Pathway	Retained	Comments
Particulate Inhalation	Yes	Allowance is made for radioactivity being liberated from the restricted area and suspended in the breathing air of the industrial worker who is present in the unrestricted area. However, it is conservatively assumed the worker is within the restricted area for the particulate inhalation pathway.
Radon	No	Radon is specifically excluded from consideration within the framework of the governing regulations. In addition, was included. is not a significant producer of radon.
Plant Ingestion	No	The industrial workers does not eat plant parts grown on site for food consumption.
Drinking Water	Yes	Surface water on site is unfit for consumption as drinking water and no on-site sources of ground water have been developed for drinking water. However, at regulatory request, the drinking water pathway has been enabled for this scenario.
Meat Ingestion	No	Industrial workers do not consume meat from animals culled from the site.
Milk Ingestion	No	Milk ingestion is not a viable pathway because milk cows do not graze on the site.
Aquatic Foods Ingestion	No	No surface bodies of water are present and the site and industrial workers do not consume fish from on-site sources.
Direct Ingestion	No	Workers at the site do not enter the fenced restricted area , thus there is no direct contact with the soil.

The potential for exposure to radon gas was eliminated from this assessment based upon regulatory guidance. The NRC documented their concurrence with this approach in the Statement of Consideration for the License Termination Rule:[341]

> *"Following the approach taken in the proposed rule, this final rule includes radiological criteria for residual radioactivity that is distinguishable from background. Because of natural transport of radon gas in outdoor areas due to diffusion and air currents, doses from exposure to radon in outside areas due to radium in the soil are negligible... Therefore, in implementing the final rule, licensees will not be expected to demonstrate that radon from licensed activities is indistinguishable from background on a site-specific basis..."*

Furthermore, measurements of radon emanation rate from the various materials that will be consolidated under the engineered barrier (see the Source Term Document in Appendix 19.2 of the DP) shows the dose potential from this pathway to be a negligible contributor.

8.4 Key Parameter Justification

A number of input parameters were selected for use for the dose modeling of this scenario. The following is a justification for those that are key to the analysis:

- Indoor Time Fraction - The total time spent at the site in the unrestricted area is 2,000 hours; it is assumed that the industrial worker spends 69% of his time indoors,

[341] U.S. Nuclear Regulatory Commission, *Radiological Criteria for License Termination*, Federal Register, Volume 62, Number 139, July 21, 1997.

and 31% of the time outdoors.[342] This is conservative as the worker is assumed to be assigned to work inside a manufacturing building. The indoor fraction, 0.16, is derived by dividing 1,380 hours (69% of 2,000 hours per year) by the total number of hours in a year, 8,760 hours. For purposes of the sensitivity analysis, the probabilistic distribution ranges to twice as much as two (2) times the central tendency value (a maximum of 2,000 hours per year spent indoors at the site).

- External Gamma Shielding Factor - The shielding factor for external gamma radiation is the ratio of the external gamma radiation level indoors on-site to the radiation level outdoors on-site. It is a function of the shielding that building materials provide against the penetration of gamma radiation. A shielding factor of 0.27, which is associated with isotopes of uranium and thorium, was selected from NUREG-6697.

- Outdoor Time Fraction - Unrestricted Area - The total time spent at the site in the unrestricted area is 2,000 hours; it is assumed that the industrial worker spends 31% of the time outdoors.[343] This is conservative as the worker is assumed to be assigned to work inside a manufacturing building and more likely to be outdoors to walk to and from their car, located in the parking lot. The outdoor fraction, 0.07, is derived by dividing 620 hours (31% of 2,000 hours per year) by the total number of hours in a year, 8,760 hours. For purposes of the sensitivity analysis, the probabilistic distribution ranges to twice as much as two (2) times the central tendency value (1,240 hours per year spent outdoors at the site). The radiation dose decreases as the industrial worker spends more time indoors instead of outdoors.

- Outdoor Time Fraction - Restricted Area - The industrial worker is exposed to the source term from the restricted area. In addition, exposure to surface soil with residual radioactivity in concentrations equal t the DCGL for the site (based upon the industrial worker scenario) also takes place.

- Inhalation Rate -The inhalation rate for the industrial worker is equal to that of an adult male performing light work, for an average of 8,400 cubic meters per year. This is the RESRAD default parameter for inhalation rate based on geometric mean rate for short term exposure to adult males.[344] It is conservative because the worker is not likely to be involved to be in work intensive activities. The radiation dose associated with this value decreases as the inhalation rate drops.

- Mass loading for inhalation - The value selected for the analysis was the RESRAD default parameter. The mass loading in air describes the airborne dust loading conditions on the site and it is assumed that the industrial worker is located indoors and not exposed to the airborne dust from the surface soil.[345]

- Soil ingestion Rate - The industrial worker may ingest soil as a result of incidental contact with the soil. The value selected, 18.3 grams per year, is the RESRAD

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[342] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-Build 3.0 Computer Codes*, NUREG/CR-6697, Appendix C, Table 7.6-3, November, 2000.
[343] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-Build 3.0 Computer Codes*, NUREG/CR-6697, Appendix C, Table 7.6-3, November, 2000.
[344] U.S. Environmental Protection Agency, *Exposure Factors Handbook, Volume I, General Factors*, EPA 600/P-95-002Fa, August, 1997.
[345] Argonne National Laboratory, *User's Manual for RESRAD Version 6*, July, 2001.

default value. The industrial worker does not enter the fenced restricted area, but may ingest soil from incidental contact with the surface soil in the unrestricted area. The industrial worker does not eat any animals or vegetables from the site, and does not drink any surface water or ground water.[346]

- Evapotranspiration Coefficient - The cover is designed to minimize the infiltration of water. The RESRAD code uses two parameters, evapotranspiration and the runoff coefficient, to estimate the rate of infiltration of water. Infiltration was thus determined to be 0.028 meters per year for the "As Designed Condition" of the engineered barrier.[347] Given that infiltration rate, the evapotranspiration and the runoff coefficients were calculated as described by the NUREG 6697.[348]

- Drinking Water - There is sufficient justification for excluding the ground water exposure pathway from the dose assessments as described in Chapter 3, above. The RESRAD User Manual supports the position that an industrial worker is not likely to drink ground water.[349] Instead, he/she would drink water supplied to the site by the local drinking water supply. It is unreasonable to assume that future industrial operations on the SMC facility would drill and maintain their own on-site drinking water well when a source of municipal water is readily available.[350] However, this pathway was enabled in response to regulatory request.

Given the pathways described in Section 8.3, above, the following is a listing of the input parameters used for this exposure scenario:

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Dose Conversion Factors	DCFX(n)	millirem/ pCi	All DCFs used are RESRAD defaults			D	S	RESRAD defaults from FGR#11 and FGR#12, derived using ICRP 30 dosimetry model.[351,352] Short-lived (<180 days) radioactive progeny isotopes are accounted for through the use of the "parent+D" DCFs.
Area of Contaminated Zone	AREA	m2	See Section 3.1.2	Triangular	The values in Section 3.1.2 are adjusted ±20%	S	S	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated chemical and physical characteristics. The area of each section is described in Section 3.1.2.

