC ( 20,2)
D-5				

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	H-3 , fish	1.000E+00	1.000E+00	BIOFAC ( 21,1)
D-5	H-3 , crustacea and mollusks	1.000E+00	1.000E+00	BIOFAC ( 21,2)
D-5				
D-5	Ni-59 , fish	1.000E+02	1.000E+02	BIOFAC ( 22,1)
D-5	Ni-59 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC ( 22,2)
D-5				
D-5	Ni-63 , fish	1.000E+02	1.000E+02	BIOFAC ( 23,1)
D-5	Ni-63 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC ( 23,2)
D-5				
D-5	Np-237+D , fish	3.000E+01	3.000E+01	BIOFAC ( 24,1)
D-5	Np-237+D , crustacea and mollusks	4.000E+02	4.000E+02	BIOFAC ( 24,2)
D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC ( 25,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC ( 25,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC ( 26,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC ( 26,2)
D-5				
D-5	Po-210 , fish	1.000E+02	1.000E+02	BIOFAC ( 27,1)
D-5	Po-210 , crustacea and mollusks	2.000E+04	2.000E+04	BIOFAC ( 27,2)
D-5				
D-5	Pu-238 , fish	3.000E+01	3.000E+01	BIOFAC ( 28,1)
D-5	Pu-238 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC ( 28,2)
D-5				
D-5	Pu-239 , fish	3.000E+01	3.000E+01	BIOFAC ( 30,1)
D-5	Pu-239 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC ( 30,2)
D-5				
D-5	Pu-240 , fish	3.000E+01	3.000E+01	BIOFAC ( 31,1)
D-5	Pu-240 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC ( 31,2)
D-5				
D-5	Pu-241 , fish	3.000E+01	3.000E+01	BIOFAC ( 33,1)
D-5	Pu-241 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC ( 33,2)
D-5				
D-5	Pu-241+D , fish	3.000E+01	3.000E+01	BIOFAC ( 34,1)
D-5	Pu-241+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC ( 34,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC ( 35,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC ( 35,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC ( 36,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC ( 36,2)
D-5				
D-5	Sb-125 , fish	1.000E+02	1.000E+02	BIOFAC ( 37,1)
D-5	Sb-125 , crustacea and mollusks	1.000E+01	1.000E+01	BIOFAC ( 37,2)
D-5				
D-5	Sr-90+D , fish	6.000E+01	6.000E+01	BIOFAC ( 39,1)
D-5	Sr-90+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC ( 39,2)
D-5				
D-5	Tc-99 , fish	2.000E+01	2.000E+01	BIOFAC ( 40,1)
D-5	Tc-99 , crustacea and mollusks	5.000E+00	5.000E+00	BIOFAC ( 40,2)

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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

Dose Library: FCS FGR11 Plus FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	Te-125m , fish	4.000E+02	4.000E+02	BIOFAC ( 41,1)
D-5	Te-125m , crustacea and mollusks	7.500E+01	7.500E+01	BIOFAC ( 41,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC ( 42,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC ( 42,2)
D-5				
D-5	Th-229+D , fish	1.000E+02	1.000E+02	BIOFAC ( 43,1)
D-5	Th-229+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC ( 43,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC ( 44,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC ( 44,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC ( 45,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC ( 45,2)
D-5				
D-5	U-233 , fish	1.000E+01	1.000E+01	BIOFAC ( 46,1)
D-5	U-233 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC ( 46,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC ( 47,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC ( 47,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC ( 48,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC ( 48,2)
D-5				
D-5	U-236 , fish	1.000E+01	1.000E+01	BIOFAC ( 49,1)
D-5	U-236 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC ( 49,2)

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

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

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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)	2.181E+03	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	1.500E-01	2.000E+00	---	THICK0
R011	Fraction of contamination that is submerged	0.000E+00	0.000E+00	---	SUBMFRACT
R011	Length parallel to aquifer flow (m)	2.600E+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): Am-241	1.000E+00	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): C-14	1.000E+00	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g): Ce-144	1.000E+00	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g): Cm-243	1.000E+00	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g): Cm-244	1.000E+00	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g): Co-58	1.000E+00	0.000E+00	---	S1(11)
R012	Initial principal radionuclide (pCi/g): Co-60	1.000E+00	0.000E+00	---	S1(12)
R012	Initial principal radionuclide (pCi/g): Cs-134	1.000E+00	0.000E+00	---	S1(13)
R012	Initial principal radionuclide (pCi/g): Cs-137	1.000E+00	0.000E+00	---	S1(14)
R012	Initial principal radionuclide (pCi/g): Eu-152	1.000E+00	0.000E+00	---	S1(15)
R012	Initial principal radionuclide (pCi/g): Eu-154	1.000E+00	0.000E+00	---	S1(17)
R012	Initial principal radionuclide (pCi/g): Eu-155	1.000E+00	0.000E+00	---	S1(18)
R012	Initial principal radionuclide (pCi/g): Fe-55	1.000E+00	0.000E+00	---	S1(19)
R012	Initial principal radionuclide (pCi/g): H-3	1.000E+00	0.000E+00	---	S1(21)
R012	Initial principal radionuclide (pCi/g): Ni-59	1.000E+00	0.000E+00	---	S1(22)
R012	Initial principal radionuclide (pCi/g): Ni-63	1.000E+00	0.000E+00	---	S1(23)
R012	Initial principal radionuclide (pCi/g): Np-237	1.000E+00	0.000E+00	---	S1(24)
R012	Initial principal radionuclide (pCi/g): Pu-238	1.000E+00	0.000E+00	---	S1(28)
R012	Initial principal radionuclide (pCi/g): Pu-239	1.000E+00	0.000E+00	---	S1(30)
R012	Initial principal radionuclide (pCi/g): Pu-240	1.000E+00	0.000E+00	---	S1(31)
R012	Initial principal radionuclide (pCi/g): Pu-241	1.000E+00	0.000E+00	---	S1(33)
R012	Initial principal radionuclide (pCi/g): Sb-125	1.000E+00	0.000E+00	---	S1(37)
R012	Initial principal radionuclide (pCi/g): Sr-90	1.000E+00	0.000E+00	---	S1(39)
R012	Initial principal radionuclide (pCi/g): Tc-99	1.000E+00	0.000E+00	---	S1(40)
R012	Concentration in groundwater (pCi/L): Am-241	not used	0.000E+00	---	W1( 2)
R012	Concentration in groundwater (pCi/L): C-14	not used	0.000E+00	---	W1( 4)
R012	Concentration in groundwater (pCi/L): Ce-144	not used	0.000E+00	---	W1( 5)
R012	Concentration in groundwater (pCi/L): Cm-243	not used	0.000E+00	---	W1( 6)
R012	Concentration in groundwater (pCi/L): Cm-244	not used	0.000E+00	---	W1( 8)
R012	Concentration in groundwater (pCi/L): Co-58	not used	0.000E+00	---	W1(11)
R012	Concentration in groundwater (pCi/L): Co-60	not used	0.000E+00	---	W1(12)
R012	Concentration in groundwater (pCi/L): Cs-134	not used	0.000E+00	---	W1(13)
R012	Concentration in groundwater (pCi/L): Cs-137	not used	0.000E+00	---	W1(14)
R012	Concentration in groundwater (pCi/L): Eu-152	not used	0.000E+00	---	W1(15)

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R012	Concentration in groundwater (pCi/L): Eu-154	not used	0.000E+00	---	W1 (17)
R012	Concentration in groundwater (pCi/L): Eu-155	not used	0.000E+00	---	W1 (18)
R012	Concentration in groundwater (pCi/L): Fe-55	not used	0.000E+00	---	W1 (19)
R012	Concentration in groundwater (pCi/L): H-3	not used	0.000E+00	---	W1 (21)
R012	Concentration in groundwater (pCi/L): Ni-59	not used	0.000E+00	---	W1 (22)
R012	Concentration in groundwater (pCi/L): Ni-63	not used	0.000E+00	---	W1 (23)
R012	Concentration in groundwater (pCi/L): Np-237	not used	0.000E+00	---	W1 (24)
R012	Concentration in groundwater (pCi/L): Pu-238	not used	0.000E+00	---	W1 (28)
R012	Concentration in groundwater (pCi/L): Pu-239	not used	0.000E+00	---	W1 (30)
R012	Concentration in groundwater (pCi/L): Pu-240	not used	0.000E+00	---	W1 (31)
R012	Concentration in groundwater (pCi/L): Pu-241	not used	0.000E+00	---	W1 (33)
R012	Concentration in groundwater (pCi/L): Sb-125	not used	0.000E+00	---	W1 (37)
R012	Concentration in groundwater (pCi/L): Sr-90	not used	0.000E+00	---	W1 (39)
R012	Concentration in groundwater (pCi/L): Tc-99	not used	0.000E+00	---	W1 (40)
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)	7.240E+00	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
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

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R015	Unsat. zone 1, thickness (m)	9.500E-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 Am-241				
R016	Contaminated zone (cm**3/g)	1.250E+03	2.000E+01	---	DCNUCC( 2)
R016	Unsaturated zone 1 (cm**3/g)	1.250E+03	2.000E+01	---	DCNUCU( 2,1)
R016	Saturated zone (cm**3/g)	1.000E+03	2.000E+01	---	DCNUCS( 2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.178E-04	ALEACH( 2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK( 2)
R016	Distribution coefficients for C-14				
R016	Contaminated zone (cm**3/g)	9.670E+01	0.000E+00	---	DCNUCC( 4)
R016	Unsaturated zone 1 (cm**3/g)	9.670E+01	0.000E+00	---	DCNUCU( 4,1)
R016	Saturated zone (cm**3/g)	1.100E+01	0.000E+00	---	DCNUCS( 4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.810E-03	ALEACH( 4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK( 4)
R016	Distribution coefficients for Ce-144				
R016	Contaminated zone (cm**3/g)	3.010E+03	1.000E+03	---	DCNUCC( 5)
R016	Unsaturated zone 1 (cm**3/g)	3.010E+03	1.000E+03	---	DCNUCU( 5,1)
R016	Saturated zone (cm**3/g)	3.990E+02	1.000E+03	---	DCNUCS( 5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.044E-05	ALEACH( 5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK( 5)
R016	Distribution coefficients for Cm-243				
R016	Contaminated zone (cm**3/g)	1.900E+04	-1.000E+00	---	DCNUCC( 6)
R016	Unsaturated zone 1 (cm**3/g)	1.900E+04	-1.000E+00	---	DCNUCU( 6,1)
R016	Saturated zone (cm**3/g)	3.390E+03	-1.000E+00	---	DCNUCS( 6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.433E-05	ALEACH( 6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK( 6)
R016	Distribution coefficients for Cm-244				
R016	Contaminated zone (cm**3/g)	1.900E+04	-1.000E+00	---	DCNUCC( 8)
R016	Unsaturated zone 1 (cm**3/g)	1.900E+04	-1.000E+00	---	DCNUCU( 8,1)
R016	Saturated zone (cm**3/g)	3.390E+03	-1.000E+00	---	DCNUCS( 8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.433E-05	ALEACH( 8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK( 8)
R016	Distribution coefficients for Co-58				
R016	Contaminated zone (cm**3/g)	5.050E+03	1.000E+03	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	5.050E+03	1.000E+03	---	DCNUCU(11,1)
R016	Saturated zone (cm**3/g)	2.600E+02	1.000E+03	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.391E-05	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Co-60				
R016	Contaminated zone (cm**3/g)	5.050E+03	1.000E+03	---	DCNUCC (12)
R016	Unsaturated zone 1 (cm**3/g)	5.050E+03	1.000E+03	---	DCNUCU (12,1)
R016	Saturated zone (cm**3/g)	2.600E+02	1.000E+03	---	DCNUCS (12)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.391E-05	ALEACH (12)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (12)
R016	Distribution coefficients for Cs-134				
R016	Contaminated zone (cm**3/g)	3.500E+03	4.600E+03	---	DCNUCC (13)
R016	Unsaturated zone 1 (cm**3/g)	3.500E+03	4.600E+03	---	DCNUCU (13,1)
R016	Saturated zone (cm**3/g)	5.280E+02	4.600E+03	---	DCNUCS (13)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.778E-05	ALEACH (13)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (13)
R016	Distribution coefficients for Cs-137				
R016	Contaminated zone (cm**3/g)	3.500E+03	4.600E+03	---	DCNUCC (14)
R016	Unsaturated zone 1 (cm**3/g)	3.500E+03	4.600E+03	---	DCNUCU (14,1)
R016	Saturated zone (cm**3/g)	5.280E+02	4.600E+03	---	DCNUCS (14)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.778E-05	ALEACH (14)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (14)
R016	Distribution coefficients for Eu-152				
R016	Contaminated zone (cm**3/g)	7.270E+03	-1.000E+00	---	DCNUCC (15)
R016	Unsaturated zone 1 (cm**3/g)	7.270E+03	-1.000E+00	---	DCNUCU (15,1)
R016	Saturated zone (cm**3/g)	8.290E+02	-1.000E+00	---	DCNUCS (15)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.745E-05	ALEACH (15)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (15)
R016	Distribution coefficients for Eu-154				
R016	Contaminated zone (cm**3/g)	7.270E+03	-1.000E+00	---	DCNUCC (17)
R016	Unsaturated zone 1 (cm**3/g)	7.270E+03	-1.000E+00	---	DCNUCU (17,1)
R016	Saturated zone (cm**3/g)	8.290E+02	-1.000E+00	---	DCNUCS (17)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.745E-05	ALEACH (17)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (17)
R016	Distribution coefficients for Eu-155				
R016	Contaminated zone (cm**3/g)	7.270E+03	-1.000E+00	---	DCNUCC (18)
R016	Unsaturated zone 1 (cm**3/g)	7.270E+03	-1.000E+00	---	DCNUCU (18,1)
R016	Saturated zone (cm**3/g)	8.290E+02	-1.000E+00	---	DCNUCS (18)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.745E-05	ALEACH (18)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (18)
R016	Distribution coefficients for Fe-55				
R016	Contaminated zone (cm**3/g)	8.890E+02	1.000E+03	---	DCNUCC (19)
R016	Unsaturated zone 1 (cm**3/g)	8.890E+02	1.000E+03	---	DCNUCU (19,1)
R016	Saturated zone (cm**3/g)	3.210E+02	1.000E+03	---	DCNUCS (19)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.062E-04	ALEACH (19)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (19)