[346] Drinking water is provided by a publicly-owned water system where there is testing for compliance with drinking water standards for radionuclides, and there are no surface water sources or ground water wells inside of the Restricted area.
[347] Infiltration and Evapotranspiration Model Assumptions, November 11, 2008.
[348] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[349] Argonne National Laboratory, *User's Manual for RESRAD Version 6*, Section 2.4.2, ANL/EAD-4, July, 2001.
[350] This assumption was deemed valid by the NRC recently by the agency's approval of the decommissioning plan for the in-situ disposal of thorium slag in the SCA Hartley & Hartley Landfill (ADAMS Accession No. ML060370014).
[351] U.S. Environmental Protection Agency, *Limiting Values of Radionuclide Intake and Air Concentrations and Dose Conversion Factors for Inhalation, Submersion, and Ingestion*, Federal Guidance Report Number 11, EPA 520/1-88-020, September, 1988.
[352] U.S. Environmental Protection Agency, *External Exposure to Radionuclides in Air, Water and Soil*, Federal Guidance Report Number 12, EPA 402 R-93-081, September, 1993.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Thickness of Contaminated Zone	THICK0	m	4.5m	Triangular	Range 3.6 to 5.4 m	S	S	The Restricted area volume was characterized as none (9) different areas. The total volume of the Restricted area was based on existing elevations determined during aerial photography in 2005 and assumed base elevations for the restricted area. For the purpose of the radiation dose modeling, each area was modeled as a cylinder with a consistent height and the area adjusted as described above. Information about the volume of the Restricted area is described in Section 3.1.2.
Length Parallel to Aquifer Flow, Area 4	LCZPAQ	m	See Section 3.1.2	Triangular	The value are adjusted ±20%	S	S	The RESRAD default value is derived as the square root of the area of the contaminated zone[353]. Ground water flows at an angle from NE to SW through the Restricted area, such that the length of the total pile parallel to aquifer flow will be approximately 135.7 m. Using existing site conditions (before consolidation and cap construction), this value is greater, approximately 200 m. This value was adjusted for each area as described in Section 3.1.2.
Basic Radiation dose limit	BRDL	mrem TEDE	25			D	S	
Time since placement of material	TI	yr	0			D	S	
Calculation Times	T(n)	Yrs.	1 10 100 300 500 700 900 1000	NA		--	--	Evaluation at these time segments allows for consideration of the potential for conditions at the Site to evolve from the initial conditions specified (e.g., soil erosion impacts the cover thickness) and projects the changing Site conditions to the required 1000-year outlook.[354],[355]
Actinium-227	S(1)	pCi/g	See Section 3.1.2	Point Estimate		--	--	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated levels of radioactivity.[356] The activity for each isotope in each section of the Restricted area is described in Section 3.1.2. The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.
Protactinium-231	S(2)	pCi/g		Point Estimate		--	--	
Lead-210	S1(3)	pCi/g		Point Estimate		--	--	
Radium-226	S1(4)	pCi/g		Point Estimate		--	--	
Radium-228	S1(5)	pCi/g		Point Estimate		--	--	
Thorium-228	S1 (6)	pCi/g		Point Estimate		--	--	
Thorium-230	S1(7)	pCi/g		Point Estimate		--	--	

[353] Argonne National Laboratory, *Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil*, April, 1993.
[354] U.S. Nuclear Regulatory Commission, *Radiological Criteria for License Termination*, Volume 62, Federal Register, page 39058, July 21, 1997.
[355] U.S. Nuclear Regulatory Commission, *NMSS Decommissioning Standard Review Plan*, NUREG-1727, September, 2000.
[356] Shieldalloy Metallurgical Corporation, *Source Term Document for the Newfield Restricted Area*, Report No. 94005/G-29359.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Thorium-232	S1(8)	pCi/g		Point Estimate		--	--	
Uranium-234	S1(9)	pCi/g		Point Estimate		--	--	
Uranium-235	S1(10)	pCi/g		Point Estimate		--	--	
Uranium-238	S1(11)	pCi/g	See Section 3.1.2	Point Estimate		--	--	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated levels of radioactivity. The activity for each isotope in each section of the Restricted area is described in Section 3.1.2. The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.
Concentration in ground water	W1(n)	pCi/L	0					
Cover Depth (thickness)	COVER0	m	1.83	Triangular	Range: 1.3 to 3.7	S	S	The engineered barrier will be installed over the slag in the Restricted area with a thickness of 1.85 meters(72 inches) as shown in the preliminary design.[357] The minimum thickness was estimated as if the cover soil was completely removed, ignoring the protection provided by the stone on top of the cover soil. Two layers of stone covers the clay barrier.
Cover Density	DENSCV	g/cm3	1.92	Truncated Normal	μNormal 1.92 σNormal 0.23 Quantile, min;0.05 Quantile, max:0.95	S	S	Density for clay-bearing materials was estimated to range from 130 to 140 pounds per cubic foot (pcf) or 2.08 to 2.24 g/cm3. It is estimated that the other materials proposed for the engineered barrier have densities ranging from 100 to 110 pcf or 1.60 to 1.76 gm/cm3. Since the clay makes up half of the total cover thickness, a conservative estimate for the effective density estimated to be 1.92.
Cover Erosion Rate	VCV	m/yr	1.5x10-4	Triangular	Min 0.0 Max 3.0x10-4	S	S	The erosion of the cover is designed in order to be minimal over the 1,000 year time frame. The elements of the engineered cover are described in Section 3.1.2. For the purposes of conservatism, a value of 1.5x10-4 m/yr was assigned as a function of the erosion of the slag, as defined by the NRC for other slag materials.[358]
Contaminated Zone Density	DENSCZ	g/cm3	2..24	Triangular	Min 1.6 Max 2.32	S	S	The density of the slag and baghouse dust was measured by the analytical laboratory.[359]
Contaminated Zone Erosion Rate	VCZ	m/yr	1.5x10-5	Triangular	Min 8x10-6 Max 3x10-4	S	I	The erosion of the slag was assumed to be 10x less than that of the cover. The boulders located in the Restricted area are not likely to erode over the 1,000 year period of time.

[357] Shieldalloy Metallurgical Corporation, *Decommissioning Plan*, Appendix B, Draft, July 25, 2008.
[358] US Nuclear Regulatory Commission, *Characterization of Radioactive Slags*, NUREG 1703, October, 2004.
[359] Berger, C. (IEM), written communication to D. R. Smith (SMC), *Radionuclide Leachability from Newfield Slag*, September 16, 2005.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Contaminated Zone Total Porosity	TPCZ	Unitless 0 to 1	0.36	Bounded Normal	Std Dev 0.07 Min 0.144 Max 0.576	D	I	The total porosity was selected from NUREG 6697 for silty clayey, Appendix C.[360] Additional information about the chemical and physical properties of the slag is provided the Environmental Report.[361]
Contaminated Zone Field Capacity	FCCZ	Unitless, 0 to 1	0.2	Point Estimate		D	I	Field capacity is defined as the residual water content and is a ratio of the volume of water retained in the soil sample to the total volume of the sample. The field capacity was not measured previously. The RESRAD default was selected.
Contaminated Zone Hydraulic Conductivity	HCCZ	m/yr	0.01	Lognormal-B	Lower Quantile, 0.00506 Upper Quantile, 16.6	S	I	The RESRAD default for silty clayey was selected from NUREG 6697, Appendix C.[362] Additional information about the chemical and physical properties of the slag is provided in the Environmental Report.
Contaminated Zone B-Parameter	BCZ	Unitless	4.43	Bounded Lognormal-N	μNormal : 1.06 σNormal 0.66 min: 0.5 Max: 30	D	I	The value for silty clayey was determined to be representative of the contaminated zone.[363]
Average Annual Wind Speed	WIND	m/sec	4.25	Bounded Lognormal-N	μNormal : 1.445 σNormal : 0.2419 Min: 1.4 Max: 13.0	D	I	RESRAD Default. The thirty year (1961-1990) site- specific annual average value (4.3 m/s) is nearly equal to the RESRAD default value.[364]
Humidity in air	HUMID	g/m3						Not used
Evapotranspiration Coefficient	EVAPTR	Unitless, 0 to 1	0.73	Triangular	Range: 0.37 to 1.0	S	I	Evapotranspiration coefficient was calculated according to the construction of the engineered cover and multiple layers.[365] The infiltration rate was calculated as described by the NUREG 6697 and the evapotranspiration coefficient was derived in order to match the infiltration rate.[366]