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for H-3				
R016	Contaminated zone (cm**3/g)	4.300E-02	0.000E+00	---	DCNUCC (21)
R016	Unsaturated zone 1 (cm**3/g)	4.300E-02	0.000E+00	---	DCNUCU (21,1)
R016	Saturated zone (cm**3/g)	6.020E-02	0.000E+00	---	DCNUCS (21)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.185E+00	ALEACH (21)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (21)
R016	Distribution coefficients for Ni-59				
R016	Contaminated zone (cm**3/g)	1.790E+02	1.000E+03	---	DCNUCC (22)
R016	Unsaturated zone 1 (cm**3/g)	1.790E+02	1.000E+03	---	DCNUCU (22,1)
R016	Saturated zone (cm**3/g)	1.300E+02	1.000E+03	---	DCNUCS (22)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.519E-03	ALEACH (22)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (22)
R016	Distribution coefficients for Ni-63				
R016	Contaminated zone (cm**3/g)	5.320E+02	1.000E+03	---	DCNUCC (23)
R016	Unsaturated zone 1 (cm**3/g)	5.320E+02	1.000E+03	---	DCNUCU (23,1)
R016	Saturated zone (cm**3/g)	1.300E+02	1.000E+03	---	DCNUCS (23)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.116E-04	ALEACH (23)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (23)
R016	Distribution coefficients for Np-237				
R016	Contaminated zone (cm**3/g)	9.050E+00	-1.000E+00	---	DCNUCC (24)
R016	Unsaturated zone 1 (cm**3/g)	9.050E+00	-1.000E+00	---	DCNUCU (24,1)
R016	Saturated zone (cm**3/g)	5.490E+00	-1.000E+00	---	DCNUCS (24)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.947E-02	ALEACH (24)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (24)
R016	Distribution coefficients for Pu-238				
R016	Contaminated zone (cm**3/g)	9.530E+02	2.000E+03	---	DCNUCC (28)
R016	Unsaturated zone 1 (cm**3/g)	9.530E+02	2.000E+03	---	DCNUCU (28,1)
R016	Saturated zone (cm**3/g)	3.990E+02	2.000E+03	---	DCNUCS (28)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.856E-04	ALEACH (28)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (28)
R016	Distribution coefficients for Pu-239				
R016	Contaminated zone (cm**3/g)	9.530E+02	2.000E+03	---	DCNUCC (30)
R016	Unsaturated zone 1 (cm**3/g)	9.530E+02	2.000E+03	---	DCNUCU (30,1)
R016	Saturated zone (cm**3/g)	3.990E+02	2.000E+03	---	DCNUCS (30)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.856E-04	ALEACH (30)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (30)
R016	Distribution coefficients for Pu-240				
R016	Contaminated zone (cm**3/g)	9.530E+02	2.000E+03	---	DCNUCC (31)
R016	Unsaturated zone 1 (cm**3/g)	9.530E+02	2.000E+03	---	DCNUCU (31,1)
R016	Saturated zone (cm**3/g)	3.990E+02	2.000E+03	---	DCNUCS (31)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.856E-04	ALEACH (31)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (31)



Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pu-241				
R016	Contaminated zone (cm**3/g)	9.530E+02	2.000E+03	---	DCNUCC (33)
R016	Unsaturated zone 1 (cm**3/g)	9.530E+02	2.000E+03	---	DCNUCU (33,1)
R016	Saturated zone (cm**3/g)	3.990E+02	2.000E+03	---	DCNUCS (33)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.856E-04	ALEACH (33)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (33)
R016	Distribution coefficients for Sb-125				
R016	Contaminated zone (cm**3/g)	1.280E+02	0.000E+00	---	DCNUCC (37)
R016	Unsaturated zone 1 (cm**3/g)	1.280E+02	0.000E+00	---	DCNUCU (37,1)
R016	Saturated zone (cm**3/g)	1.690E+01	0.000E+00	---	DCNUCS (37)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.124E-03	ALEACH (37)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (37)
R016	Distribution coefficients for Sr-90				
R016	Contaminated zone (cm**3/g)	1.680E+02	3.000E+01	---	DCNUCC (39)
R016	Unsaturated zone 1 (cm**3/g)	1.680E+02	3.000E+01	---	DCNUCU (39,1)
R016	Saturated zone (cm**3/g)	2.200E+01	3.000E+01	---	DCNUCS (39)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.619E-03	ALEACH (39)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (39)
R016	Distribution coefficients for Tc-99				
R016	Contaminated zone (cm**3/g)	1.470E-01	0.000E+00	---	DCNUCC (40)
R016	Unsaturated zone 1 (cm**3/g)	1.470E-01	0.000E+00	---	DCNUCU (40,1)
R016	Saturated zone (cm**3/g)	4.000E-01	0.000E+00	---	DCNUCS (40)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	8.159E-01	ALEACH (40)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (40)
R016	Distribution coefficients for daughter Ac-227				
R016	Contaminated zone (cm**3/g)	8.290E+02	2.000E+01	---	DCNUCC ( 1)
R016	Unsaturated zone 1 (cm**3/g)	8.290E+02	2.000E+01	---	DCNUCU ( 1,1)
R016	Saturated zone (cm**3/g)	8.290E+02	2.000E+01	---	DCNUCS ( 1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.283E-04	ALEACH ( 1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK ( 1)
R016	Distribution coefficients for daughter Am-243				
R016	Contaminated zone (cm**3/g)	4.190E+03	2.000E+01	---	DCNUCC ( 3)
R016	Unsaturated zone 1 (cm**3/g)	4.190E+03	2.000E+01	---	DCNUCU ( 3,1)
R016	Saturated zone (cm**3/g)	1.000E+03	2.000E+01	---	DCNUCS ( 3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.497E-05	ALEACH ( 3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK ( 3)
R016	Distribution coefficients for daughter Gd-152				
R016	Contaminated zone (cm**3/g)	8.290E+02	-1.000E+00	---	DCNUCC (20)
R016	Unsaturated zone 1 (cm**3/g)	8.290E+02	-1.000E+00	---	DCNUCU (20,1)
R016	Saturated zone (cm**3/g)	8.290E+02	-1.000E+00	---	DCNUCS (20)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.283E-04	ALEACH (20)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (20)

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for daughter Pa-231				
R016	Contaminated zone (cm**3/g)	3.800E+02	5.000E+01	---	DCNUCC (25)
R016	Unsaturated zone 1 (cm**3/g)	3.800E+02	5.000E+01	---	DCNUCU (25,1)
R016	Saturated zone (cm**3/g)	3.800E+02	5.000E+01	---	DCNUCS (25)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.161E-04	ALEACH (25)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (25)
R016	Distribution coefficients for daughter Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+04	1.000E+02	---	DCNUCC (26)
R016	Unsaturated zone 1 (cm**3/g)	1.000E+04	1.000E+02	---	DCNUCU (26,1)
R016	Saturated zone (cm**3/g)	2.190E+02	1.000E+02	---	DCNUCS (26)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.722E-05	ALEACH (26)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (26)
R016	Distribution coefficients for daughter Po-210				
R016	Contaminated zone (cm**3/g)	2.300E+02	1.000E+01	---	DCNUCC (27)
R016	Unsaturated zone 1 (cm**3/g)	2.300E+02	1.000E+01	---	DCNUCU (27,1)
R016	Saturated zone (cm**3/g)	1.000E+02	1.000E+01	---	DCNUCS (27)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.183E-03	ALEACH (27)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (27)
R016	Distribution coefficients for daughter Ra-226				
R016	Contaminated zone (cm**3/g)	7.130E+02	7.000E+01	---	DCNUCC (35)
R016	Unsaturated zone 1 (cm**3/g)	7.130E+02	7.000E+01	---	DCNUCU (35,1)
R016	Saturated zone (cm**3/g)	3.100E+03	7.000E+01	---	DCNUCS (35)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.817E-04	ALEACH (35)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (35)
R016	Distribution coefficients for daughter Ra-228				
R016	Contaminated zone (cm**3/g)	7.130E+02	7.000E+01	---	DCNUCC (36)
R016	Unsaturated zone 1 (cm**3/g)	7.130E+02	7.000E+01	---	DCNUCU (36,1)
R016	Saturated zone (cm**3/g)	3.100E+03	7.000E+01	---	DCNUCS (36)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.817E-04	ALEACH (36)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (36)
R016	Distribution coefficients for daughter Te-125m				
R016	Contaminated zone (cm**3/g)	3.810E+01	0.000E+00	---	DCNUCC (41)
R016	Unsaturated zone 1 (cm**3/g)	3.810E+01	0.000E+00	---	DCNUCU (41,1)
R016	Saturated zone (cm**3/g)	3.810E+01	0.000E+00	---	DCNUCS (41)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.111E-03	ALEACH (41)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (41)
R016	Distribution coefficients for daughter Th-228				
R016	Contaminated zone (cm**3/g)	1.800E+04	6.000E+04	---	DCNUCC (42)
R016	Unsaturated zone 1 (cm**3/g)	1.800E+04	6.000E+04	---	DCNUCU (42,1)
R016	Saturated zone (cm**3/g)	6.990E+02	6.000E+04	---	DCNUCS (42)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.512E-05	ALEACH (42)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (42)

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for daughter Th-229				
R016	Contaminated zone (cm**3/g)	1.800E+04	6.000E+04	---	DCNUCC (43)
R016	Unsaturated zone 1 (cm**3/g)	1.800E+04	6.000E+04	---	DCNUCU (43,1)
R016	Saturated zone (cm**3/g)	6.990E+02	6.000E+04	---	DCNUCS (43)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.512E-05	ALEACH (43)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (43)
R016	Distribution coefficients for daughter Th-230				
R016	Contaminated zone (cm**3/g)	1.800E+04	6.000E+04	---	DCNUCC (44)
R016	Unsaturated zone 1 (cm**3/g)	1.800E+04	6.000E+04	---	DCNUCU (44,1)
R016	Saturated zone (cm**3/g)	6.990E+02	6.000E+04	---	DCNUCS (44)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.512E-05	ALEACH (44)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (44)
R016	Distribution coefficients for daughter Th-232				
R016	Contaminated zone (cm**3/g)	1.800E+04	6.000E+04	---	DCNUCC (45)
R016	Unsaturated zone 1 (cm**3/g)	1.800E+04	6.000E+04	---	DCNUCU (45,1)
R016	Saturated zone (cm**3/g)	6.990E+02	6.000E+04	---	DCNUCS (45)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.512E-05	ALEACH (45)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (45)
R016	Distribution coefficients for daughter U-233				
R016	Contaminated zone (cm**3/g)	3.110E+02	5.000E+01	---	DCNUCC (46)
R016	Unsaturated zone 1 (cm**3/g)	3.110E+02	5.000E+01	---	DCNUCU (46,1)
R016	Saturated zone (cm**3/g)	1.100E+02	5.000E+01	---	DCNUCS (46)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	8.749E-04	ALEACH (46)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (46)
R016	Distribution coefficients for daughter U-234				
R016	Contaminated zone (cm**3/g)	3.110E+02	5.000E+01	---	DCNUCC (47)
R016	Unsaturated zone 1 (cm**3/g)	3.110E+02	5.000E+01	---	DCNUCU (47,1)
R016	Saturated zone (cm**3/g)	1.100E+02	5.000E+01	---	DCNUCS (47)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	8.749E-04	ALEACH (47)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (47)
R016	Distribution coefficients for daughter U-235				
R016	Contaminated zone (cm**3/g)	3.110E+02	5.000E+01	---	DCNUCC (48)
R016	Unsaturated zone 1 (cm**3/g)	3.110E+02	5.000E+01	---	DCNUCU (48,1)
R016	Saturated zone (cm**3/g)	1.100E+02	5.000E+01	---	DCNUCS (48)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	8.749E-04	ALEACH (48)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (48)
R016	Distribution coefficients for daughter U-236				
R016	Contaminated zone (cm**3/g)	3.110E+02	5.000E+01	---	DCNUCC (49)
R016	Unsaturated zone 1 (cm**3/g)	3.110E+02	5.000E+01	---	DCNUCU (49,1)
R016	Saturated zone (cm**3/g)	1.100E+02	5.000E+01	---	DCNUCS (49)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	8.749E-04	ALEACH (49)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (49)
R017	Inhalation rate (m**3/yr)	8.600E+03	8.400E+03	---	INHALR

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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)
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	0.500E+00	FPLANT
R018	Contamination fraction of meat	-1	-1	0.109E+00	FMEAT

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R018	Contamination fraction of milk	-1	-1	0.109E+00	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)
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)

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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
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

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

Contaminated Zone Dimensions

Initial Soil Concentrations, pCi/g

Area: 2181.00 square meters  
 Thickness: 0.15 meters  
 Cover Depth: 0.00 meters

Am-241 1.000E+00  
 C-14 1.000E+00  
 Ce-144 1.000E+00  
 Cm-243 1.000E+00  
 Cm-244 1.000E+00  
 Co-58 1.000E+00  
 Co-60 1.000E+00  
 Cs-134 1.000E+00  
 Cs-137 1.000E+00  
 Eu-152 1.000E+00  
 Eu-154 1.000E+00  
 Eu-155 1.000E+00  
 Fe-55 1.000E+00  
 H-3 1.000E+00  
 Ni-59 1.000E+00  
 Ni-63 1.000E+00  
 Np-237 1.000E+00  
 Pu-238 1.000E+00  
 Pu-239 1.000E+00  
 Pu-240 1.000E+00  
 Pu-241 1.000E+00  
 Sb-125 1.000E+00  
 Sr-90 1.000E+00  
 Tc-99 1.000E+00

Total Dose TDOSE(t), mrem/yr

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

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

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	2.409E+01	2.078E+01	1.692E+01	1.007E+01	3.994E+00	3.263E+00	3.146E-05	1.710E-06
M(t):	9.637E-01	8.312E-01	6.770E-01	4.026E-01	1.597E-01	1.305E-01	1.258E-06	6.841E-08

Maximum TDOSE(t): 2.409E+01 mrem/yr at t = 0.000E+00 years

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	1.974E-02	0.0008	4.982E-03	0.0002	0.000E+00	0.0000	1.085E-01	0.0045	6.841E-04	0.0000	1.415E-04	0.0000	3.377E-02	0.0014
C-14	2.813E-07	0.0000	4.073E-06	0.0000	0.000E+00	0.0000	2.942E-02	0.0012	2.811E-03	0.0001	1.621E-03	0.0001	8.937E-07	0.0000
Ce-144	8.629E-02	0.0036	2.782E-06	0.0000	0.000E+00	0.0000	8.962E-04	0.0000	1.763E-06	0.0000	8.359E-06	0.0000	1.299E-04	0.0000
Cm-243	2.548E-01	0.0106	3.407E-03	0.0001	0.000E+00	0.0000	7.399E-02	0.0031	3.316E-04	0.0000	1.125E-04	0.0000	2.303E-02	0.0010
Cm-244	5.929E-05	0.0000	2.733E-03	0.0001	0.000E+00	0.0000	5.914E-02	0.0025	2.651E-04	0.0000	8.989E-05	0.0000	1.840E-02	0.0008
Co-58	6.552E-01	0.0272	3.332E-08	0.0000	0.000E+00	0.0000	2.311E-03	0.0001	3.877E-04	0.0000	1.259E-04	0.0000	9.048E-06	0.0000
Co-60	5.865E+00	0.2434	2.305E-06	0.0000	0.000E+00	0.0000	5.973E-02	0.0025	1.003E-02	0.0004	3.256E-03	0.0001	2.341E-04	0.0000
Cs-134	3.280E+00	0.1361	4.407E-07	0.0000	0.000E+00	0.0000	7.912E-02	0.0033	2.070E-02	0.0009	2.293E-02	0.0010	5.781E-04	0.0000
Cs-137	1.383E+00	0.0574	3.542E-07	0.0000	0.000E+00	0.0000	6.281E-02	0.0026	1.643E-02	0.0007	1.820E-02	0.0008	4.589E-04	0.0000
Eu-152	2.708E+00	0.1124	2.419E-06	0.0000	0.000E+00	0.0000	4.323E-04	0.0000	8.461E-05	0.0000	8.770E-06	0.0000	5.863E-05	0.0000
Eu-154	2.915E+00	0.1210	3.089E-06	0.0000	0.000E+00	0.0000	6.287E-04	0.0000	1.231E-04	0.0000	1.276E-05	0.0000	8.528E-05	0.0000
Eu-155	7.737E-02	0.0032	4.340E-07	0.0000	0.000E+00	0.0000	9.776E-05	0.0000	1.913E-05	0.0000	1.983E-06	0.0000	1.326E-05	0.0000
Fe-55	0.000E+00	0.0000	2.664E-08	0.0000	0.000E+00	0.0000	1.597E-05	0.0000	6.912E-05	0.0000	3.054E-06	0.0000	4.971E-06	0.0000
H-3	0.000E+00	0.0000	1.239E-05	0.0000	0.000E+00	0.0000	7.507E-04	0.0000	1.436E-05	0.0000	9.510E-05	0.0000	1.135E-07	0.0000
Ni-59	0.000E+00	0.0000	3.030E-08	0.0000	0.000E+00	0.0000	3.110E-04	0.0000	1.044E-05	0.0000	1.970E-04	0.0000	1.948E-06	0.0000
Ni-63	0.000E+00	0.0000	7.037E-08	0.0000	0.000E+00	0.0000	8.518E-04	0.0000	2.860E-05	0.0000	5.395E-04	0.0000	5.337E-06	0.0000
Np-237	4.692E-01	0.0195	5.977E-03	0.0002	0.000E+00	0.0000	2.611E+00	0.1084	2.856E-02	0.0012	1.324E-03	0.0001	4.066E-02	0.0017
Pu-238	7.090E-05	0.0000	4.385E-03	0.0002	0.000E+00	0.0000	9.509E-02	0.0039	1.191E-03	0.0000	5.288E-05	0.0000	2.959E-02	0.0012
Pu-239	1.316E-04	0.0000	4.817E-03	0.0002	0.000E+00	0.0000	1.056E-01	0.0044	1.322E-03	0.0001	5.872E-05	0.0000	3.287E-02	0.0014
Pu-240	6.921E-05	0.0000	4.817E-03	0.0002	0.000E+00	0.0000	1.056E-01	0.0044	1.322E-03	0.0001	5.872E-05	0.0000	3.286E-02	0.0014
Pu-241	2.389E-05	0.0000	9.438E-05	0.0000	0.000E+00	0.0000	2.078E-03	0.0001	2.554E-05	0.0000	1.219E-06	0.0000	6.466E-04	0.0000
Sb-125	8.979E-01	0.0373	1.341E-07	0.0000	0.000E+00	0.0000	5.694E-03	0.0002	5.257E-05	0.0000	2.675E-05	0.0000	2.848E-05	0.0000
Sr-90	1.048E-02	0.0004	1.451E-05	0.0000	0.000E+00	0.0000	1.445E+00	0.0600	3.371E-02	0.0014	5.286E-02	0.0022	1.401E-03	0.0001
Tc-99	3.943E-05	0.0000	6.390E-08	0.0000	0.000E+00	0.0000	1.518E-01	0.0063	3.888E-05	0.0000	3.110E-03	0.0001	9.271E-06	0.0000
Total	1.862E+01	0.7730	3.126E-02	0.0013	0.000E+00	0.0000	5.000E+00	0.2076	1.182E-01	0.0049	1.048E-01	0.0044	2.148E-01	0.0089



Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.678E-01	0.0070
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	3.386E-02	0.0014
Ce-144	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.733E-02	0.0036
Cm-243	0.000E+00	0.0000	0.000E+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-01	0.0148
Cm-244	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.069E-02	0.0033
Co-58	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.581E-01	0.0273
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	5.938E+00	0.2465
Cs-134	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.403E+00	0.1413
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	1.481E+00	0.0615
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	2.709E+00	0.1124
Eu-154	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.916E+00	0.1210
Eu-155	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.751E-02	0.0032
Fe-55	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.315E-05	0.0000
H-3	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.727E-04	0.0000
Ni-59	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.204E-04	0.0000
Ni-63	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.425E-03	0.0001
Np-237	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.157E+00	0.1310
Pu-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	1.304E-01	0.0054
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.448E-01	0.0060
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.447E-01	0.0060
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.869E-03	0.0001
Sb-125	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.037E-01	0.0375
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	1.543E+00	0.0641
Tc-99	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.550E-01	0.0064
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	2.409E+01	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	1.971E-02	0.0009	4.948E-03	0.0002	0.000E+00	0.0000	1.078E-01	0.0052	6.795E-04	0.0000	1.405E-04	0.0000	3.354E-02	0.0016
C-14	6.941E-17	0.0000	9.997E-16	0.0000	0.000E+00	0.0000	1.817E-11	0.0000	1.296E-11	0.0000	4.209E-12	0.0000	2.194E-16	0.0000
Ce-144	3.536E-02	0.0017	1.136E-06	0.0000	0.000E+00	0.0000	3.660E-04	0.0000	7.200E-07	0.0000	3.413E-06	0.0000	5.302E-05	0.0000
Cm-243	2.485E-01	0.0120	3.308E-03	0.0002	0.000E+00	0.0000	7.185E-02	0.0035	3.220E-04	0.0000	1.092E-04	0.0000	2.236E-02	0.0011
Cm-244	5.707E-05	0.0000	2.618E-03	0.0001	0.000E+00	0.0000	5.664E-02	0.0027	2.540E-04	0.0000	8.608E-05	0.0000	1.763E-02	0.0008
Co-58	1.831E-02	0.0009	9.279E-10	0.0000	0.000E+00	0.0000	6.439E-05	0.0000	1.080E-05	0.0000	3.506E-06	0.0000	2.520E-07	0.0000
Co-60	5.132E+00	0.2470	2.010E-06	0.0000	0.000E+00	0.0000	5.210E-02	0.0025	8.750E-03	0.0004	2.841E-03	0.0001	2.042E-04	0.0000
Cs-134	2.340E+00	0.1126	3.133E-07	0.0000	0.000E+00	0.0000	5.625E-02	0.0027	1.472E-02	0.0007	1.630E-02	0.0008	4.109E-04	0.0000
Cs-137	1.349E+00	0.0649	3.443E-07	0.0000	0.000E+00	0.0000	6.107E-02	0.0029	1.598E-02	0.0008	1.770E-02	0.0009	4.462E-04	0.0000
Eu-152	2.566E+00	0.1235	2.284E-06	0.0000	0.000E+00	0.0000	4.083E-04	0.0000	7.991E-05	0.0000	8.283E-06	0.0000	5.538E-05	0.0000
Eu-154	2.690E+00	0.1294	2.840E-06	0.0000	0.000E+00	0.0000	5.782E-04	0.0000	1.132E-04	0.0000	1.173E-05	0.0000	7.841E-05	0.0000
Eu-155	6.727E-02	0.0032	3.754E-07	0.0000	0.000E+00	0.0000	8.458E-05	0.0000	1.655E-05	0.0000	1.716E-06	0.0000	1.147E-05	0.0000
Fe-55	0.000E+00	0.0000	2.050E-08	0.0000	0.000E+00	0.0000	1.229E-05	0.0000	5.319E-05	0.0000	2.350E-06	0.0000	3.825E-06	0.0000
H-3	0.000E+00	0.0000	6.702E-08	0.0000	0.000E+00	0.0000	4.441E-06	0.0000	1.143E-07	0.0000	6.906E-07	0.0000	6.139E-10	0.0000
Ni-59	0.000E+00	0.0000	3.010E-08	0.0000	0.000E+00	0.0000	3.089E-04	0.0000	1.037E-05	0.0000	1.957E-04	0.0000	1.936E-06	0.0000
Ni-63	0.000E+00	0.0000	6.948E-08	0.0000	0.000E+00	0.0000	8.409E-04	0.0000	2.824E-05	0.0000	5.327E-04	0.0000	5.269E-06	0.0000
Np-237	4.551E-01	0.0219	5.774E-03	0.0003	0.000E+00	0.0000	2.523E+00	0.1214	2.760E-02	0.0013	1.279E-03	0.0001	3.928E-02	0.0019
Pu-238	7.033E-05	0.0000	4.327E-03	0.0002	0.000E+00	0.0000	9.383E-02	0.0045	1.175E-03	0.0001	5.219E-05	0.0000	2.920E-02	0.0014
Pu-239	1.314E-04	0.0000	4.792E-03	0.0002	0.000E+00	0.0000	1.050E-01	0.0051	1.315E-03	0.0001	5.841E-05	0.0000	3.269E-02	0.0016
Pu-240	6.918E-05	0.0000	4.791E-03	0.0002	0.000E+00	0.0000	1.050E-01	0.0051	1.315E-03	0.0001	5.840E-05	0.0000	3.269E-02	0.0016
Pu-241	5.365E-05	0.0000	9.722E-05	0.0000	0.000E+00	0.0000	2.138E-03	0.0001	2.528E-05	0.0000	1.376E-06	0.0000	6.655E-04	0.0000
Sb-125	6.970E-01	0.0335	1.071E-07	0.0000	0.000E+00	0.0000	5.773E-03	0.0003	5.388E-05	0.0000	2.825E-05	0.0000	2.343E-05	0.0000
Sr-90	1.021E-02	0.0005	1.407E-05	0.0000	0.000E+00	0.0000	1.401E+00	0.0674	3.270E-02	0.0016	5.127E-02	0.0025	1.359E-03	0.0001
Tc-99	1.743E-05	0.0000	2.812E-08	0.0000	0.000E+00	0.0000	6.715E-02	0.0032	1.758E-05	0.0000	1.396E-03	0.0001	4.079E-06	0.0000
Total	1.563E+01	0.7522	3.068E-02	0.0015	0.000E+00	0.0000	4.711E+00	0.2267	1.052E-01	0.0051	9.208E-02	0.0044	2.107E-01	0.0101

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.668E-01	0.0080
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	3.534E-11	0.0000
Ce-144	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.579E-02	0.0017
Cm-243	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.465E-01	0.0167
Cm-244	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.728E-02	0.0037
Co-58	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.839E-02	0.0009
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	5.196E+00	0.2501
Cs-134	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.428E+00	0.1168
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	1.444E+00	0.0695
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	2.567E+00	0.1235
Eu-154	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.690E+00	0.1295
Eu-155	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.738E-02	0.0032
Fe-55	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.167E-05	0.0000
H-3	3.240E-07	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.464E-08	0.0000	0.000E+00	0.0000	7.707E-09	0.0000	5.660E-06	0.0000
Ni-59	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.170E-04	0.0000
Ni-63	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.407E-03	0.0001
Np-237	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.052E+00	0.1469
Pu-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	1.287E-01	0.0062
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.440E-01	0.0069
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.439E-01	0.0069
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.981E-03	0.0001
Sb-125	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.029E-01	0.0338
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	1.497E+00	0.0720
Tc-99	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.858E-02	0.0033
Total	3.240E-07	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.464E-08	0.0000	0.000E+00	0.0000	7.707E-09	0.0000	2.078E+01	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	1.965E-02	0.0012	4.880E-03	0.0003	0.000E+00	0.0000	1.063E-01	0.0063	6.701E-04	0.0000	1.386E-04	0.0000	3.307E-02	0.0020
C-14	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.094E-30	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ce-144	5.938E-03	0.0004	1.894E-07	0.0000	0.000E+00	0.0000	6.101E-05	0.0000	1.200E-07	0.0000	5.690E-07	0.0000	8.840E-06	0.0000
Cm-243	2.363E-01	0.0140	3.119E-03	0.0002	0.000E+00	0.0000	6.774E-02	0.0040	3.037E-04	0.0000	1.030E-04	0.0000	2.108E-02	0.0012
Cm-244	5.288E-05	0.0000	2.401E-03	0.0001	0.000E+00	0.0000	5.195E-02	0.0031	2.331E-04	0.0000	7.894E-05	0.0000	1.617E-02	0.0010
Co-58	1.430E-05	0.0000	7.195E-13	0.0000	0.000E+00	0.0000	4.993E-08	0.0000	8.376E-09	0.0000	2.719E-09	0.0000	1.954E-10	0.0000
Co-60	3.930E+00	0.2322	1.530E-06	0.0000	0.000E+00	0.0000	3.964E-02	0.0023	6.657E-03	0.0004	2.161E-03	0.0001	1.553E-04	0.0000
Cs-134	1.191E+00	0.0704	1.583E-07	0.0000	0.000E+00	0.0000	2.842E-02	0.0017	7.435E-03	0.0004	8.236E-03	0.0005	2.076E-04	0.0000
Cs-137	1.284E+00	0.0759	3.253E-07	0.0000	0.000E+00	0.0000	5.770E-02	0.0034	1.510E-02	0.0009	1.672E-02	0.0010	4.216E-04	0.0000
Eu-152	2.305E+00	0.1362	2.038E-06	0.0000	0.000E+00	0.0000	3.642E-04	0.0000	7.128E-05	0.0000	7.389E-06	0.0000	4.940E-05	0.0000
Eu-154	2.289E+00	0.1353	2.401E-06	0.0000	0.000E+00	0.0000	4.888E-04	0.0000	9.567E-05	0.0000	9.917E-06	0.0000	6.630E-05	0.0000
Eu-155	5.084E-02	0.0030	2.810E-07	0.0000	0.000E+00	0.0000	6.330E-05	0.0000	1.239E-05	0.0000	1.284E-06	0.0000	8.585E-06	0.0000
Fe-55	0.000E+00	0.0000	1.214E-08	0.0000	0.000E+00	0.0000	7.275E-06	0.0000	3.149E-05	0.0000	1.391E-06	0.0000	2.264E-06	0.0000
H-3	0.000E+00	0.0000	1.960E-12	0.0000	0.000E+00	0.0000	1.298E-10	0.0000	3.341E-12	0.0000	2.019E-11	0.0000	1.795E-14	0.0000
Ni-59	0.000E+00	0.0000	2.970E-08	0.0000	0.000E+00	0.0000	3.048E-04	0.0000	1.024E-05	0.0000	1.931E-04	0.0000	1.910E-06	0.0000
Ni-63	0.000E+00	0.0000	6.771E-08	0.0000	0.000E+00	0.0000	8.196E-04	0.0000	2.752E-05	0.0000	5.192E-04	0.0000	5.135E-06	0.0000
Np-237	4.282E-01	0.0253	5.388E-03	0.0003	0.000E+00	0.0000	2.354E+00	0.1391	2.576E-02	0.0015	1.194E-03	0.0001	3.665E-02	0.0022
Pu-238	6.919E-05	0.0000	4.213E-03	0.0002	0.000E+00	0.0000	9.137E-02	0.0054	1.144E-03	0.0001	5.083E-05	0.0000	2.844E-02	0.0017
Pu-239	1.312E-04	0.0000	4.740E-03	0.0003	0.000E+00	0.0000	1.039E-01	0.0061	1.301E-03	0.0001	5.778E-05	0.0000	3.234E-02	0.0019
Pu-240	6.912E-05	0.0000	4.738E-03	0.0003	0.000E+00	0.0000	1.039E-01	0.0061	1.301E-03	0.0001	5.776E-05	0.0000	3.233E-02	0.0019
Pu-241	1.089E-04	0.0000	1.023E-04	0.0000	0.000E+00	0.0000	2.247E-03	0.0001	2.476E-05	0.0000	1.661E-06	0.0000	6.992E-04	0.0000
Sb-125	4.196E-01	0.0248	6.402E-08	0.0000	0.000E+00	0.0000	3.464E-03	0.0002	3.237E-05	0.0000	1.697E-05	0.0000	1.401E-05	0.0000
Sr-90	9.682E-03	0.0006	1.324E-05	0.0000	0.000E+00	0.0000	1.318E+00	0.0779	3.077E-02	0.0018	4.823E-02	0.0029	1.278E-03	0.0001
Tc-99	3.408E-06	0.0000	5.442E-09	0.0000	0.000E+00	0.0000	1.300E-02	0.0008	3.404E-06	0.0000	2.702E-04	0.0000	7.896E-07	0.0000
Total	1.217E+01	0.7191	2.960E-02	0.0017	0.000E+00	0.0000	4.344E+00	0.2567	9.097E-02	0.0054	7.806E-02	0.0046	2.030E-01	0.0120