[360] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[361] SMC, Environmental Report, 2009
[362] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[363] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[364] National Climate Data Center, *Local Climatological Data, Annual Summary with Comparative Data for Philadelphia, Pennsylvania*, 2000.
[365] Infiltration and Evapotranspiration Model Assumptions, November 11, 2008.
[366] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Precipitation Rate	PRECIP	m/year	1.05	Point Estimate		S	S	The nearest climatological stations are located in Atlantic City and Philadelphia. The annual average precipitation for Atlantic City is 41.3 inches per year while the average annual precipitation for Philadelphia is 41.42 inches.[367,368] 1.05 m/yr corresponds to these values.
Irrigation Rate	RI	m/year	0	Point Estimate		S	S	As the site will be rock-covered, a grass cover is not required and no irrigation waters will be applied.
Irrigation mode	IDITCH	unitless	Overhead					Not used. As the site will be rock-covered, a grass cover is not required and no irrigation waters will be applied.
Runoff Coefficient	RUNOFF	Unitless, 0 to 1	0.9	Uniform	Range: 0.75 to 1.0	S	S	The runoff coefficient was calculated according to the construction of the engineered cover and multiple layers.[369] The infiltration rate was calculated as described by the NUREG 6697. The runoff coefficient and evapotranspiration coefficient were derived in order to match the infiltration rate.[370]
Watershed Area for Nearby Stream or Pond	WAREA	m2	2.77x106	Point Estimate		S	I	Assumed to be 690 acres and represents the low lying areas adjacent to the Restricted area[371]. The watershed area is used to calculate dilution factors for contaminant concentrations in surface water bodies in the vicinity of the site. The larger the watershed area, the greater volume through which dilution is possible. While there is no pathway for humans to drink surface water, animals may use the pond for their water supply. The greater the dilution, the lower the radiation dose.
Accuracy for water/soil computations	EPS	unitless	0.001			D	I	
Density, Saturated Zone	DENSAQ	g/cm3	1.51	Bounded Normal	Std Dev 0.159 Min 1.019 Max 2.002	S	I	Saturated soils beneath pile are characterized as fine to medium sand and fine to coarse sand (based on boring logs for wells MW-12D and MW-13D) and silty sand with gravel and gravel (based on boring log for well MW-11S).[372,373] Applicable bulk densities range from 1.60 for dry sand to 1.73 for dry sand and gravel.[374]

[367] National Climate Data Center, *Local Climatological Data, Annual Summary with Comparative Data for Atlantic City, New Jersey*, 2006.
[368] National Climate Data Center, *Local Climatological Data, Annual Summary with Comparative Data for Philadelphia, Pennsylvania*, 2006.
[369] Infiltration and Evapotranspiration Model Assumptions, November 11, 2008.
[370] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[371] Shieldalloy Metallurgical Corporation, *Decommissioning Plan for the SMC facility*, Appendix E, Report Number 94005/G-28247, Rev 1b.
[372] TRC Environmental Consultants, Inc., *Final Focused Feasibility Study Report, Ground Water Remediation*, Project Number 13248-N51, Windsor, Connecticut, Revision 2, February 1994.
[373] TRC Environmental Consultants, Inc., *Remedial Investigation Technical Report*, Project Number 7650-N51, Windsor, Connecticut, April, 1992.
[374] T. Glover, *Pocket Reference, 2nd Edition*, Sequoia Publishing, Inc Littleton, Colorado, page 542, 1995.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Total Porosity Saturated Zone	TPSZ	Unitless, 0 to 1	0.43	Bounded Normal	Std Dev 0.06 Min 0.244 Max 0.615	D	I	Based on the saturated soils descriptions above, applicable total porosity values cited in Kresic are 0.25-0.40 for non-uniform sand and 0.25-0.35 for gravelly sand. RESRAD value for coarse sand was selected as it is the sand type defined in RESRAD Table E.8 with total porosity values closest to those cited above.[375]
Effective Porosity, Saturated Zone	EPSZ	Unitless, 0 to 1	0.383	Bounded Normal	Std Dev 0.06 Min 0.195 Max 0.572	D	I	Effective porosity of non-uniform sands and gravels, and their mixtures, is up to 10% less than total porosity.[376] For range of total porosity above (0.25-0.40), effective porosity range is 0.225-0.36. RESRAD default value for coarse sand was selected as it is the sand type defined in RESRAD Table E.8 with effective porosity values closest to those cited above and its selection is consistent with the material used to represent total porosity.
Field Capacity, Saturated Zone	FCSZ	Unitless, 0 to 1	Not used			D	I	The value "field capacity" does not apply to saturated soils.
Hydraulic Conductivity, Saturated Zone	HCSZ	m/yr	9,500	Triangular	Min 8,600 Max 10,400	S	I	During previous hydrogeological studies at the site, a pumping test of the Layne well indicated a T of 82,000 gpd/ft (Weston, 1972), and a recovery test of P4 (IWC4) indicated T of 90,400 gpd/ft (Woodward-Moorehouse, 1974), or K of 78 to 93 ft/day for the Cohansey sand, depending on formation thickness assumed (130 to 140 feet).[377,378] The average of 85.5 ft/day (9,500 m/yr) is used as the central tendency value.
Hydraulic Gradient	HGWT	Unitless	0.004	Bounded Lognormal-N	μNormal : -5.11 σNormal : 1.77 min: 0 .00007 max: 0.5	S	I	The RI references a hydraulic gradient of 0.004 ft/ft based on Figure 15 (pg 48-49) as measured between wells SC-12D and A. If measured from the far eastern well to the far southwestern well, a gradient of 0.002 ft/ft is calculated.[379] The 0.004 gradient measured between wells A and SC-12D is more representative of the gradient in the immediate vicinity of the Restricted area. The value is also representative of the gradient towards a potable well, should one be located close to the Restricted area.
Saturated Zone B-Parameter	BSZ	Unitless	4.05	Bounded Lognormal-N	μNormal : 1.06 σNormal : 0.66 Min: 0.5 Max: 30	D	I	RESRAD default value for generic soil was selected. The value and distribution represents a weighted average of the distributions for the individual soil classes.[380]