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.647E-01	0.0097
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	1.094E-30	0.0000
Ce-144	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.009E-03	0.0004
Cm-243	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.287E-01	0.0194
Cm-244	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.088E-02	0.0042
Co-58	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.436E-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	3.979E+00	0.2351
Cs-134	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.235E+00	0.0730
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	1.374E+00	0.0812
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	2.305E+00	0.1362
Eu-154	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.290E+00	0.1353
Eu-155	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.093E-02	0.0030
Fe-55	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.243E-05	0.0000
H-3	2.162E-04	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.601E-05	0.0000	1.593E-06	0.0000	6.950E-06	0.0000	2.607E-04	0.0000
Ni-59	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.101E-04	0.0000
Ni-63	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.371E-03	0.0001
Np-237	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.851E+00	0.1685
Pu-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	1.253E-01	0.0074
Pu-239	0.000E+00	0.0000	0.000E+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-01	0.0084
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.424E-01	0.0084
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.184E-03	0.0002
Sb-125	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.231E-01	0.0250
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	1.408E+00	0.0832
Tc-99	5.902E-03	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	2.019E-03	0.0001	1.043E-06	0.0000	6.588E-05	0.0000	2.126E-02	0.0013
Total	6.119E-03	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	2.055E-03	0.0001	2.636E-06	0.0000	7.283E-05	0.0000	1.692E+01	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	1.943E-02	0.0019	4.644E-03	0.0005	0.000E+00	0.0000	1.012E-01	0.0100	6.378E-04	0.0001	1.319E-04	0.0000	3.148E-02	0.0031
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
Ce-144	1.152E-05	0.0000	3.581E-10	0.0000	0.000E+00	0.0000	1.153E-07	0.0000	2.269E-10	0.0000	1.076E-09	0.0000	1.671E-08	0.0000
Cm-243	1.981E-01	0.0197	2.536E-03	0.0003	0.000E+00	0.0000	5.509E-02	0.0055	2.471E-04	0.0000	8.372E-05	0.0000	1.714E-02	0.0017
Cm-244	4.050E-05	0.0000	1.773E-03	0.0002	0.000E+00	0.0000	3.837E-02	0.0038	1.727E-04	0.0000	5.824E-05	0.0000	1.194E-02	0.0012
Co-58	1.902E-16	0.0000	9.334E-24	0.0000	0.000E+00	0.0000	6.477E-19	0.0000	1.087E-19	0.0000	3.527E-20	0.0000	2.535E-21	0.0000
Co-60	1.543E+00	0.1533	5.871E-07	0.0000	0.000E+00	0.0000	1.521E-02	0.0015	2.555E-03	0.0003	8.295E-04	0.0001	5.962E-05	0.0000
Cs-134	1.119E-01	0.0111	1.450E-08	0.0000	0.000E+00	0.0000	2.603E-03	0.0003	6.810E-04	0.0001	7.544E-04	0.0001	1.902E-05	0.0000
Cs-137	1.080E+00	0.1073	2.666E-07	0.0000	0.000E+00	0.0000	4.729E-02	0.0047	1.237E-02	0.0012	1.371E-02	0.0014	3.455E-04	0.0000
Eu-152	1.581E+00	0.1571	1.365E-06	0.0000	0.000E+00	0.0000	2.439E-04	0.0000	4.773E-05	0.0000	4.948E-06	0.0000	3.308E-05	0.0000
Eu-154	1.302E+00	0.1294	1.333E-06	0.0000	0.000E+00	0.0000	2.714E-04	0.0000	5.312E-05	0.0000	5.506E-06	0.0000	3.681E-05	0.0000
Eu-155	1.908E-02	0.0019	1.018E-07	0.0000	0.000E+00	0.0000	2.293E-05	0.0000	4.489E-06	0.0000	4.653E-07	0.0000	3.111E-06	0.0000
Fe-55	0.000E+00	0.0000	1.935E-09	0.0000	0.000E+00	0.0000	1.160E-06	0.0000	5.021E-06	0.0000	2.218E-07	0.0000	3.610E-07	0.0000
H-3	0.000E+00	0.0000	2.646E-28	0.0000	0.000E+00	0.0000	1.753E-26	0.0000	4.511E-28	0.0000	2.727E-27	0.0000	2.423E-30	0.0000
Ni-59	0.000E+00	0.0000	2.833E-08	0.0000	0.000E+00	0.0000	2.907E-04	0.0000	9.762E-06	0.0000	1.842E-04	0.0000	1.822E-06	0.0000
Ni-63	0.000E+00	0.0000	6.183E-08	0.0000	0.000E+00	0.0000	7.484E-04	0.0001	2.513E-05	0.0000	4.741E-04	0.0000	4.689E-06	0.0000
Np-237	3.458E-01	0.0344	4.225E-03	0.0004	0.000E+00	0.0000	1.846E+00	0.1834	2.020E-02	0.0020	9.361E-04	0.0001	2.874E-02	0.0029
Pu-238	6.534E-05	0.0000	3.835E-03	0.0004	0.000E+00	0.0000	8.317E-02	0.0083	1.042E-03	0.0001	4.630E-05	0.0000	2.588E-02	0.0026
Pu-239	1.302E-04	0.0000	4.559E-03	0.0005	0.000E+00	0.0000	9.993E-02	0.0099	1.251E-03	0.0001	5.557E-05	0.0000	3.110E-02	0.0031
Pu-240	6.891E-05	0.0000	4.555E-03	0.0005	0.000E+00	0.0000	9.985E-02	0.0099	1.250E-03	0.0001	5.553E-05	0.0000	3.108E-02	0.0031
Pu-241	2.638E-04	0.0000	1.147E-04	0.0000	0.000E+00	0.0000	2.512E-03	0.0002	2.312E-05	0.0000	2.404E-06	0.0000	7.818E-04	0.0001
Sb-125	7.097E-02	0.0071	1.055E-08	0.0000	0.000E+00	0.0000	5.708E-04	0.0001	5.334E-06	0.0000	2.797E-06	0.0000	2.309E-06	0.0000
Sr-90	8.040E-03	0.0008	1.068E-05	0.0000	0.000E+00	0.0000	1.064E+00	0.1057	2.482E-02	0.0025	3.892E-02	0.0039	1.031E-03	0.0001
Tc-99	1.126E-08	0.0000	1.735E-11	0.0000	0.000E+00	0.0000	4.144E-05	0.0000	1.085E-08	0.0000	8.614E-07	0.0000	2.517E-09	0.0000
Total	6.281E+00	0.6240	2.626E-02	0.0026	0.000E+00	0.0000	3.457E+00	0.3434	6.541E-02	0.0065	5.625E-02	0.0056	1.797E-01	0.0179

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.575E-01	0.0156
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
Ce-144	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.165E-05	0.0000
Cm-243	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.732E-01	0.0271
Cm-244	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.235E-02	0.0052
Co-58	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.910E-16	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	1.562E+00	0.1552
Cs-134	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.159E-01	0.0115
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	1.154E+00	0.1146
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	1.582E+00	0.1571
Eu-154	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.302E+00	0.1294
Eu-155	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.911E-02	0.0019
Fe-55	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.766E-06	0.0000
H-3	2.458E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.784E-20	0.0000	2.499E-21	0.0000	9.212E-21	0.0000	3.054E-19	0.0000
Ni-59	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.865E-04	0.0000
Ni-63	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.252E-03	0.0001
Np-237	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.246E+00	0.2231
Pu-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	1.140E-01	0.0113
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.370E-01	0.0136
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.369E-01	0.0136
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.698E-03	0.0004
Sb-125	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.155E-02	0.0071
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	1.136E+00	0.1129
Tc-99	4.407E-04	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.618E-04	0.0000	1.006E-07	0.0000	5.881E-06	0.0000	6.509E-04	0.0001
Total	4.407E-04	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.618E-04	0.0000	1.006E-07	0.0000	5.881E-06	0.0000	1.007E+01	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	1.882E-02	0.0047	3.999E-03	0.0010	0.000E+00	0.0000	8.712E-02	0.0218	5.494E-04	0.0001	1.136E-04	0.0000	2.711E-02	0.0068
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
Ce-144	2.041E-13	0.0000	5.878E-18	0.0000	0.000E+00	0.0000	1.894E-15	0.0000	3.726E-18	0.0000	1.766E-17	0.0000	2.744E-16	0.0000
Cm-243	1.192E-01	0.0299	1.394E-03	0.0003	0.000E+00	0.0000	3.028E-02	0.0076	1.362E-04	0.0000	4.598E-05	0.0000	9.424E-03	0.0024
Cm-244	1.894E-05	0.0000	7.423E-04	0.0002	0.000E+00	0.0000	1.607E-02	0.0040	7.336E-05	0.0000	2.426E-05	0.0000	5.000E-03	0.0013
Co-58	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+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	1.062E-01	0.0266	3.775E-08	0.0000	0.000E+00	0.0000	9.784E-04	0.0002	1.643E-04	0.0000	5.334E-05	0.0000	3.834E-06	0.0000
Cs-134	1.294E-04	0.0000	1.555E-11	0.0000	0.000E+00	0.0000	2.792E-06	0.0000	7.306E-07	0.0000	8.093E-07	0.0000	2.040E-08	0.0000
Cs-137	6.547E-01	0.1639	1.498E-07	0.0000	0.000E+00	0.0000	2.657E-02	0.0067	6.951E-03	0.0017	7.700E-03	0.0019	1.941E-04	0.0000
Eu-152	5.359E-01	0.1342	4.304E-07	0.0000	0.000E+00	0.0000	7.694E-05	0.0000	1.506E-05	0.0000	1.561E-06	0.0000	1.043E-05	0.0000
Eu-154	2.582E-01	0.0647	2.463E-07	0.0000	0.000E+00	0.0000	5.013E-05	0.0000	9.811E-06	0.0000	1.017E-06	0.0000	6.798E-06	0.0000
Eu-155	1.157E-03	0.0003	5.553E-09	0.0000	0.000E+00	0.0000	1.251E-06	0.0000	2.448E-07	0.0000	2.538E-08	0.0000	1.697E-07	0.0000
Fe-55	0.000E+00	0.0000	1.012E-11	0.0000	0.000E+00	0.0000	6.066E-09	0.0000	2.626E-08	0.0000	1.160E-09	0.0000	1.888E-09	0.0000
H-3	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ni-59	0.000E+00	0.0000	2.454E-08	0.0000	0.000E+00	0.0000	2.518E-04	0.0001	8.457E-06	0.0000	1.595E-04	0.0000	1.578E-06	0.0000
Ni-63	0.000E+00	0.0000	4.731E-08	0.0000	0.000E+00	0.0000	5.727E-04	0.0001	1.923E-05	0.0000	3.628E-04	0.0001	3.588E-06	0.0000
Np-237	1.870E-01	0.0468	2.093E-03	0.0005	0.000E+00	0.0000	9.144E-01	0.2290	1.001E-02	0.0025	4.638E-04	0.0001	1.424E-02	0.0036
Pu-238	5.544E-05	0.0000	2.908E-03	0.0007	0.000E+00	0.0000	6.307E-02	0.0158	7.898E-04	0.0002	3.520E-05	0.0000	1.963E-02	0.0049
Pu-239	1.271E-04	0.0000	4.046E-03	0.0010	0.000E+00	0.0000	8.870E-02	0.0222	1.111E-03	0.0003	4.932E-05	0.0000	2.760E-02	0.0069
Pu-240	6.829E-05	0.0000	4.036E-03	0.0010	0.000E+00	0.0000	8.849E-02	0.0222	1.108E-03	0.0003	4.920E-05	0.0000	2.754E-02	0.0069
Pu-241	4.931E-04	0.0001	1.223E-04	0.0000	0.000E+00	0.0000	2.669E-03	0.0007	1.930E-05	0.0000	3.185E-06	0.0000	8.306E-04	0.0002
Sb-125	4.405E-04	0.0001	6.055E-11	0.0000	0.000E+00	0.0000	3.277E-06	0.0000	3.063E-08	0.0000	1.606E-08	0.0000	1.326E-08	0.0000
Sr-90	4.707E-03	0.0012	5.738E-06	0.0000	0.000E+00	0.0000	5.714E-01	0.1431	1.333E-02	0.0033	2.091E-02	0.0052	5.540E-04	0.0001
Tc-99	9.161E-16	0.0000	1.268E-18	0.0000	0.000E+00	0.0000	3.029E-12	0.0000	7.932E-16	0.0000	6.296E-14	0.0000	1.840E-16	0.0000
Total	1.887E+00	0.4726	1.935E-02	0.0048	0.000E+00	0.0000	1.891E+00	0.4734	3.430E-02	0.0086	2.997E-02	0.0075	1.321E-01	0.0331



Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.377E-01	0.0345
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
Ce-144	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.063E-13	0.0000
Cm-243	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.605E-01	0.0402
Cm-244	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.192E-02	0.0055
Co-58	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+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	1.074E-01	0.0269
Cs-134	0.000E+00	0.0000	0.000E+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-04	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	6.961E-01	0.1743
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	5.360E-01	0.1342
Eu-154	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.583E-01	0.0647
Eu-155	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.159E-03	0.0003
Fe-55	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.538E-08	0.0000
H-3	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ni-59	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.215E-04	0.0001
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	9.583E-04	0.0002
Np-237	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.128E+00	0.2825
Pu-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	8.648E-02	0.0217
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.216E-01	0.0305
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.213E-01	0.0304
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.138E-03	0.0010
Sb-125	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.438E-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	6.109E-01	0.1530
Tc-99	3.232E-11	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.186E-11	0.0000	7.376E-15	0.0000	4.312E-13	0.0000	4.771E-11	0.0000
Total	3.232E-11	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.186E-11	0.0000	7.376E-15	0.0000	4.312E-13	0.0000	3.994E+00	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	1.646E-02	0.0050	2.046E-03	0.0006	0.000E+00	0.0000	4.458E-02	0.0137	2.812E-04	0.0001	5.812E-05	0.0000	1.387E-02	0.0042
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
Ce-144	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Cm-243	1.844E-02	0.0057	1.498E-04	0.0000	0.000E+00	0.0000	3.254E-03	0.0010	1.503E-05	0.0000	4.893E-06	0.0000	1.013E-03	0.0003
Cm-244	1.468E-06	0.0000	3.551E-05	0.0000	0.000E+00	0.0000	7.703E-04	0.0002	4.553E-06	0.0000	1.039E-06	0.0000	2.397E-04	0.0001
Co-58	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+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	8.121E-06	0.0000	2.197E-12	0.0000	0.000E+00	0.0000	5.695E-08	0.0000	9.568E-09	0.0000	3.106E-09	0.0000	2.231E-10	0.0000
Cs-134	6.115E-15	0.0000	5.426E-22	0.0000	0.000E+00	0.0000	9.744E-17	0.0000	2.550E-17	0.0000	2.825E-17	0.0000	7.118E-19	0.0000
Cs-137	1.021E-01	0.0313	1.718E-08	0.0000	0.000E+00	0.0000	3.047E-03	0.0009	7.976E-04	0.0002	8.834E-04	0.0003	2.226E-05	0.0000
Eu-152	1.091E-02	0.0033	6.551E-09	0.0000	0.000E+00	0.0000	1.171E-06	0.0000	2.292E-07	0.0000	2.375E-08	0.0000	1.588E-07	0.0000
Eu-154	8.053E-04	0.0002	5.754E-10	0.0000	0.000E+00	0.0000	1.171E-07	0.0000	2.293E-08	0.0000	2.376E-09	0.0000	1.589E-08	0.0000
Eu-155	5.999E-08	0.0000	1.817E-13	0.0000	0.000E+00	0.0000	4.093E-11	0.0000	8.013E-12	0.0000	8.304E-13	0.0000	5.551E-12	0.0000
Fe-55	0.000E+00	0.0000	9.030E-20	0.0000	0.000E+00	0.0000	5.414E-17	0.0000	2.344E-16	0.0000	1.035E-17	0.0000	1.685E-17	0.0000
H-3	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ni-59	0.000E+00	0.0000	1.281E-08	0.0000	0.000E+00	0.0000	1.315E-04	0.0000	4.418E-06	0.0000	8.334E-05	0.0000	8.240E-07	0.0000
Ni-63	0.000E+00	0.0000	1.600E-08	0.0000	0.000E+00	0.0000	1.937E-04	0.0001	6.507E-06	0.0000	1.228E-04	0.0000	1.214E-06	0.0000
Np-237	1.978E-02	0.0061	1.546E-04	0.0000	0.000E+00	0.0000	6.752E-02	0.0207	7.390E-04	0.0002	3.438E-05	0.0000	1.051E-03	0.0003
Pu-238	3.066E-05	0.0000	9.530E-04	0.0003	0.000E+00	0.0000	2.067E-02	0.0063	2.589E-04	0.0001	1.168E-05	0.0000	6.431E-03	0.0020
Pu-239	1.085E-04	0.0000	2.300E-03	0.0007	0.000E+00	0.0000	5.043E-02	0.0155	6.316E-04	0.0002	2.804E-05	0.0000	1.569E-02	0.0048
Pu-240	6.513E-05	0.0000	2.282E-03	0.0007	0.000E+00	0.0000	5.004E-02	0.0153	6.267E-04	0.0002	2.783E-05	0.0000	1.557E-02	0.0048
Pu-241	5.612E-04	0.0002	7.012E-05	0.0000	0.000E+00	0.0000	1.528E-03	0.0005	9.684E-06	0.0000	1.986E-06	0.0000	4.753E-04	0.0001
Sb-125	7.469E-12	0.0000	7.493E-19	0.0000	0.000E+00	0.0000	4.056E-14	0.0000	3.792E-16	0.0000	1.988E-16	0.0000	1.640E-16	0.0000
Sr-90	6.578E-04	0.0002	5.626E-07	0.0000	0.000E+00	0.0000	5.603E-02	0.0172	1.308E-03	0.0004	2.051E-03	0.0006	5.432E-05	0.0000
Tc-99	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.699E-01	0.0521	7.992E-03	0.0024	0.000E+00	0.0000	2.982E-01	0.0914	4.684E-03	0.0014	3.308E-03	0.0010	5.442E-02	0.0167

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	8.994E-06	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.100E-07	0.0000	1.635E-08	0.0000	9.415E-10	0.0000	7.730E-02	0.0237
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
Ce-144	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Cm-243	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.288E-02	0.0070
Cm-244	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.052E-03	0.0003
Co-58	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+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	8.191E-06	0.0000
Cs-134	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.267E-15	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	1.068E-01	0.0327
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	1.091E-02	0.0033
Eu-154	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.055E-04	0.0002
Eu-155	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.005E-08	0.0000
Fe-55	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.158E-16	0.0000
H-3	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ni-59	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.201E-04	0.0001
Ni-63	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.242E-04	0.0001
Np-237	2.521E+00	0.7725	0.000E+00	0.0000	0.000E+00	0.0000	1.991E-01	0.0610	4.605E-03	0.0014	2.648E-04	0.0001	2.814E+00	0.8623
Pu-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	2.835E-02	0.0087
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.919E-02	0.0212
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.861E-02	0.0210
Pu-241	8.207E-08	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.475E-09	0.0000	1.486E-10	0.0000	8.569E-12	0.0000	2.646E-03	0.0008
Sb-125	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.510E-12	0.0000
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.010E-02	0.0184
Tc-99	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.521E+00	0.7725	0.000E+00	0.0000	0.000E+00	0.0000	1.991E-01	0.0610	4.605E-03	0.0014	2.648E-04	0.0001	3.263E+00	1.0000

\*Sum of all water independent and dependent pathways.



Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	8.561E-07	0.0272	0.000E+00	0.0000	0.000E+00	0.0000	6.770E-08	0.0022	1.575E-09	0.0001	9.047E-11	0.0000	9.255E-07	0.0294
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
Ce-144	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Cm-243	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Cm-244	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Co-58	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+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-134	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Eu-152	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Eu-154	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Eu-155	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Fe-55	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
H-3	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ni-59	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ni-63	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Np-237	2.820E-05	0.8963	0.000E+00	0.0000	0.000E+00	0.0000	2.243E-06	0.0713	5.213E-08	0.0017	7.987E-09	0.0003	3.050E-05	0.9695
Pu-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	0.000E+00	0.0000
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pu-241	3.110E-08	0.0010	0.000E+00	0.0000	0.000E+00	0.0000	2.460E-09	0.0001	5.721E-11	0.0000	3.285E-12	0.0000	3.363E-08	0.0011
Sb-125	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Tc-99	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.909E-05	0.9245	0.000E+00	0.0000	0.000E+00	0.0000	2.313E-06	0.0735	5.376E-08	0.0017	8.081E-09	0.0003	3.146E-05	1.0000

\*Sum of all water independent and dependent pathways.



Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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.
Am-241	2.544E-07	0.1487	0.000E+00	0.0000	0.000E+00	0.0000	2.011E-08	0.0118	4.663E-10	0.0003	2.692E-11	0.0000	2.750E-07	0.1608
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
Ce-144	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Cm-243	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Cm-244	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Co-58	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+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-134	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Eu-152	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Eu-154	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Eu-155	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Fe-55	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
H-3	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ni-59	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ni-63	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Np-237	1.317E-06	0.7701	0.000E+00	0.0000	0.000E+00	0.0000	1.026E-07	0.0600	5.079E-10	0.0003	5.050E-09	0.0030	1.425E-06	0.8333
Pu-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	0.000E+00	0.0000
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pu-241	9.291E-09	0.0054	0.000E+00	0.0000	0.000E+00	0.0000	7.344E-10	0.0004	1.703E-11	0.0000	9.820E-13	0.0000	1.004E-08	0.0059
Sb-125	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Tc-99	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.581E-06	0.9243	0.000E+00	0.0000	0.000E+00	0.0000	1.234E-07	0.0722	9.912E-10	0.0006	5.078E-09	0.0030	1.710E-06	1.0000

\*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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	
Am-241	Am-241	1.000E+00	1.678E-01	1.668E-01	1.647E-01	1.575E-01	1.377E-01	7.728E-02	0.000E+00	0.000E+00	
Am-241	Np-237+D	1.000E+00	4.898E-07	1.485E-06	3.365E-06	8.836E-06	1.748E-05	2.551E-05	9.254E-07	2.750E-07	
Am-241	U-233	1.000E+00	7.923E-15	4.167E-14	1.824E-13	1.330E-12	7.971E-12	2.907E-11	3.621E-11	3.960E-11	
Am-241	Th-229+D	1.000E+00	4.607E-18	6.695E-17	7.609E-16	1.880E-14	3.797E-13	6.842E-12	1.208E-13	7.993E-13	
Am-241	ΣDSR (j)		1.678E-01	1.668E-01	1.647E-01	1.575E-01	1.377E-01	7.730E-02	9.255E-07	2.750E-07	
C-14	C-14	1.000E+00	3.386E-02	3.534E-11	2.128E-30	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
Ce-144+D	Ce-144+D	1.000E+00	8.733E-02	3.579E-02	6.009E-03	1.165E-05	2.063E-13	1.381E-40	0.000E+00	0.000E+00	
Cm-243	Cm-243	2.400E-03	8.537E-04	8.315E-04	7.888E-04	6.557E-04	3.851E-04	5.472E-05	0.000E+00	0.000E+00	
Cm-243	Am-243+D	2.400E-03	6.101E-08	1.808E-07	4.104E-07	1.118E-06	2.490E-06	3.451E-06	0.000E+00	0.000E+00	
Cm-243	Pu-239	2.400E-03	1.555E-13	1.076E-12	5.544E-12	4.522E-11	2.924E-10	1.178E-09	0.000E+00	0.000E+00	
Cm-243	U-235+D	2.400E-03	9.360E-23	1.396E-21	1.607E-20	4.051E-19	8.582E-18	1.798E-16	0.000E+00	0.000E+00	
Cm-243	Pa-231	2.400E-03	2.089E-27	6.820E-26	1.739E-24	1.290E-22	7.466E-21	3.828E-19	0.000E+00	0.000E+00	
Cm-243	Ac-227+D	2.400E-03	1.211E-29	6.947E-28	3.436E-26	6.957E-24	1.097E-21	1.697E-19	0.000E+00	0.000E+00	
Cm-243	ΣDSR (j)		8.537E-04	8.317E-04	7.892E-04	6.568E-04	3.876E-04	5.817E-05	0.000E+00	0.000E+00	
Cm-243	Cm-243	9.976E-01	3.548E-01	3.456E-01	3.279E-01	2.725E-01	1.601E-01	2.274E-02	0.000E+00	0.000E+00	
Cm-243	Pu-239	9.976E-01	2.061E-06	6.090E-06	1.374E-05	3.654E-05	7.556E-05	7.536E-05	0.000E+00	0.000E+00	
Cm-243	U-235+D	9.976E-01	1.656E-15	1.150E-14	5.971E-14	5.007E-13	3.521E-12	2.016E-11	0.000E+00	0.000E+00	
Cm-243	Pa-231	9.976E-01	4.726E-20	7.387E-19	8.645E-18	2.146E-16	4.181E-15	6.086E-14	0.000E+00	0.000E+00	
Cm-243	Ac-227+D	9.976E-01	3.136E-22	8.900E-21	2.081E-19	1.428E-17	7.512E-16	3.177E-14	0.000E+00	0.000E+00	
Cm-243	ΣDSR (j)		3.548E-01	3.456E-01	3.279E-01	2.726E-01	1.601E-01	2.282E-02	0.000E+00	0.000E+00	
Cm-244	Cm-244	1.350E-06	1.089E-07	1.043E-07	9.562E-08	7.051E-08	2.928E-08	1.167E-09	0.000E+00	0.000E+00	
Cm-244	Cm-244	4.950E-08	3.994E-09	3.824E-09	3.506E-09	2.585E-09	1.074E-09	4.281E-11	0.000E+00	0.000E+00	
Cm-244	Pu-240	4.950E-08	3.745E-13	1.100E-12	2.448E-12	6.221E-12	1.151E-11	9.292E-12	0.000E+00	0.000E+00	
Cm-244	ΣDSR (j)		3.994E-09	3.825E-09	3.509E-09	2.591E-09	1.085E-09	5.210E-11	0.000E+00	0.000E+00	
Cm-244	Cm-244	1.000E+00	8.068E-02	7.726E-02	7.083E-02	5.223E-02	2.169E-02	8.648E-04	0.000E+00	0.000E+00	
Cm-244	Pu-240	1.000E+00	7.566E-06	2.222E-05	4.945E-05	1.257E-04	2.325E-04	1.877E-04	0.000E+00	0.000E+00	
Cm-244	U-236	1.000E+00	8.348E-15	5.961E-14	3.091E-13	2.463E-12	1.474E-11	4.968E-11	0.000E+00	0.000E+00	
Cm-244	Th-232	1.000E+00	6.252E-25	8.882E-24	9.837E-23	2.322E-21	4.230E-20	5.349E-19	0.000E+00	0.000E+00	
Cm-244	Ra-228+D	1.000E+00	4.843E-25	1.490E-23	3.560E-22	2.237E-20	8.923E-19	2.186E-17	0.000E+00	0.000E+00	
Cm-244	Th-228+D	1.000E+00	3.377E-26	1.955E-24	8.878E-23	1.207E-20	7.800E-19	2.463E-17	0.000E+00	0.000E+00	
Cm-244	ΣDSR (j)		8.069E-02	7.728E-02	7.088E-02	5.235E-02	2.192E-02	1.052E-03	0.000E+00	0.000E+00	
Co-58	Co-58	1.000E+00	6.581E-01	1.839E-02	1.436E-05	1.910E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
Co-60	Co-60	1.000E+00	5.938E+00	5.196E+00	3.979E+00	1.562E+00	1.074E-01	8.191E-06	0.000E+00	0.000E+00	
Cs-134	Cs-134	1.000E+00	3.403E+00	2.428E+00	1.235E+00	1.159E-01	1.338E-04	6.267E-15	0.000E+00	0.000E+00	
Cs-137+D	Cs-137+D	1.000E+00	1.481E+00	1.444E+00	1.374E+00	1.154E+00	6.961E-01	1.068E-01	0.000E+00	0.000E+00	



Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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	
Eu-152	Eu-152	7.208E-01	1.952E+00	1.850E+00	1.662E+00	1.140E+00	3.864E-01	7.866E-03	0.000E+00	0.000E+00	
Eu-152	Eu-152	2.792E-01	7.562E-01	7.167E-01	6.436E-01	4.416E-01	1.497E-01	3.047E-03	0.000E+00	0.000E+00	
Eu-152	Gd-152	2.792E-01	1.076E-17	3.084E-17	6.729E-17	1.633E-16	2.742E-16	1.952E-16	0.000E+00	0.000E+00	
Eu-152	ΣDSR (j)		7.562E-01	7.167E-01	6.436E-01	4.416E-01	1.497E-01	3.047E-03	0.000E+00	0.000E+00	
Eu-154	Eu-154	1.000E+00	2.916E+00	2.690E+00	2.290E+00	1.302E+00	2.583E-01	8.055E-04	0.000E+00	0.000E+00	
Eu-155	Eu-155	1.000E+00	7.751E-02	6.738E-02	5.093E-02	1.911E-02	1.159E-03	6.005E-08	0.000E+00	0.000E+00	
Fe-55	Fe-55	1.000E+00	9.315E-05	7.167E-05	4.243E-05	6.766E-06	3.538E-08	3.158E-16	0.000E+00	0.000E+00	
H-3	H-3	1.000E+00	8.727E-04	5.660E-06	2.607E-04	3.054E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
Ni-59	Ni-59	1.000E+00	5.204E-04	5.170E-04	5.101E-04	4.865E-04	4.215E-04	2.201E-04	0.000E+00	0.000E+00	
Ni-63	Ni-63	1.000E+00	1.425E-03	1.407E-03	1.371E-03	1.252E-03	9.583E-04	3.242E-04	0.000E+00	0.000E+00	
Np-237D	Np-237D	1.000E+00	3.157E+00	3.052E+00	2.851E+00	2.246E+00	1.128E+00	2.814E+00	2.910E-05	0.000E+00	
Np-237D	U-233	1.000E+00	6.119E-08	1.439E-07	2.930E-07	7.266E-07	1.411E-06	1.577E-06	1.398E-06	1.394E-06	
Np-237D	Th-229D	1.000E+00	5.604E-11	3.828E-10	1.969E-09	1.621E-08	1.090E-07	5.493E-07	6.608E-09	3.124E-08	
Np-237D	ΣDSR (j)		3.157E+00	3.052E+00	2.851E+00	2.246E+00	1.128E+00	2.814E+00	3.050E-05	1.425E-06	
Pu-238	Pu-238	1.840E-09	2.399E-10	2.367E-10	2.305E-10	2.098E-10	1.591E-10	5.217E-11	0.000E+00	0.000E+00	
Pu-238	Pu-238	1.000E+00	1.304E-01	1.287E-01	1.253E-01	1.140E-01	8.648E-02	2.835E-02	0.000E+00	0.000E+00	
Pu-238	U-234	1.000E+00	2.538E-08	7.603E-08	1.745E-07	4.899E-07	1.165E-06	1.670E-06	0.000E+00	0.000E+00	
Pu-238	Th-230	1.000E+00	8.389E-14	5.619E-13	2.874E-12	2.407E-11	1.709E-10	9.021E-10	0.000E+00	0.000E+00	
Pu-238	Ra-226D	1.000E+00	2.354E-15	3.554E-14	4.130E-13	1.062E-11	2.343E-10	5.261E-09	0.000E+00	0.000E+00	
Pu-238	Pb-210D	1.000E+00	3.776E-18	1.009E-16	2.264E-15	1.521E-13	8.077E-12	3.393E-10	0.000E+00	0.000E+00	
Pu-238	Po-210	1.000E+00	1.095E-19	4.434E-18	1.440E-16	1.319E-14	7.942E-13	3.496E-11	0.000E+00	0.000E+00	
Pu-238	ΣDSR (j)		1.304E-01	1.287E-01	1.253E-01	1.140E-01	8.648E-02	2.835E-02	0.000E+00	0.000E+00	
Pu-239	Pu-239	1.000E+00	1.448E-01	1.440E-01	1.425E-01	1.370E-01	1.216E-01	6.919E-02	0.000E+00	0.000E+00	
Pu-239	U-235D	1.000E+00	1.740E-10	5.213E-10	1.213E-09	3.598E-09	1.008E-08	2.689E-08	0.000E+00	0.000E+00	
Pu-239	Pa-231	1.000E+00	6.774E-15	4.915E-14	2.616E-13	2.270E-12	1.699E-11	1.045E-10	0.000E+00	0.000E+00	
Pu-239	Ac-227D	1.000E+00	5.332E-17	7.399E-16	8.125E-15	1.946E-13	3.779E-12	6.107E-11	0.000E+00	0.000E+00	
Pu-239	ΣDSR (j)		1.448E-01	1.440E-01	1.425E-01	1.370E-01	1.216E-01	6.919E-02	0.000E+00	0.000E+00	
Pu-240	Pu-240	4.950E-08	7.164E-09	7.125E-09	7.047E-09	6.774E-09	6.004E-09	3.396E-09	0.000E+00	0.000E+00	
Pu-240	Pu-240	1.000E+00	1.447E-01	1.439E-01	1.424E-01	1.369E-01	1.213E-01	6.861E-02	0.000E+00	0.000E+00	
Pu-240	U-236	1.000E+00	2.514E-10	7.556E-10	1.748E-09	5.040E-09	1.293E-08	2.379E-08	0.000E+00	0.000E+00	
Pu-240	Th-232	1.000E+00	2.340E-20	1.569E-19	8.062E-19	6.866E-18	5.112E-17	3.134E-16	0.000E+00	0.000E+00	
Pu-240	Ra-228D	1.000E+00	2.308E-20	3.429E-19	3.799E-18	8.231E-17	1.229E-15	1.325E-14	0.000E+00	0.000E+00	
Pu-240	Th-228D	1.000E+00	1.894E-21	5.365E-20	1.132E-18	5.078E-17	1.146E-15	1.513E-14	0.000E+00	0.000E+00	
Pu-240	ΣDSR (j)		1.447E-01	1.439E-01	1.424E-01	1.369E-01	1.213E-01	6.861E-02	0.000E+00	0.000E+00	

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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	
Pu-241	Pu-241	1.000E+00	2.731E-03	2.589E-03	2.326E-03	1.598E-03	5.419E-04	1.063E-05	0.000E+00	0.000E+00	
Pu-241	Am-241	1.000E+00	1.324E-04	3.869E-04	8.524E-04	2.097E-03	3.594E-03	2.635E-03	0.000E+00	0.000E+00	
Pu-241	Np-237+D	1.000E+00	2.514E-10	1.789E-09	9.080E-09	6.632E-08	3.103E-07	5.871E-07	3.362E-08	1.004E-08	
Pu-241	U-233	1.000E+00	3.554E-18	3.905E-17	3.558E-16	6.938E-15	9.981E-14	7.068E-13	9.663E-13	1.091E-12	
Pu-241	Th-229+D	1.000E+00	1.489E-21	4.401E-20	1.060E-18	7.303E-17	3.685E-15	1.421E-13	2.950E-15	2.145E-14	
Pu-241	ΣDSR (j)		2.864E-03	2.976E-03	3.179E-03	3.694E-03	4.137E-03	2.646E-03	3.363E-08	1.004E-08	
Pu-241+D	Pu-241+D	2.450E-05	5.753E-06	5.477E-06	4.965E-06	3.520E-06	1.313E-06	3.841E-08	0.000E+00	0.000E+00	
Pu-241+D	Np-237+D	2.450E-05	1.182E-11	3.511E-11	7.599E-11	1.693E-10	2.073E-10	2.075E-10	1.369E-14	2.927E-30	
Pu-241+D	U-233	2.450E-05	1.916E-19	9.931E-19	4.216E-18	2.764E-17	1.242E-16	2.091E-16	2.020E-16	2.013E-16	
Pu-241+D	Th-229+D	2.450E-05	1.118E-22	1.609E-21	1.789E-20	4.087E-19	6.678E-18	6.648E-17	8.655E-19	4.429E-18	
Pu-241+D	ΣDSR (j)		5.753E-06	5.477E-06	4.965E-06	3.520E-06	1.313E-06	3.862E-08	1.389E-14	2.058E-16	
Sb-125	Sb-125	7.720E-01	6.930E-01	5.377E-01	3.237E-01	5.474E-02	3.397E-04	5.756E-12	0.000E+00	0.000E+00	
Sb-125	Sb-125	2.280E-01	2.047E-01	1.588E-01	9.559E-02	1.617E-02	1.003E-04	1.700E-12	0.000E+00	0.000E+00	
Sb-125	Te-125m	2.280E-01	6.117E-03	6.427E-03	3.866E-03	6.414E-04	3.767E-06	5.363E-14	0.000E+00	0.000E+00	
Sb-125	ΣDSR (j)		2.108E-01	1.652E-01	9.945E-02	1.681E-02	1.041E-04	1.754E-12	0.000E+00	0.000E+00	
Sr-90+D	Sr-90+D	1.000E+00	1.543E+00	1.497E+00	1.408E+00	1.136E+00	6.109E-01	6.010E-02	0.000E+00	0.000E+00	
Tc-99	Tc-99	1.000E+00	1.550E-01	6.858E-02	2.126E-02	6.509E-04	4.771E-11	4.435E-36	0.000E+00	0.000E+00	

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

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## 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
Am-241	1.490E+02	1.499E+02	1.518E+02	1.588E+02	1.815E+02	3.234E+02	2.701E+07	9.091E+07
C-14	7.384E+02	7.075E+11	*4.455E+12	*4.455E+12	*4.455E+12	*4.455E+12	*4.455E+12	*4.455E+12
Ce-144	2.863E+02	6.986E+02	4.160E+03	2.146E+06	1.212E+14	*3.191E+15	*3.191E+15	*3.191E+15
Cm-243	7.029E+01	7.216E+01	7.606E+01	9.150E+01	1.557E+02	1.093E+03	*5.161E+13	*5.161E+13
Cm-244	3.098E+02	3.235E+02	3.527E+02	4.775E+02	1.140E+03	2.375E+04	*8.088E+13	*8.088E+13
Co-58	3.799E+01	1.359E+03	1.741E+06	*3.183E+16	*3.183E+16	*3.183E+16	*3.183E+16	*3.183E+16
Co-60	4.210E+00	4.811E+00	6.283E+00	1.600E+01	2.327E+02	3.052E+06	*1.132E+15	*1.132E+15
Cs-134	7.345E+00	1.030E+01	2.024E+01	2.156E+02	1.869E+05	*1.295E+15	*1.295E+15	*1.295E+15
Cs-137	1.688E+01	1.731E+01	1.819E+01	2.167E+01	3.591E+01	2.341E+02	*8.704E+13	*8.704E+13
Eu-152	9.230E+00	9.739E+00	1.084E+01	1.581E+01	4.664E+01	2.291E+03	*1.765E+14	*1.765E+14
Eu-154	8.574E+00	9.292E+00	1.092E+01	1.919E+01	9.679E+01	3.104E+04	*2.639E+14	*2.639E+14
Eu-155	3.226E+02	3.710E+02	4.909E+02	1.308E+03	2.157E+04	4.164E+08	*4.652E+14	*4.652E+14
Fe-55	2.684E+05	3.488E+05	5.892E+05	3.695E+06	7.066E+08	*2.410E+15	*2.410E+15	*2.410E+15
H-3	2.865E+04	4.417E+06	9.589E+04	*9.597E+15	*9.597E+15	*9.597E+15	*9.597E+15	*9.597E+15
Ni-59	4.804E+04	4.836E+04	4.901E+04	5.139E+04	5.932E+04	1.136E+05	*8.088E+10	*8.088E+10
Ni-63	1.754E+04	1.777E+04	1.823E+04	1.996E+04	2.609E+04	7.711E+04	*5.917E+13	*5.917E+13
Np-237	7.920E+00	8.192E+00	8.768E+00	1.113E+01	2.216E+01	8.884E+00	8.196E+05	1.754E+07
Pu-238	1.918E+02	1.943E+02	1.995E+02	2.192E+02	2.891E+02	8.817E+02	*1.712E+13	*1.712E+13
Pu-239	1.727E+02	1.736E+02	1.755E+02	1.824E+02	2.055E+02	3.613E+02	*6.214E+10	*6.214E+10
Pu-240	1.727E+02	1.737E+02	1.756E+02	1.827E+02	2.061E+02	3.644E+02	*2.278E+11	*2.278E+11
Pu-241	8.713E+03	8.385E+03	7.853E+03	6.761E+03	6.042E+03	9.448E+03	7.435E+08	2.489E+09
Sb-125	2.766E+01	3.557E+01	5.909E+01	3.494E+02	5.633E+04	3.329E+12	*1.033E+15	*1.033E+15
Sr-90	1.620E+01	1.670E+01	1.775E+01	2.200E+01	4.093E+01	4.159E+02	*1.365E+14	*1.365E+14
Tc-99	1.613E+02	3.645E+02	1.176E+03	3.841E+04	*1.697E+10	*1.697E+10	*1.697E+10	*1.697E+10

\*At specific activity limit

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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)
Am-241	1.000E+00	0.000E+00	1.678E-01	1.490E+02	1.678E-01	1.490E+02
C-14	1.000E+00	0.000E+00	3.386E-02	7.384E+02	3.386E-02	7.384E+02
Ce-144	1.000E+00	0.000E+00	8.733E-02	2.863E+02	8.733E-02	2.863E+02
Cm-243	1.000E+00	0.000E+00	3.557E-01	7.029E+01	3.557E-01	7.029E+01
Cm-244	1.000E+00	0.000E+00	8.069E-02	3.098E+02	8.069E-02	3.098E+02
Co-58	1.000E+00	0.000E+00	6.581E-01	3.799E+01	6.581E-01	3.799E+01
Co-60	1.000E+00	0.000E+00	5.938E+00	4.210E+00	5.938E+00	4.210E+00
Cs-134	1.000E+00	0.000E+00	3.403E+00	7.345E+00	3.403E+00	7.345E+00
Cs-137	1.000E+00	0.000E+00	1.481E+00	1.688E+01	1.481E+00	1.688E+01
Eu-152	1.000E+00	0.000E+00	2.709E+00	9.230E+00	2.709E+00	9.230E+00
Eu-154	1.000E+00	0.000E+00	2.916E+00	8.574E+00	2.916E+00	8.574E+00
Eu-155	1.000E+00	0.000E+00	7.751E-02	3.226E+02	7.751E-02	3.226E+02
Fe-55	1.000E+00	0.000E+00	9.315E-05	2.684E+05	9.315E-05	2.684E+05
H-3	1.000E+00	0.000E+00	8.727E-04	2.865E+04	8.727E-04	2.865E+04
Ni-59	1.000E+00	0.000E+00	5.204E-04	4.804E+04	5.204E-04	4.804E+04
Ni-63	1.000E+00	0.000E+00	1.425E-03	1.754E+04	1.425E-03	1.754E+04
Np-237	1.000E+00	0.000E+00	3.157E+00	7.920E+00	3.157E+00	7.920E+00
Pu-238	1.000E+00	0.000E+00	1.304E-01	1.918E+02	1.304E-01	1.918E+02
Pu-239	1.000E+00	0.000E+00	1.448E-01	1.727E+02	1.448E-01	1.727E+02
Pu-240	1.000E+00	0.000E+00	1.447E-01	1.727E+02	1.447E-01	1.727E+02
Pu-241	1.000E+00	29.23 ± 0.06	4.138E-03	6.041E+03	2.869E-03	8.713E+03
Sb-125	1.000E+00	0.000E+00	9.037E-01	2.766E+01	9.037E-01	2.766E+01
Sr-90	1.000E+00	0.000E+00	1.543E+00	1.620E+01	1.543E+00	1.620E+01
Tc-99	1.000E+00	0.000E+00	1.550E-01	1.613E+02	1.550E-01	1.613E+02

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Individual Nuclide Dose Summed Over All Pathways

Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr							
			t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	1.678E-01	1.668E-01	1.647E-01	1.575E-01	1.377E-01	7.728E-02	0.000E+00	0.000E+00
Am-241	Pu-241	1.000E+00	1.324E-04	3.869E-04	8.524E-04	2.097E-03	3.594E-03	2.635E-03	0.000E+00	0.000E+00
Am-241	ΣDOSE(j)		1.680E-01	1.672E-01	1.655E-01	1.596E-01	1.413E-01	7.991E-02	0.000E+00	0.000E+00
Np-237	Am-241	1.000E+00	4.898E-07	1.485E-06	3.365E-06	8.836E-06	1.748E-05	2.551E-05	9.254E-07	2.750E-07
Np-237	Np-237	1.000E+00	3.157E+00	3.052E+00	2.851E+00	2.246E+00	1.128E+00	2.814E+00	2.910E-05	0.000E+00
Np-237	Pu-241	1.000E+00	2.514E-10	1.789E-09	9.080E-09	6.632E-08	3.103E-07	5.871E-07	3.362E-08	1.004E-08
Np-237	Pu-241	2.450E-05	1.182E-11	3.511E-11	7.599E-11	1.693E-10	2.073E-10	2.075E-10	1.369E-14	2.708E-30
Np-237	ΣDOSE(j)		3.157E+00	3.052E+00	2.851E+00	2.246E+00	1.128E+00	2.814E+00	3.006E-05	2.850E-07
U-233	Am-241	1.000E+00	7.923E-15	4.167E-14	1.824E-13	1.330E-12	7.971E-12	2.907E-11	3.621E-11	3.960E-11
U-233	Np-237	1.000E+00	6.119E-08	1.439E-07	2.930E-07	7.266E-07	1.411E-06	1.577E-06	1.398E-06	1.394E-06
U-233	Pu-241	1.000E+00	3.554E-18	3.905E-17	3.558E-16	6.938E-15	9.981E-14	7.068E-13	9.663E-13	1.091E-12
U-233	Pu-241	2.450E-05	1.916E-19	9.931E-19	4.216E-18	2.764E-17	1.242E-16	2.091E-16	2.020E-16	2.013E-16
U-233	ΣDOSE(j)		6.119E-08	1.439E-07	2.930E-07	7.266E-07	1.411E-06	1.577E-06	1.399E-06	1.394E-06
Th-229	Am-241	1.000E+00	4.607E-18	6.695E-17	7.609E-16	1.880E-14	3.797E-13	6.842E-12	1.208E-13	7.993E-13
Th-229	Np-237	1.000E+00	5.604E-11	3.828E-10	1.969E-09	1.621E-08	1.090E-07	5.493E-07	6.608E-09	3.124E-08
Th-229	Pu-241	1.000E+00	1.489E-21	4.401E-20	1.060E-18	7.303E-17	3.685E-15	1.421E-13	2.950E-15	2.145E-14
Th-229	Pu-241	2.450E-05	1.118E-22	1.609E-21	1.789E-20	4.087E-19	6.678E-18	6.648E-17	8.655E-19	4.429E-18
Th-229	ΣDOSE(j)		5.604E-11	3.828E-10	1.969E-09	1.621E-08	1.090E-07	5.493E-07	6.608E-09	3.124E-08
C-14	C-14	1.000E+00	3.386E-02	3.534E-11	1.094E-30	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ce-144	Ce-144	1.000E+00	8.733E-02	3.579E-02	6.009E-03	1.165E-05	2.063E-13	0.000E+00	0.000E+00	0.000E+00
Cm-243	Cm-243	2.400E-03	8.537E-04	8.315E-04	7.888E-04	6.557E-04	3.851E-04	5.472E-05	0.000E+00	0.000E+00
Cm-243	Cm-243	9.976E-01	3.548E-01	3.456E-01	3.279E-01	2.725E-01	1.601E-01	2.274E-02	0.000E+00	0.000E+00
Cm-243	ΣDOSE(j)		3.557E-01	3.464E-01	3.287E-01	2.732E-01	1.604E-01	2.280E-02	0.000E+00	0.000E+00
Am-243	Cm-243	2.400E-03	6.101E-08	1.808E-07	4.104E-07	1.118E-06	2.490E-06	3.451E-06	0.000E+00	0.000E+00
Pu-239	Cm-243	2.400E-03	1.555E-13	1.076E-12	5.544E-12	4.522E-11	2.924E-10	1.178E-09	0.000E+00	0.000E+00
Pu-239	Cm-243	9.976E-01	2.061E-06	6.090E-06	1.374E-05	3.654E-05	7.556E-05	7.536E-05	0.000E+00	0.000E+00
Pu-239	Pu-239	1.000E+00	1.448E-01	1.440E-01	1.425E-01	1.370E-01	1.216E-01	6.919E-02	0.000E+00	0.000E+00
Pu-239	ΣDOSE(j)		1.448E-01	1.440E-01	1.425E-01	1.371E-01	1.217E-01	6.927E-02	0.000E+00	0.000E+00
U-235	Cm-243	2.400E-03	9.360E-23	1.396E-21	1.607E-20	4.051E-19	8.582E-18	1.798E-16	0.000E+00	0.000E+00
U-235	Cm-243	9.976E-01	1.656E-15	1.150E-14	5.971E-14	5.007E-13	3.521E-12	2.016E-11	0.000E+00	0.000E+00
U-235	Pu-239	1.000E+00	1.740E-10	5.213E-10	1.213E-09	3.598E-09	1.008E-08	2.689E-08	0.000E+00	0.000E+00
U-235	ΣDOSE(j)		1.740E-10	5.213E-10	1.213E-09	3.599E-09	1.009E-08	2.691E-08	0.000E+00	0.000E+00
Pa-231	Cm-243	2.400E-03	2.089E-27	6.820E-26	1.739E-24	1.290E-22	7.466E-21	3.828E-19	0.000E+00	0.000E+00
Pa-231	Cm-243	9.976E-01	4.726E-20	7.387E-19	8.645E-18	2.146E-16	4.181E-15	6.086E-14	0.000E+00	0.000E+00
Pa-231	Pu-239	1.000E+00	6.774E-15	4.915E-14	2.616E-13	2.270E-12	1.699E-11	1.045E-10	0.000E+00	0.000E+00
Pa-231	ΣDOSE(j)		6.774E-15	4.915E-14	2.616E-13	2.271E-12	1.700E-11	1.046E-10	0.000E+00	0.000E+00
Ac-227	Cm-243	2.400E-03	1.045E-29	6.947E-28	3.436E-26	6.957E-24	1.097E-21	1.697E-19	0.000E+00	0.000E+00
Ac-227	Cm-243	9.976E-01	3.136E-22	8.900E-21	2.081E-19	1.428E-17	7.512E-16	3.177E-14	0.000E+00	0.000E+00

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Individual Nuclide Dose Summed Over All Pathways

Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr							
			t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Ac-227	Pu-239	1.000E+00	5.332E-17	7.399E-16	8.125E-15	1.946E-13	3.779E-12	6.107E-11	0.000E+00	0.000E+00
Ac-227	ΣDOSE(j)		5.332E-17	7.399E-16	8.125E-15	1.946E-13	3.779E-12	6.110E-11	0.000E+00	0.000E+00
Cm-244	Cm-244	1.350E-06	1.089E-07	1.043E-07	9.562E-08	7.051E-08	2.928E-08	1.167E-09	0.000E+00	0.000E+00
Cm-244	Cm-244	4.950E-08	3.994E-09	3.824E-09	3.506E-09	2.585E-09	1.074E-09	4.281E-11	0.000E+00	0.000E+00
Cm-244	ΣDOSE(j)		1.129E-07	1.081E-07	9.913E-08	7.309E-08	3.036E-08	1.210E-09	0.000E+00	0.000E+00
Pu-240	Cm-244	4.950E-08	3.745E-13	1.100E-12	2.448E-12	6.221E-12	1.151E-11	9.292E-12	0.000E+00	0.000E+00
Pu-240	Pu-240	4.950E-08	7.164E-09	7.125E-09	7.047E-09	6.774E-09	6.004E-09	3.396E-09	0.000E+00	0.000E+00
Pu-240	ΣDOSE(j)		7.165E-09	7.126E-09	7.049E-09	6.781E-09	6.015E-09	3.406E-09	0.000E+00	0.000E+00
Cm-244	Cm-244	1.000E+00	8.068E-02	7.726E-02	7.083E-02	5.223E-02	2.169E-02	8.648E-04	0.000E+00	0.000E+00
Pu-240	Cm-244	1.000E+00	7.566E-06	2.222E-05	4.945E-05	1.257E-04	2.325E-04	1.877E-04	0.000E+00	0.000E+00
U-236	Cm-244	1.000E+00	8.348E-15	5.961E-14	3.091E-13	2.463E-12	1.474E-11	4.968E-11	0.000E+00	0.000E+00
U-236	Pu-240	1.000E+00	2.514E-10	7.556E-10	1.748E-09	5.040E-09	1.293E-08	2.379E-08	0.000E+00	0.000E+00
U-236	ΣDOSE(j)		2.514E-10	7.557E-10	1.748E-09	5.042E-09	1.294E-08	2.384E-08	0.000E+00	0.000E+00
Th-232	Cm-244	1.000E+00	6.252E-25	8.882E-24	9.837E-23	2.322E-21	4.230E-20	5.349E-19	0.000E+00	0.000E+00
Th-232	Pu-240	1.000E+00	2.340E-20	1.569E-19	8.062E-19	6.866E-18	5.112E-17	3.134E-16	0.000E+00	0.000E+00
Th-232	ΣDOSE(j)		2.340E-20	1.570E-19	8.063E-19	6.869E-18	5.117E-17	3.139E-16	0.000E+00	0.000E+00
Ra-228	Cm-244	1.000E+00	4.843E-25	1.490E-23	3.560E-22	2.237E-20	8.923E-19	2.186E-17	0.000E+00	0.000E+00
Ra-228	Pu-240	1.000E+00	2.308E-20	3.429E-19	3.799E-18	8.231E-17	1.229E-15	1.325E-14	0.000E+00	0.000E+00
Ra-228	ΣDOSE(j)		2.308E-20	3.429E-19	3.799E-18	8.233E-17	1.230E-15	1.327E-14	0.000E+00	0.000E+00
Th-228	Cm-244	1.000E+00	3.377E-26	1.955E-24	8.878E-23	1.207E-20	7.800E-19	2.463E-17	0.000E+00	0.000E+00
Th-228	Pu-240	1.000E+00	1.894E-21	5.365E-20	1.132E-18	5.078E-17	1.146E-15	1.513E-14	0.000E+00	0.000E+00
Th-228	ΣDOSE(j)		1.894E-21	5.366E-20	1.132E-18	5.080E-17	1.147E-15	1.515E-14	0.000E+00	0.000E+00
Co-58	Co-58	1.000E+00	6.581E-01	1.839E-02	1.436E-05	1.910E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Co-60	Co-60	1.000E+00	5.938E+00	5.196E+00	3.979E+00	1.562E+00	1.074E-01	8.191E-06	0.000E+00	0.000E+00
Cs-134	Cs-134	1.000E+00	3.403E+00	2.428E+00	1.235E+00	1.159E-01	1.338E-04	6.267E-15	0.000E+00	0.000E+00
Cs-137	Cs-137	1.000E+00	1.481E+00	1.444E+00	1.374E+00	1.154E+00	6.961E-01	1.068E-01	0.000E+00	0.000E+00
Eu-152	Eu-152	7.208E-01	1.952E+00	1.850E+00	1.662E+00	1.140E+00	3.864E-01	7.866E-03	0.000E+00	0.000E+00
Eu-152	Eu-152	2.792E-01	7.562E-01	7.167E-01	6.436E-01	4.416E-01	1.497E-01	3.047E-03	0.000E+00	0.000E+00
Eu-152	ΣDOSE(j)		2.709E+00	2.567E+00	2.305E+00	1.582E+00	5.360E-01	1.091E-02	0.000E+00	0.000E+00
Gd-152	Eu-152	2.792E-01	1.076E-17	3.084E-17	6.729E-17	1.633E-16	2.742E-16	1.952E-16	0.000E+00	0.000E+00
Eu-154	Eu-154	1.000E+00	2.916E+00	2.690E+00	2.290E+00	1.302E+00	2.583E-01	8.055E-04	0.000E+00	0.000E+00
Eu-155	Eu-155	1.000E+00	7.751E-02	6.738E-02	5.093E-02	1.911E-02	1.159E-03	6.005E-08	0.000E+00	0.000E+00
Fe-55	Fe-55	1.000E+00	9.315E-05	7.167E-05	4.243E-05	6.766E-06	3.538E-08	3.158E-16	0.000E+00	0.000E+00

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

## Individual Nuclide Dose Summed Over All Pathways

Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr							
			t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
H-3	H-3	1.000E+00	8.727E-04	5.660E-06	2.607E-04	3.054E-19	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ni-59	Ni-59	1.000E+00	5.204E-04	5.170E-04	5.101E-04	4.865E-04	4.215E-04	2.201E-04	0.000E+00	0.000E+00
Ni-63	Ni-63	1.000E+00	1.425E-03	1.407E-03	1.371E-03	1.252E-03	9.583E-04	3.242E-04	0.000E+00	0.000E+00
Pu-238	Pu-238	1.840E-09	2.399E-10	2.367E-10	2.305E-10	2.098E-10	1.591E-10	5.217E-11	0.000E+00	0.000E+00
Pu-238	Pu-238	1.000E+00	1.304E-01	1.287E-01	1.253E-01	1.140E-01	8.648E-02	2.835E-02	0.000E+00	0.000E+00
Pu-238	ΣDOSE(j)		1.304E-01	1.287E-01	1.253E-01	1.140E-01	8.648E-02	2.835E-02	0.000E+00	0.000E+00
U-234	Pu-238	1.000E+00	2.538E-08	7.603E-08	1.745E-07	4.899E-07	1.165E-06	1.670E-06	0.000E+00	0.000E+00
Th-230	Pu-238	1.000E+00	8.389E-14	5.619E-13	2.874E-12	2.407E-11	1.709E-10	9.021E-10	0.000E+00	0.000E+00
Ra-226	Pu-238	1.000E+00	2.354E-15	3.554E-14	4.130E-13	1.062E-11	2.343E-10	5.261E-09	0.000E+00	0.000E+00
Pb-210	Pu-238	1.000E+00	3.776E-18	1.009E-16	2.264E-15	1.521E-13	8.077E-12	3.393E-10	0.000E+00	0.000E+00
Po-210	Pu-238	1.000E+00	1.095E-19	4.434E-18	1.440E-16	1.319E-14	7.942E-13	3.496E-11	0.000E+00	0.000E+00
Pu-240	Pu-240	1.000E+00	1.447E-01	1.439E-01	1.424E-01	1.369E-01	1.213E-01	6.861E-02	0.000E+00	0.000E+00
Pu-241	Pu-241	1.000E+00	2.731E-03	2.589E-03	2.326E-03	1.598E-03	5.419E-04	1.063E-05	0.000E+00	0.000E+00
Pu-241	Pu-241	2.450E-05	5.753E-06	5.477E-06	4.965E-06	3.520E-06	1.313E-06	3.841E-08	0.000E+00	0.000E+00
Pu-241	ΣDOSE(j)		2.737E-03	2.595E-03	2.331E-03	1.601E-03	5.432E-04	1.067E-05	0.000E+00	0.000E+00
Sb-125	Sb-125	7.720E-01	6.930E-01	5.377E-01	3.237E-01	5.474E-02	3.397E-04	5.756E-12	0.000E+00	0.000E+00
Sb-125	Sb-125	2.280E-01	2.047E-01	1.588E-01	9.559E-02	1.617E-02	1.003E-04	1.700E-12	0.000E+00	0.000E+00
Sb-125	ΣDOSE(j)		8.976E-01	6.965E-01	4.192E-01	7.091E-02	4.400E-04	7.456E-12	0.000E+00	0.000E+00
Te-125m	Sb-125	2.280E-01	6.117E-03	6.427E-03	3.866E-03	6.414E-04	3.767E-06	5.363E-14	0.000E+00	0.000E+00
Sr-90	Sr-90	1.000E+00	1.543E+00	1.497E+00	1.408E+00	1.136E+00	6.109E-01	6.010E-02	0.000E+00	0.000E+00
Tc-99	Tc-99	1.000E+00	1.550E-01	6.858E-02	2.126E-02	6.509E-04	4.771E-11	0.000E+00	0.000E+00	0.000E+00