[375] Kresic, N., *Quantitative Solutions in Hydrogeology and Groundwater Modeling*, New York: Lewis Publishers, page 461, 1997.
[376] Kresic, N., *Quantitative Solutions in Hydrogeology and Groundwater Modeling*, New York: Lewis Publishers, page 461, 1997.
[377] Roy F. Weston, Inc., 1972. *Hydrogeologic Investigation of Ground Water Contamination, Interim Report.* Prepared for Shieldalloy Corporation, Newfield, New Jersey.
[378] Woodward-Moorehouse and Associates, Inc. and Woodward-Envicon, Inc., *Preliminary Report, Groundwater Contamination Study, Phase II*, Prepared for Shieldalloy Corporation, Newfield, New Jersey, 1974.
[379] TRC Environmental Consultants, Inc., *Remedial Investigation Technical Report*, Project Number 7650-N51, Windsor, Connecticut, April, 1992.
[380] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Water table drop rate	VWT	m/yr	0					
Well pump intake depth	DWIBWT	m (below the water table)	10			D	I	RESRAD default value was used.
Model: Nondispersion (ND) or Mass balance (MB)	MODEL	unitless	Mass Balance			D	I	
Well pumping rate	UW	m3/yr	453			D	I	RESRAD default value was used for estimate of water source. The default is typical for a Agricultural Farm Family and expected to be much lower for the exposure scenarios at Newfield.
Number of unsaturated zone strata	NS	unitless	2					Two unsaturated zones are present underneath the Restricted area and the restricted area. One layer, directly underneath the Restricted area contains some slag and impacted soils. A second layer, contains only non impacted soil.
Thickness Unsaturated Layer 1	H(1)	m	1.5	Triangular	Min 0.8 Max 2.2	S	S	The average thickness of the unsaturated zone underneath the Restricted area contains slag, impacted soil and non imp-acted soil. The thickness of this layer, or fill, was estimated from borings reported by TRC in 2008.[381]
Thickness Unsaturated Layer 2	H(2)	m	1.9	Triangular	Min 0.9 Max 3.7	S	S	The average thickness of the unsaturated zone was estimated from well locations in the vicinity of the restricted area based on wells 11S, 12S, and 13S. Measurements were made by SMC for six years (from January 2001 through April 2007, measured each quarter). A total of 26 data points were summarized for each well.
Density, Unsaturated Layer 1	DENSUZ(1)	g/cm3	1.696	Bounded Normal	Std Dev 0.185 Min 1.123 Max 2.269	S	S	The density selected is typical of siltey clay. The unsaturated soils beneath pile contain impacted soil, slag and other solids, non native to the unsaturated zone. The density of this layer is greater than the density found in the native unsaturated layer.
Density, Unsaturated Layer 2	DENSUZ(2)	g/cm3	1.51	Bounded Normal	Std Dev 0.159 Min 1.019 Max 2.002	D,S	S	The density selected is typical of native sand (RESRAD default). Unsaturated soils beneath pile are characterized as fine to medium sand and fine to coarse sand (based on boring logs for wells MW-12D and MW-13D) and silty sand with gravel (based on boring log for well MW-11S). Applicable bulk densities range from 1.60 for dry sand to 1.73 for dry sand and gravel.[382]
Total Porosity Unsaturated Layer 1	TPUZ(1)	Unitless 0 to 1	0.36	Bounded Normal	Std Dev 0.07 Min 0.144 Max 0.576	D	I	The porosity of this fill layer is lower than the values reported for the native soil because of the presence of impacted soil, slag and other non native solids. The values selected for this layer are the lower end of the range provided for the type of soil.

[381] Geotechnical Investigation information.
[382] T. Glover, *Pocket Reference, 2nd Edition*, Sequoia Publishing, Inc Littleton, Colorado, page 542, 1995.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Total Porosity Unsaturated Layer 2	TPUZ(2)	Unitless 0 to 1	0.43	Bounded Normal	Std Dev 0.06 Min 0.245 Max 0.615	D	I	Values for total porosity are reported to be 0.25-0.40 for non-uniform sand and 0.25-0.35 for gravelly sand.[383] RESRAD value for coarse sand was selected as it is the sand type defined in NUREG 6697, Appendix C, Table 3.2-1 with total porosity values closest to those cited above.[384]
Effective Porosity of Unsaturated Layer 1	EPUZ(1)	Unitless, 0 to 1	0.289	Bounded Normal	Std Dev 0.074 Min 0.062 Max 0.517	D	I	The porosity of this fill layer is lower than the values reported for the native soil. Also according to Kresic (1997), the presence of fines, i.e., silts and clays, significantly reduces effective porosity. The values selected for this layer are the lower end of the range provided for the type of soil.
Effective Porosity of Unsaturated Layer 2	EPUZ(2)	Unitless, 0 to 1	0.383	Bounded Normal	Std Dev 0.06 Min 0.195 Max 0.572	D	I	Effective porosity of non-uniform sands and gravels, and their mixtures, is up to 10% less than total porosity; for range of total porosity above (0.25-0.40), effective porosity range is 0.225-0.36.[385,386] Also according to Kresic (1997), the presence of fines, i.e., silts and clays, significantly reduces effective porosity. However, limited amounts of silt and clay are expected in the sands and gravels of the Bridgeton Formation. Value for sand was selected from NUREG 6697, Appendix C, Table 3.3-1 as it is the sand type with effective porosity values closest to those cited above and its selection is consistent with the material used to represent total porosity.[387]
Field Capacity Unsaturated Layer 1	FCUZ (1)	Unitless, 0 to 1	0.2	Point Estimate		D	I	The field capacity is used to calculate the volumetric water capacity of the contaminated zone and unsaturated zone. The value, FCUZ, is used when the calculated capacity is lower than the set value.[388] The reported field capacity for sand is about 0.10 and ranges up to about 0.18 for fine sand (Fetter, 1994). Consequently, a value of 0.2 is much higher than expected for the site. Field capacity is not a single value, but is time-dependent (Fetter, 1994; Delleur, 1999).[389,390]

[383] Kresic, N., *Quantitative Solutions in Hydrogeology and Groundwater Modeling*, New York: Lewis Publishers, page 461, 1997.
[384] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[385] Kresic, N., 1997. Quantitative Solutions in Hydrogeology and Groundwater Modeling, New York: Lewis Publishers, 461 p.
[386] Kresic, N., 1997. Quantitative Solutions in Hydrogeology and Groundwater Modeling, New York: Lewis Publishers, 461 p.
[387] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[388] Argonne National Laboratory, *User's Manual for RESRAD Version 6*, Appendix E, July, 2001
[389] Delleur, J.W., The Handbook of Groundwater Engineering, New York: CRC Press, 1999.
[390] Fetter, C.W., 1994. Applied Hydrogeology. New York: Macmillan College Publishing Company, 691 p.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Field Capacity Unsaturated Layer 2	FCUZ (2)	Unitless, 0 to 1	0.2	Point Estimate		D	I	The reported field capacity for sand is about 0.10 and ranges up to about 0.18 for fine sand (Fetter, 1994). Consequently, a value of 0.2 is much higher than expected for the site. Field capacity is not a single value, but is time-dependent (Fetter, 1994; Delleur, 1999).[391,392]
Unsaturated Layer 1, B-Parameter	BUZ(1)	Unitless	1.06	Bounded Lognormal-N	μNormal : 1.06 σNormal : 0.66 Min: 0.5 Max: 30	D	I	The unsaturated soils beneath pile contain impacted soil, slag and other solids, non native to the unsaturated zone. The b parameter is different than the parameter expected for the native unsaturated layer. The value for generic soil was selected. The value and distribution represents a weighted average of the distributions for the individual soil classes.[393]
Unsaturated Layer 2, B-Parameter	BUZ(2)	Unitless	4.05	Bounded Lognormal-N	μNormal : 1.06 σNormal : 0.66 Min: 0.5 Max: 30	D	I	The RESRAD default value for generic soil was selected. The value and distribution represents a weighted average of the distributions for the individual soil classes.[394]
Hydraulic Conductivity Unsaturated Layer 1	HCUZ (1)	m/yr	4,750	Triangular	Min 200 Max 9,500	S	I	The Bridgeton Formation overlies the Cohansey Sand beneath the Restricted area.[395] The Bridgeton Formation is the unsaturated layer directly beneath the slag, generally consisting of fine sand with variable percentages of silt and clay and traces of fine gravel. This layer also contains fine slag, impacted soil, and other non native solids such as concrete. The soil containing slag and other non native materials may be reworked from heavy equipment operation. The average hydraulic conductivity of Layer 1 is probably lower than the Layer 2 hydraulic conductivity due to the finer grain size of Layer 1 and compaction by the heavy equipment. The range of values is typical of a range of soil types evaluated in NUREG 6697, Appendix C, Table 3.4-1.[396]

[391] Delleur, J.W., The Handbook of Groundwater Engineering, New York: CRC Press, 1999.
[392] Fetter, C.W., 1994. Applied Hydrogeology. New York: Macmillan College Publishing Company, 691 p.
[393] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[394] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[395] Newell, W. L., et al, *Surficial Geologic Map of Central and Southern New Jersey*, U.S. Geological Survey, Miscellaneous Geologic Investigations Series, Map I 2540 D, 2000.
[396] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Hydraulic Conductivity Unsaturated Layer 2	HCUZ (2)	m/yr	9,500	Triangular	Min 8,600 Max 10,400	S	I	The unsaturated, upper part of the Cohansey Sand consists of fine sand, fine-medium sand, medium-coarse sand, and coarse sand with variable percentages of silt and fine gravel. Aquifer testing of wells completed in the upper Cohansey Sand provides data for the hydraulic conductivity. A pumping test of the Layne well indicated a transmissivity of 82,000 gpd/ft (Weston, 1972), and a recovery test of P4 (also referred to as IWC4) indicated a transmissivity of 90,400 gpd/ft (Woodward-Moorehouse, 1974).[397],[398],[399] The equivalent hydraulic conductivity is 78 to 93 ft/day, depending on the assumed formation thickness (130 to 140 feet). The average hydraulic conductivity of 85.5 ft/day (9,500 m/yr) is used as the central tendency value.
Distribution coefficients for Thorium								
Thorium Kd contaminated zone	DCACT(n)	cm3/g	See Section 3.1.3			S	S	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated partition coefficients.[400] The partition coefficient, Kd, for each element in each section of the Restricted area is described in Section 3.1.3. The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.
Thorium Kd unsaturated zone, Layer 1	DCACT U(1)	cm3/g	5,884	Triangular	Min 207 Max 150,000	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[401] No allowances were made for the presence of fill in the first layer of the unsaturated zone (Layer 1).
Thorium Kd unsaturated zone, Layer 2	DCACT U(1) (2)	cm3/g	5,884	Triangular	Min 207 Max 150,000	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[402]
Thorium Kd saturated zone	DCACT S	cm3/g	5,884	Triangular	Min 207 Max 150,000	D	S	Literature values were selected for the saturated zones, using the lower range of values.[403]
Leach rate	ALEAC H(1)	/yr						Not used
Solubility constant	SOLUB K(1)	unitless						Not used
Distribution coefficients for Uranium								

[397] TRC Environmental Consultants, Inc., *Remedial Investigation Technical Report*, Project Number 7650-N51, Windsor, Connecticut, April, 1992.
[398] Roy F. Weston, Inc., *Hydrogeologic Investigation of Ground Water Contamination, Interim Report*, Prepared for Shieldalloy Corporation, Newfield, New Jersey, 1972.
[399] Woodward-Moorehouse and Associates, Inc. and Woodward-Envicon, Inc., *Preliminary Report, Groundwater Contamination Study, Phase II*. Prepared for Shieldalloy Corporation, Newfield, New Jersey, 1974.
[400] Shieldalloy Metallurgical Corporation, *Source Term Document for the Newfield Restricted Area*, Report No. 94005/G-29359.
[401] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000
[402] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000
[403] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Uranium Kd contaminated zone	DCACT C(n)	cm3/g	See Section 3.1.3			S	S	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated partition coefficients.[404] The partition coefficient, Kd, for each element in each section of the Restricted area is described in Section 3.1.3. The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.
Uranium Kd unsaturated zone, Layer 1	DCACT U(1)	cm3/g	126	Triangular	Min 0.03 Max 2,200	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[405] No allowances were made for the presence of fill in the first layer of the unsaturated zone (Layer 1).
Uranium Kd unsaturated zone, Layer 2	DCACT U(2)	cm3/g	126	Triangular	Min 0.03 Max 2,200	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[406]
Uranium Kd saturated zone	DCACT S	cm3/g	126	Triangular	Min 0.03 Max 2,200	D	S	Literature values were selected for the saturated zones, using the lower range of values.[407]
Leach rate	ALEAC H(2)	/yr						Not used
Solubility constant	SOLUB K(2)	unitless						Not used
Distribution coefficients for Radium								
Radium Kd contaminated zone	DCACT(n)	cm3/g	See Section 3.1.3			S	S	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated partition coefficients.[408] The partition coefficient, Kd, for each element in each section of the Restricted area is described in Section 3.1.3. The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.
Radium Kd unsaturated zone, Layer 1	DCACT U(1)	cm3/g	3,533	Triangular	Min 57 Max 21,000	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[409] No allowances were made for the presence of fill in the first layer of the unsaturated zone (Layer 1).

[404] Shieldalloy Metallurgical Corporation, *Source Term Document for the Newfield Restricted Area*, Report No. 94005/G-29359.
[405] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000
[406] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000
[407] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000
[408] Shieldalloy Metallurgical Corporation, *Source Term Document for the Newfield Restricted Area*, Report No. 94005/G-29359.
[409] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Radium Kd unsaturated zone, Layer 2	DCACT(2)	cm3/g	3,533	Triangular	Min 57 Max 21,000	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[410]
Radium Kd saturated zone	DCACTS	cm3/g	3,533	Triangular	Min 57 Max 21,000	D	S	Literature values were selected for the saturated zones, using the lower range of values.[411]
Leach rate	ALEACH(3)	/yr						Not used
Solubility constant	SOLUBK(3)	unitless						Not used
Distribution coefficients for Lead								
Lead Kd contaminated zone	DCACTC (n)	cm3/g	270	Triangular	Min 19 Max 1,405	D	S	Literature values were selected for the leaching of lead from the slag.[412] The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.
Lead Kd unsaturated zone , Layer 1	DCACTU(1)	cm3/g	270	Triangular	Min 19 Max 1,405	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[413] No allowances were made for the presence of fill in the first layer of the unsaturated zone (Layer 1).
Lead Kd unsaturated zone , Layer 2	DCACTU(2)	cm3/g	270	Triangular	Min 19 Max 1,405	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[414]
Lead Kd saturated zone	DCACTS	cm3/g	270	Triangular	Min 19 Max 1,405	S	S	Literature values were selected for the saturated zones, using the lower range of values.[415]
Leach rate	ALEACH(4)	/yr						Not used
Solubility constant	SOLUBK(4)	unitless						Not used
Inhalation Rate	INHALR	m3/yr	8,400	Triangular	Range: 4380 to 13100	D	I	Inhalation rate based on geometric mean rate for short term exposure to adult males.[416]

[410] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000

[411] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000

[412] Sheppard and Thibault, *Default Soil Solid/Liquid Partition Coefficients, K_dS, for Four Major Soil Types: A Compendium*, Health Physics Journal, Volume 59, Number 4, page 471 - 482, October, 1990.

[413] Sheppard and Thibault, 1990.

[414] Sheppard and Thibault, 1990.

[415] Sheppard and Thibault, 1990.

[416] U.S. Environmental Protection Agency, *Exposure Factors Handbook, Volume I, General Factors*, EPA 600/P-95-002Fa, August, 1997.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Mass Loading for Inhalation.	MLINH	g/m3	0.00003	Continuous Linear	0.000000 - 0.0000 0.000008 - 0.0151 0.000016 - 0.1365 0.000030 - 0.8119 0.000040 - 0.9495 0.000060 - 0.9937 0.000076 - 0.9983 0.000100 - 1.0000	D	I	Mass loading in air describes the airborne dust loading conditions on the site.[417]
Exposure duration	ED	yr	30			D	S	
Shielding factor, inhalation	SHF3	unitless	0.4			D	I	
Shielding factor, external gamma	SHF1	unitless	0.27	Bounded Lognormal-N	μNormal : -1.3 σNormal : 0.59 Min: 0.044 Max: 1	S	S	A shielding factor of 0.27 is associated with a frame house constructed with a slab or full basement with isotopes of uranium and thorium.
Exposure Frequency (Total)	EF	Days per year	250	EF and ET are not input parameters used by RESRAD. They are presented here to disclose the calculation used to arrive at the parameters RESRAD uses to account for exposure frequency, FIND & FOTD		--	--	Assumes number of days per year of time working specifically at the SMC facility.
Exposure Time	ET	hours per day	8			--	--	Conservatively assumes that each day eight (8) hours long.
Indoor Time Fraction	FIND	Unitless, 0 to 1	0.16	Triangular	Range: 0.08 to 0..32	O	S	The fraction of a total year (8,7860hr) that is spent indoors on site. Assumes that 69% of the exposure occurs indoors on the unrestricted side of the site.[418]
Outdoor Time Fraction	FOTD	Unitless, 0 to 1	0.07	Triangular	Range: 0 to 0.14	O	S	The fraction of a total year (8,760hr) that is spent outdoors on Site. Equals 595 hrs outdoors on Site divided by 8,760 hours. The probabilistic distribution ranges to twice (2x) the CT value (1,190 hrs per year spent outdoors on the site).
Fruits, vegetables and grain consumption	DIET(1)	kg/yr						Not used
Leafy vegetable consumption	DIET(2)	kg/yr						Not used
Milk consumption	DIET(3)	L/yr						Not used