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

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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
Am-241	Am-241	1.000E+00	1.000E+00	9.982E-01	9.946E-01	9.819E-01	9.468E-01	8.335E-01	5.790E-01	1.618E-01
Am-241	Pu-241	1.000E+00	0.000E+00	1.564E-03	4.466E-03	1.259E-02	2.453E-02	2.841E-02	1.993E-02	5.568E-03
Am-241	ΣS(j):		1.000E+00	9.997E-01	9.990E-01	9.945E-01	9.714E-01	8.619E-01	5.989E-01	1.673E-01
Np-237	Am-241	1.000E+00	0.000E+00	3.189E-07	9.274E-07	2.779E-06	6.252E-06	9.148E-06	6.780E-06	1.895E-06
Np-237	Np-237	1.000E+00	1.000E+00	9.710E-01	9.154E-01	7.447E-01	4.130E-01	5.247E-02	1.445E-04	1.582E-13
Np-237	Pu-241	1.000E+00	0.000E+00	2.529E-10	2.159E-09	2.000E-08	1.098E-07	2.886E-07	2.332E-07	6.521E-08
Np-237	Pu-241	2.450E-05	0.000E+00	7.633E-12	2.118E-11	5.384E-11	7.500E-11	1.867E-11	6.030E-14	6.625E-23
Np-237	ΣS(j):		1.000E+00	9.710E-01	9.154E-01	7.447E-01	4.130E-01	5.248E-02	1.515E-04	1.960E-06
U-233	Am-241	1.000E+00	0.000E+00	7.007E-13	6.174E-12	6.376E-11	4.709E-10	2.930E-09	8.906E-09	1.303E-08
U-233	Np-237	1.000E+00	0.000E+00	4.307E-06	1.254E-05	3.770E-05	8.579E-05	1.320E-04	1.175E-04	6.348E-05
U-233	Pu-241	1.000E+00	0.000E+00	3.711E-16	9.626E-15	3.107E-13	5.784E-12	7.230E-11	2.790E-10	4.334E-10
U-233	Pu-241	2.450E-05	0.000E+00	1.690E-17	1.444E-16	1.341E-15	7.420E-15	2.032E-14	1.960E-14	1.060E-14
U-233	ΣS(j):		0.000E+00	4.307E-06	1.254E-05	3.770E-05	8.579E-05	1.320E-04	1.175E-04	6.349E-05
Th-229	Am-241	1.000E+00	0.000E+00	2.212E-17	5.876E-16	2.060E-14	4.787E-13	1.133E-11	1.270E-10	9.060E-10
Th-229	Np-237	1.000E+00	0.000E+00	2.044E-10	1.803E-09	1.870E-08	1.398E-07	9.142E-07	3.268E-06	8.587E-06
Th-229	Pu-241	1.000E+00	0.000E+00	8.795E-21	6.900E-19	7.630E-17	4.586E-15	2.347E-13	3.670E-12	2.923E-11
Th-229	Pu-241	2.450E-05	0.000E+00	5.356E-22	1.391E-20	4.503E-19	8.464E-18	1.104E-16	4.985E-16	1.390E-15
Th-229	ΣS(j):		0.000E+00	2.044E-10	1.803E-09	1.870E-08	1.398E-07	9.142E-07	3.268E-06	8.588E-06
C-14	C-14	1.000E+00	1.000E+00	2.467E-10	1.501E-29	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ce-144	Ce-144	1.000E+00	1.000E+00	4.104E-01	6.913E-02	1.356E-04	2.492E-12	2.098E-39	0.000E+00	0.000E+00
Cm-243	Cm-243	2.400E-03	2.400E-03	2.342E-03	2.231E-03	1.882E-03	1.157E-03	2.105E-04	1.620E-06	6.479E-14
Cm-243	Cm-243	9.976E-01	9.976E-01	9.736E-01	9.274E-01	7.821E-01	4.807E-01	8.752E-02	6.735E-04	2.693E-11
Cm-243	ΣS(j):		1.000E+00	9.760E-01	9.296E-01	7.840E-01	4.819E-01	8.773E-02	6.751E-04	2.700E-11
Am-243	Cm-243	2.400E-03	0.000E+00	2.227E-07	6.520E-07	1.999E-06	4.786E-06	8.359E-06	8.883E-06	7.954E-06
Pu-239	Cm-243	2.400E-03	0.000E+00	3.220E-12	2.851E-11	2.993E-10	2.312E-09	1.637E-08	6.488E-08	2.040E-07
Pu-239	Cm-243	9.976E-01	0.000E+00	2.838E-05	8.309E-05	2.546E-04	6.085E-04	1.054E-03	1.088E-03	8.735E-04
Pu-239	Pu-239	1.000E+00	1.000E+00	9.997E-01	9.991E-01	9.969E-01	9.906E-01	9.690E-01	9.100E-01	7.302E-01
Pu-239	ΣS(j):		1.000E+00	9.997E-01	9.991E-01	9.971E-01	9.912E-01	9.701E-01	9.111E-01	7.311E-01
U-235	Cm-243	2.400E-03	0.000E+00	1.059E-21	2.823E-20	1.001E-18	2.395E-17	6.157E-16	8.006E-15	7.939E-14
U-235	Cm-243	9.976E-01	0.000E+00	1.403E-14	1.242E-13	1.302E-12	1.000E-11	6.942E-11	2.574E-10	6.376E-10
U-235	Pu-239	1.000E+00	0.000E+00	9.843E-10	2.949E-09	9.790E-09	2.902E-08	9.281E-08	2.475E-07	5.505E-07
U-235	ΣS(j):		0.000E+00	9.843E-10	2.949E-09	9.792E-09	2.903E-08	9.288E-08	2.477E-07	5.512E-07
Pa-231	Cm-243	2.400E-03	0.000E+00	5.608E-27	4.495E-25	5.351E-23	3.922E-21	3.551E-19	1.490E-17	5.011E-16
Pa-231	Cm-243	9.976E-01	0.000E+00	9.914E-20	2.642E-18	9.355E-17	2.233E-15	5.674E-14	7.115E-13	6.152E-12
Pa-231	Pu-239	1.000E+00	0.000E+00	1.041E-14	9.359E-14	1.035E-12	9.198E-12	9.772E-11	7.739E-10	5.522E-09
Pa-231	ΣS(j):		0.000E+00	1.041E-14	9.359E-14	1.035E-12	9.201E-12	9.777E-11	7.746E-10	5.528E-09
Ac-227	Cm-243	2.400E-03	0.000E+00	3.554E-29	8.471E-27	3.259E-24	6.579E-22	1.516E-19	1.082E-17	4.574E-16
Ac-227	Cm-243	9.976E-01	0.000E+00	7.850E-22	6.213E-20	7.078E-18	4.594E-16	2.856E-14	5.674E-13	5.813E-12



Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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
Ac-227	Pu-239	1.000E+00	0.000E+00	1.096E-16	2.910E-15	1.017E-13	2.349E-12	5.509E-11	6.337E-10	5.232E-09
Ac-227	ΣS(j):		0.000E+00	1.096E-16	2.910E-15	1.017E-13	2.349E-12	5.512E-11	6.343E-10	5.238E-09
Cm-244	Cm-244	1.350E-06	1.350E-06	1.299E-06	1.204E-06	9.206E-07	4.280E-07	2.934E-08	1.386E-11	3.175E-23
Cm-244	Cm-244	4.950E-08	4.950E-08	4.764E-08	4.413E-08	3.375E-08	1.569E-08	1.076E-09	5.082E-13	1.164E-24
Cm-244	ΣS(j):		1.399E-06	1.347E-06	1.248E-06	9.543E-07	4.437E-07	3.042E-08	1.437E-11	3.292E-23
Pu-240	Cm-244	4.950E-08	0.000E+00	5.148E-12	1.487E-11	4.352E-11	9.297E-11	1.302E-10	1.231E-10	9.362E-11
Pu-240	Pu-240	4.950E-08	4.950E-08	4.948E-08	4.944E-08	4.931E-08	4.892E-08	4.760E-08	4.401E-08	3.346E-08
Pu-240	ΣS(j):		4.950E-08	4.949E-08	4.946E-08	4.935E-08	4.901E-08	4.773E-08	4.414E-08	3.355E-08
Cm-244	Cm-244	1.000E+00	1.000E+00	9.624E-01	8.915E-01	6.819E-01	3.171E-01	2.173E-02	1.027E-05	2.352E-17
Pu-240	Cm-244	1.000E+00	0.000E+00	1.040E-04	3.003E-04	8.791E-04	1.878E-03	2.630E-03	2.488E-03	1.891E-03
U-236	Cm-244	1.000E+00	0.000E+00	1.549E-12	1.358E-11	1.381E-10	9.835E-10	5.795E-09	1.886E-08	4.347E-08
U-236	Pu-240	1.000E+00	0.000E+00	2.958E-08	8.864E-08	2.942E-07	8.714E-07	2.779E-06	7.351E-06	1.587E-05
U-236	ΣS(j):		0.000E+00	2.959E-08	8.865E-08	2.943E-07	8.724E-07	2.785E-06	7.369E-06	1.591E-05
Th-232	Cm-244	1.000E+00	0.000E+00	2.556E-23	6.766E-22	2.344E-20	5.298E-19	1.192E-17	1.361E-16	1.284E-15
Th-232	Pu-240	1.000E+00	0.000E+00	7.299E-19	6.564E-18	7.271E-17	6.488E-16	6.998E-15	5.789E-14	4.837E-13
Th-232	ΣS(j):		0.000E+00	7.299E-19	6.564E-18	7.273E-17	6.494E-16	7.010E-15	5.803E-14	4.850E-13
Ra-228	Cm-244	1.000E+00	0.000E+00	7.534E-25	5.731E-23	5.741E-21	2.767E-19	9.769E-18	1.282E-16	1.262E-15
Ra-228	Pu-240	1.000E+00	0.000E+00	2.847E-20	7.246E-19	2.217E-17	3.866E-16	5.935E-15	5.480E-14	4.758E-13
Ra-228	ΣS(j):		0.000E+00	2.847E-20	7.246E-19	2.218E-17	3.869E-16	5.945E-15	5.492E-14	4.771E-13
Th-228	Cm-244	1.000E+00	0.000E+00	5.172E-26	1.066E-23	2.618E-21	2.079E-19	9.091E-18	1.257E-16	1.257E-15
Th-228	Pu-240	1.000E+00	0.000E+00	2.416E-21	1.633E-19	1.162E-17	3.102E-16	5.597E-15	5.383E-14	4.737E-13
Th-228	ΣS(j):		0.000E+00	2.416E-21	1.633E-19	1.162E-17	3.104E-16	5.606E-15	5.395E-14	4.749E-13
Co-58	Co-58	1.000E+00	1.000E+00	2.799E-02	2.193E-05	2.951E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Co-60	Co-60	1.000E+00	1.000E+00	8.767E-01	6.739E-01	2.683E-01	1.932E-02	1.935E-06	7.241E-18	0.000E+00
Cs-134	Cs-134	1.000E+00	1.000E+00	7.145E-01	3.647E-01	3.466E-02	4.162E-05	2.499E-15	1.541E-44	0.000E+00
Cs-137	Cs-137	1.000E+00	1.000E+00	9.771E-01	9.328E-01	7.931E-01	4.988E-01	9.844E-02	9.540E-04	8.548E-11
Eu-152	Eu-152	7.208E-01	7.208E-01	6.843E-01	6.166E-01	4.284E-01	1.513E-01	3.962E-03	1.197E-07	1.814E-23
Eu-152	Eu-152	2.792E-01	2.792E-01	2.650E-01	2.388E-01	1.659E-01	5.861E-02	1.535E-03	4.636E-08	7.027E-24
Eu-152	ΣS(j):		1.000E+00	9.493E-01	8.555E-01	5.943E-01	2.099E-01	5.496E-03	1.661E-07	2.517E-23
Gd-152	Eu-152	2.792E-01	0.000E+00	1.746E-15	4.975E-15	1.395E-14	2.704E-14	3.334E-14	3.140E-14	2.496E-14
Eu-154	Eu-154	1.000E+00	1.000E+00	9.242E-01	7.895E-01	4.547E-01	9.403E-02	3.781E-04	5.404E-11	5.967E-35
Eu-155	Eu-155	1.000E+00	1.000E+00	8.695E-01	6.575E-01	2.471E-01	1.509E-02	8.496E-07	6.133E-19	0.000E+00
Fe-55	Fe-55	1.000E+00	1.000E+00	7.733E-01	4.625E-01	7.651E-02	4.480E-04	6.878E-12	3.253E-34	0.000E+00

Summary : RESRAD Default Parameters

File : C:\USERS\DNF\DOCUMENTS\FT CALHOUN\RESRAD INPUT FILES\BURIED PIPE EXCAVATION DSR\FCS BURIED PIPE EXCAVATION DSR 0.15 M.RAD

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
H-3	H-3	1.000E+00	1.000E+00	5.435E-03	1.605E-07	2.249E-23	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ni-59	Ni-59	1.000E+00	1.000E+00	9.985E-01	9.954E-01	9.848E-01	9.552E-01	8.582E-01	6.322E-01	2.168E-01
Ni-63	Ni-63	1.000E+00	1.000E+00	9.923E-01	9.771E-01	9.256E-01	7.930E-01	4.615E-01	9.832E-02	4.386E-04
Pu-238	Pu-238	1.840E-09	1.840E-09	1.825E-09	1.795E-09	1.695E-09	1.439E-09	8.116E-10	1.579E-10	5.127E-13
Pu-238	Pu-238	1.000E+00	1.000E+00	9.918E-01	9.757E-01	9.214E-01	7.823E-01	4.411E-01	8.580E-02	2.786E-04
Pu-238	ΣS(j):		1.000E+00	9.918E-01	9.757E-01	9.214E-01	7.823E-01	4.411E-01	8.580E-02	2.786E-04
U-234	Pu-238	1.000E+00	0.000E+00	2.822E-06	8.390E-06	2.710E-05	7.439E-05	1.842E-04	2.648E-04	1.612E-04
Th-230	Pu-238	1.000E+00	0.000E+00	1.272E-11	1.138E-10	1.238E-09	1.050E-08	9.579E-08	5.295E-07	1.875E-06
Ra-226	Pu-238	1.000E+00	0.000E+00	1.838E-15	4.938E-14	1.798E-12	4.623E-11	1.454E-09	2.583E-08	3.213E-07
Pb-210	Pu-238	1.000E+00	0.000E+00	1.420E-17	1.132E-15	1.321E-13	9.160E-12	6.975E-10	2.001E-08	3.035E-07
Po-210	Pu-238	1.000E+00	0.000E+00	3.951E-18	6.245E-16	1.078E-13	8.555E-12	6.844E-10	1.990E-08	3.030E-07
Pu-240	Pu-240	1.000E+00	1.000E+00	9.996E-01	9.988E-01	9.961E-01	9.883E-01	9.616E-01	8.891E-01	6.759E-01
Pu-241	Pu-241	1.000E+00	1.000E+00	9.527E-01	8.648E-01	6.162E-01	2.339E-01	7.890E-03	4.913E-07	9.356E-22
Pu-241	Pu-241	2.450E-05	2.450E-05	2.334E-05	2.119E-05	1.510E-05	5.732E-06	1.933E-07	1.204E-11	2.292E-26
Pu-241	ΣS(j):		1.000E+00	9.527E-01	8.648E-01	6.162E-01	2.340E-01	7.891E-03	4.913E-07	9.356E-22
Sb-125	Sb-125	7.720E-01	7.720E-01	5.998E-01	3.621E-01	6.189E-02	3.978E-04	8.470E-12	1.019E-33	0.000E+00
Sb-125	Sb-125	2.280E-01	2.280E-01	1.771E-01	1.069E-01	1.828E-02	1.175E-04	2.501E-12	3.011E-34	0.000E+00
Sb-125	ΣS(j):		1.000E+00	7.770E-01	4.690E-01	8.017E-02	5.153E-04	1.097E-11	1.321E-33	0.000E+00
Te-125m	Sb-125	2.280E-01	0.000E+00	1.846E-01	1.133E-01	1.937E-02	1.245E-04	2.650E-12	3.190E-34	0.000E+00
Sr-90	Sr-90	1.000E+00	1.000E+00	9.749E-01	9.266E-01	7.755E-01	4.664E-01	7.869E-02	4.873E-04	9.108E-12
Tc-99	Tc-99	1.000E+00	1.000E+00	4.422E-01	8.648E-02	2.861E-04	2.341E-11	3.668E-36	0.000E+00	0.000E+00

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

RESCALC.EXE execution time = 5.73 seconds