[417] Argonne National Laboratory, *User's Manual for RESRAD Version 6*, July, 2001.
[418] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Meat and poultry consumption	DIET(4)	Kg/yr						Not used
Fish consumption	DIET(5)	Kg/yr						Not used
Other seafood consumption	DIET(6)	Kg/yr						Not used
Soil Ingestion Rate	SOIL	g/y	0			D	I	The industrial worker does not enter the fenced Restricted area. There is no direct contact with the soil inside the fence.
Drinking water intake	DWI	L/yr	410			D	I	
Contamination fraction of drinking water	FDW	unitless	1					
Contamination fraction of household water	FHHW	unitless						Not used
Contamination fraction of livestock water	FLW	unitless						Not used
Contamination fraction of irrigation water	FIRW	unitless						Not used
Contamination fraction of aquatic food	FR9	unitless						Not used
Contamination fraction of plant food	FPLANT	unitless						Not used
Contamination fraction of meat	FMEAT	unitless						Not used
Contamination fraction of milk	FMILK	unitless						Not used
Depth of Soil Mixing Layer	DM	m	0.15	Triangular	Range: 0 to 0.6	D	I	Value based on conceptual site model for surface soil.[419] The cover includes a stone layer which maximizes drainage and minimizes intrusion by root penetration and burrowing animals. As long as the cover is maintained, there is no uptake by plants.

[419] U.S. Nuclear Regulatory Commission, *Residual Radioactive Contamination from Decommissioning: Parameter Analysis*, NUREG/CR-5512, Vol.3, October 1999.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S=Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Depth of Roots	DROOT	m	0.9	Lognormal-N	μNormal : 1.9 σNormal : 0.6	D	I	The engineered cover includes a layer of a dense clay material at a depth of 3 feet (1 m) that is designed to shed water and is covered by a layer of stone intended to preclude roots penetration and burrowing animals. The fit of the lognormal-N distribution allows for root depths of up to approximately 1 meter. As long as the cover is maintained, there is no uptake by plants.

8.5 Results

The radiation dose potential was determined for an industrial worker who works in close proximity to the restricted area (but not inside the restricted area) under conditions where the engineered barrier is no longer maintained (i.e., when all controls fail). This individual will incur a radiation dose from the surface soil present in the unrestricted area at concentrations equal to the DCGL, He will also incur a radiation dose from the restricted area where no maintenance or monitoring of the engineered barrier takes place. The driving exposure pathway for this scenario is external radiation exposure from residual radioactivity in soil and from the eroded engineered barrier. The following is a summary of the dose modeling results:

Area	Peak of the Mean Annual Dose mrem TEDE	Annual Dose, 50th percentile mrem TEDE	Annual Dose, 90th percentile mrem TEDE	Annual Dose, 95th percentile mrem TEDE	Maximum Annual Dose mrem TEDE	Deterministic annual Dose mrem TEDE
1	10-8	10-11	10-8	10-7	2x10-6	10-9
2	10-8	10-11	10-8	10-7	3x10-6	10-9
3	10-6	10-8	10-6	10-5	2x10-5	10-9
4	10-6	10-8	10-6	10-5	4x10-4	10-7
5	10-7	10-10	10-7	10-6	2x10-5	10-7
6	10-5	10-8	10-5	10-5	7x10-4	10-8
7	10-6	10-9	10-6	10-5	2x10-4	10-6
8	10-7	10-10	10-7	10-6	3x10-5	10-7
9	10-6	10-9	10-6	10-6	4x10-6	10-8
Sum of all areas	9x10-6	2x10-8	2x10-5	3x10-5	1x10-3	1x10-6

Note: The industrial worker is exposed to the source term from the restricted area well as the residual radioactivity in the unrestricted area. The direct radiation exposure from the covered restricted area contributed less than 2E-05 millirem per year after 1,000 years. The exposure potential from the residual radioactivity established by the DCGLs in the unrestricted area is 25 millirem per year, which has not been included in this table.

The pages that follow are the RESRAD summary reports for this exposure scenario.

9 RECREATIONAL HUNTER PACKAGE (RESTRICTED)

9.1 General Information

A recreational hunter may attempt to enter the restricted area but is not likely to do so because of the oversight provided by the industrial operation in the unrestricted area. Hunting inside the restricted area is also not likely, even under the remote chance that institutional controls should fail, because of the lack of shelter in which animals could hide and forage and because hunting is not allowed within Newfield borough limits. Hunters are also not likely to use such a small piece of elevated land as a source of game because of its realistically-small animal population. However, this highly unlikely scenario was evaluated radiation for dose potential.

9.2 Critical Group Description

The critical exposure group for the recreational hunter scenario is described as a hypothetical subpopulation that hunts for recreation and consumes game meat culled from the restricted portion of the SMC facility. This hunter would spend a fraction of his available outdoor recreational time engaged in hunting and would go to the SMC facility, where the fencing around the restricted area has failed, thus permitting the egress of both the hunter and game. The hunger also chooses the SMC restricted area each time he goes hunting rather than visiting other sites in the vicinity. Because he has the potential to incur a radiation dose from the restricted area in the unlikely event all controls fail, he forms the critical group for this scenario.

9.3 Applicable Exposure Pathways

RESRAD identifies the following potential pathways for exposure for the hunter scenario:

- direct radiation exposure;
- particulate inhalation;
- meat ingestion; and
- direct ingestion.

Other exposure pathways are not applicable and were disabled for the purposes of dose modeling. The following table identifies the pathways that have been retained and provides an explanation for those that were not:

Pathway	Retained	Comments
Direct Exposure	Yes	The source term produces penetrating gamma radiation. Exposure from direct radiation is expected to be the significant contributor to the overall dose potential.
Particulate Inhalation	Yes	Allowance is made for residual radioactivity to be liberated and suspended in the breathing air of the recreational hunter.
Radon	No	Radon is specifically excluded from consideration within the framework of the governing regulations. In addition, the source term is not a significant producer of radon.
Plant Ingestion	No	Ingestion of plant foods addresses those plant foods grown in the restricted area or irrigated with water containing radioactivity from the restricted area. Since recreational hunters are not expected to glean edible plant parts grown on site for food consumption, this pathway was disabled.

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)
A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)

A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)

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

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

D-34	Ac-227+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,2)
D-34	Ac-227+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,3)
D-34					
D-34	Pa-231	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pa-231	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(2,2)
D-34	Pa-231	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(2,3)
D-34					
D-34	Pb-210+D	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(3,1)
D-34	Pb-210+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(3,2)
D-34	Pb-210+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(3,3)
D-34					
D-34	Ra-226+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(4,1)
D-34	Ra-226+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,2)
D-34	Ra-226+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,3)
D-34					
D-34	Ra-228+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(5,1)
D-34	Ra-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,2)
D-34	Ra-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,3)
D-34					
D-34	Th-228+D	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Th-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Th-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(6,3)
D-34					
D-34	Th-230	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Th-230	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Th-230	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(7,3)
D-34					

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

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(2,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(2,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(3,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(3,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(4,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(4,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(5,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(5,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(6,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(6,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(7,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(7,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(8,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(8,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(9,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	2.550E+03	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	5.050E+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)	1.000E+01	3.000E+00	---	T(3)

R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	3.000E-01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	3.000E-01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	1.500E+00	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	1.500E+00	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	2.800E+00	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	2.800E+00	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g):	Th-230	4.900E+00	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	2.800E+00	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	4.900E+00	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	3.000E-01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	4.900E+00	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ

R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	5.030E+04	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.591E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.099E+05	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.560E-08	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)

R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.600E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	7.000E-02	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)

R018	Meat and poultry consumption (kg/yr)	not used	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)	not used	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	4.100E+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	not used	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	not used	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	not used	-1	---	FPLANT
R018	Contamination fraction of meat	not used	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	not used	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	not used	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	not used	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	not used	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	not used	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	not used	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	not used	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	not used	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	not used	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	not used	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	not used	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN

C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	2550.00 square meters	Ac-227	3.000E-01
Thickness:	4.50 meters	Pa-231	3.000E-01
Cover Depth:	1.83 meters	Pb-210	1.500E+00
		Ra-226	1.500E+00
		Ra-228	2.800E+00
		Th-228	2.800E+00
		Th-230	4.900E+00
		Th-232	2.800E+00
		U-234	4.900E+00
		U-235	3.000E-01
		U-238	4.900E+00

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	5.826E-10	5.837E-10	5.933E-10	6.994E-10	1.008E-09	1.453E-09	2.095E-09	3.021E-09	3.629E-09
M(t):	2.330E-11	2.335E-11	2.373E-11	2.798E-11	4.032E-11	5.813E-11	8.381E-11	1.209E-10	1.451E-10

0Maximum TDOSE(t): 3.629E-09 mrem/yr at t = 1.000E+03 years

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

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.251E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.724E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.500E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.468E-12	0.0094	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	8.958E-11	0.1538	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	4.838E-10	0.8304	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.871E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.752E-12	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.162E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.271E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.314E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.826E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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
0 Water Dependent Pathways

Radio-	Water	Fish	Radon	Plant	Meat	Milk	All Pathways*

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.251E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.724E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.500E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.468E-12	0.0094
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.958E-11	0.1538
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.838E-10	0.8304
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.871E-15	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.752E-12	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.162E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.271E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.314E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.826E-10	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 1 Controls in Place Restricted Area

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.187E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.081E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.458E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.478E-12	0.0094	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.178E-10	0.3732	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	3.374E-10	0.5780	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.163E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.299E-11	0.0394	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	8.146E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.822E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.317E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.837E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.187E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.081E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.458E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.478E-12	0.0094
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.178E-10	0.3732
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.374E-10	0.5780
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.163E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.299E-11	0.0394
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.146E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.822E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.317E-15	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.837E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.683E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.692E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.128E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.563E-12	0.0094	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.288E-10	0.3856	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.315E-11	0.0222	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	8.285E-14	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.458E-10	0.5828	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.922E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	8.074E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.348E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.933E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.683E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.692E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+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-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.563E-12	0.0094
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.288E-10	0.3856
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.315E-11	0.0222
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.285E-14	0.0001
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.458E-10	0.5828
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.922E-18	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.074E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.348E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.933E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

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Ac-227	1.230E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.889E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	8.674E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.499E-12	0.0093	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	5.681E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.067E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	9.443E-13	0.0014	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	6.920E-10	0.9893	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.303E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.493E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.699E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	6.994E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.230E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.889E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.674E-21	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.499E-12	0.0093
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.681E-15	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.067E-25	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.443E-13	0.0014
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.920E-10	0.9893
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.303E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.493E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.699E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.994E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	3.670E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.214E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.902E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	9.179E-12	0.0091	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.764E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.163E-12	0.0041	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	9.947E-10	0.9868	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	5.754E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.980E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.845E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.008E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.670E-21	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.214E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.902E-23	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.179E-12	0.0091
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.764E-25	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.163E-12	0.0041
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.947E-10	0.9868
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.754E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.980E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.845E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.008E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0 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.
Ac-227	1.095E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	9.026E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	9.706E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.297E-11	0.0089	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.023E-11	0.0070	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.430E-09	0.9840	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.389E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	9.015E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.769E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.453E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Dependent Pathways

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.095E-23	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.026E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.706E-26	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.297E-11	0.0089

Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.023E-11	0.0070		
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.430E-09	0.9840		
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.389E-14	0.0000		
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.015E-19	0.0000		
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.769E-15	0.0000		
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.453E-09	1.0000		

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	3.268E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.563E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.247E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.831E-11	0.0087	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.114E-11	0.0101	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.056E-09	0.9811	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	7.005E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.232E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	8.009E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.095E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.268E-26	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.563E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.247E-28	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.831E-11	0.0087
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.114E-11	0.0101
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.056E-09	0.9811
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.005E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.232E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.009E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.095E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	9.756E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.705E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.587E-11	0.0086	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.014E-11	0.0133	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.955E-09	0.9781	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.734E-13	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.033E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.348E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.021E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years
Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.756E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.705E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.587E-11	0.0086
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.014E-11	0.0133
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.955E-09	0.9781
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.734E-13	0.0001
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.033E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.348E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.021E-09	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	5.330E-30	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.560E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.074E-11	0.0085	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Th-230	5.422E-11	0.0149	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Th-232	3.543E-09	0.9765	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
U-234	2.619E-13	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
U-235	7.394E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
U-238	1.749E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Total	3.629E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		

0

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

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.330E-30	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.560E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.074E-11	0.0085
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.422E-11	0.0149
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.543E-09	0.9765
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.619E-13	0.0001
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.394E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.749E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.629E-09	1.0000

0*Sum of all water independent and dependent pathways.

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

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	7.504E-17	7.289E-17	5.611E-17	4.099E-18	1.223E-20	3.650E-23	1.089E-25	3.252E-28	1.777E-29
0Pa-231	Pa-231	1.000E+00	4.002E-20	4.016E-20	4.137E-20	5.575E-20	1.082E-19	2.099E-19	4.073E-19	7.904E-19	1.101E-18
Pa-231	Ac-227+D	1.000E+00	1.201E-18	3.562E-18	2.226E-17	9.626E-17	1.737E-16	3.007E-16	5.205E-16	9.010E-16	1.186E-15
Pa-231	äDSR(j)		1.241E-18	3.602E-18	2.231E-17	9.631E-17	1.738E-16	3.009E-16	5.209E-16	9.018E-16	1.187E-15
0Pb-210+D	Pb-210+D	1.000E+00	9.998E-20	9.717E-20	7.518E-20	5.783E-21	1.934E-23	6.471E-26	2.165E-28	7.241E-31	4.188E-32
0Ra-226+D	Ra-226+D	1.000E+00	3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.120E-12	8.644E-12	1.221E-11	1.724E-11	2.050E-11
Ra-226+D	Pb-210+D	1.000E+00	1.562E-21	4.633E-21	2.894E-20	1.219E-19	1.967E-19	3.029E-19	4.664E-19	7.183E-19	8.913E-19
Ra-226+D	äDSR(j)		3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.120E-12	8.644E-12	1.221E-11	1.724E-11	2.050E-11
0Ra-228+D	Ra-228+D	1.000E+00	1.255E-13	1.115E-13	3.851E-14	9.274E-19	5.062E-29	2.763E-39	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	3.187E-11	7.768E-11	8.167E-11	2.028E-15	9.865E-26	4.798E-36	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		3.199E-11	7.779E-11	8.170E-11	2.029E-15	9.870E-26	4.801E-36	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.728E-10	1.205E-10	4.697E-12	3.812E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	3.455E-33	3.473E-33	3.646E-33	5.915E-33	1.733E-32	5.080E-32	1.489E-31	4.364E-31	7.471E-31
Th-230	Ra-226+D	1.000E+00	7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.496E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
Th-230	Pb-210+D	1.000E+00	2.262E-25	1.573E-24	6.951E-23	3.905E-21	2.419E-20	6.794E-20	1.561E-19	3.266E-19	4.622E-19
Th-230	äDSR(j)		7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.496E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
0Th-232	Th-232	1.000E+00	8.787E-37	8.839E-37	9.329E-37	1.599E-36	5.300E-36	1.756E-35	5.819E-35	1.928E-34	3.510E-34
Th-232	Ra-228+D	1.000E+00	7.722E-15	2.203E-14	9.797E-14	1.692E-13	2.730E-13	4.403E-13	7.101E-13	1.145E-12	1.455E-12
Th-232	Th-228+D	1.000E+00	1.332E-12	8.188E-12	1.234E-10	2.470E-10	3.550E-10	5.103E-10	7.335E-10	1.054E-09	1.264E-09
Th-232	äDSR(j)		1.340E-12	8.210E-12	1.235E-10	2.471E-10	3.553E-10	5.107E-10	7.342E-10	1.055E-09	1.265E-09

0U-234	U-234	1.000E+00	8.221E-35	8.267E-35	8.693E-35	1.437E-34	4.390E-34	1.341E-33	4.098E-33	1.252E-32	2.188E-32
U-234	Th-230	1.000E+00	1.556E-38	4.692E-38	3.446E-37	5.353E-36	4.693E-35	2.293E-34	9.410E-34	3.547E-33	6.749E-33
U-234	Ra-226+D	1.000E+00	2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
U-234	Pb-210+D	1.000E+00	5.100E-31	7.616E-30	2.253E-27	1.422E-24	3.021E-23	1.488E-22	4.934E-22	1.359E-21	2.159E-21
U-234	äDSR(j)		2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
0U-235+D	U-235+D	1.000E+00	6.678E-23	6.705E-23	6.949E-23	9.937E-23	2.200E-22	4.871E-22	1.079E-21	2.388E-21	3.553E-21
U-235+D	Pa-231	1.000E+00	4.236E-25	1.275E-24	9.193E-24	1.187E-22	6.905E-22	2.238E-21	6.093E-21	1.524E-20	2.361E-20
U-235+D	Ac-227+D	1.000E+00	8.497E-24	5.908E-23	2.613E-21	1.495E-19	9.924E-19	3.002E-18	7.433E-18	1.676E-17	2.462E-17
U-235+D	äDSR(j)		7.570E-23	1.274E-22	2.691E-21	1.498E-19	9.933E-19	3.005E-18	7.440E-18	1.678E-17	2.465E-17
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.803E-16	9.709E-16	1.625E-15	2.719E-15	3.517E-15
U-238+D	U-234	9.999E-01	1.166E-40	3.516E-40	2.588E-39	4.094E-38	3.741E-37	1.904E-36	8.145E-36	3.200E-35	6.215E-35
U-238+D	Th-230	9.999E-01	1.401E-44	1.037E-43	5.133E-42	7.626E-40	2.000E-38	1.628E-37	9.356E-37	4.536E-36	9.590E-36
U-238+D	Ra-226+D	9.999E-01	1.680E-27	2.525E-26	7.956E-24	8.370E-21	3.371E-19	2.348E-18	9.704E-18	3.109E-17	5.236E-17
U-238+D	Pb-210+D	9.999E-01	2.895E-37	8.947E-36	1.707E-32	1.137E-28	7.930E-27	6.756E-26	3.206E-25	1.153E-24	2.049E-24
U-238+D	äDSR(j)		2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.806E-16	9.733E-16	1.634E-15	2.750E-15	3.570E-15

The DSR includes contributions from associated (half-life ó 180 days) daughters.

Summary : SMC Industrial Worker Area 1 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109101.RAD

Single Radionuclide Soil Guidelines G(i,t) in pCi/g

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

0Nuclide

(i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	7.815E+11	3.214E+11	3.060E+11	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.447E+11	2.075E+11	5.322E+12	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)

and Single Radionuclide Soil Guidelines G(i,t) in pCi/g

at tmin = time of minimum single radionuclide soil guideline

and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	3.000E-01	0.000E+00	7.504E-17	*7.232E+13	1.777E-29	*7.232E+13
Pa-231	3.000E-01	1.000E+03	1.187E-15	*4.723E+10	1.187E-15	*4.723E+10
Pb-210	1.500E+00	0.000E+00	9.998E-20	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	1.500E+00	1.000E+03	2.050E-11	*9.885E+11	2.050E-11	*9.885E+11
Ra-228	2.800E+00	4.112 ñ 0.008	1.197E-10	2.088E+11	0.000E+00	*2.726E+14
Th-228	2.800E+00	0.000E+00	1.728E-10	1.447E+11	0.000E+00	*8.195E+14
Th-230	4.900E+00	1.000E+03	1.107E-11	*2.018E+10	1.107E-11	*2.018E+10
Th-232	2.800E+00	1.000E+03	1.265E-09	*1.097E+05	1.265E-09	*1.097E+05
U-234	4.900E+00	1.000E+03	5.346E-14	*6.247E+09	5.346E-14	*6.247E+09
U-235	3.000E-01	1.000E+03	2.465E-17	*2.161E+06	2.465E-17	*2.161E+06
U-238	4.900E+00	1.000E+03	3.570E-15	*3.361E+05	3.570E-15	*3.361E+05

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	2.251E-17	2.187E-17	1.683E-17	1.230E-18	3.670E-21	1.095E-23	3.268E-26	9.756E-29	5.330E-30
Ac-227	Pa-231	1.000E+00	3.604E-19	1.069E-18	6.679E-18	2.888E-17	5.211E-17	9.020E-17	1.561E-16	2.703E-16	3.557E-16
Ac-227	U-235	1.000E+00	2.549E-24	1.772E-23	7.838E-22	4.486E-20	2.977E-19	9.007E-19	2.230E-18	5.027E-18	7.386E-18
Ac-227	äDOSE(j)		2.287E-17	2.293E-17	2.351E-17	3.015E-17	5.241E-17	9.110E-17	1.584E-16	2.753E-16	3.631E-16
0Pa-231	Pa-231	1.000E+00	1.201E-20	1.205E-20	1.241E-20	1.673E-20	3.245E-20	6.297E-20	1.222E-19	2.371E-19	3.303E-19
Pa-231	U-235	1.000E+00	1.271E-25	3.824E-25	2.758E-24	3.561E-23	2.072E-22	6.713E-22	1.828E-21	4.571E-21	7.084E-21
Pa-231	äDOSE(j)		1.201E-20	1.205E-20	1.241E-20	1.676E-20	3.266E-20	6.365E-20	1.240E-19	2.417E-19	3.374E-19
0Pb-210	Pb-210	1.000E+00	1.500E-19	1.458E-19	1.128E-19	8.674E-21	2.902E-23	9.706E-26	3.247E-28	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	2.343E-21	6.949E-21	4.342E-20	1.828E-19	2.950E-19	4.543E-19	6.996E-19	1.077E-18	1.337E-18
Pb-210	Th-230	1.000E+00	1.109E-24	7.708E-24	3.406E-22	1.913E-20	1.186E-19	3.329E-19	7.647E-19	1.600E-18	2.265E-18
Pb-210	U-234	1.000E+00	0.000E+00	3.732E-29	1.104E-26	6.968E-24	1.481E-22	7.290E-22	2.418E-21	6.658E-21	1.058E-20
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	5.569E-28	3.886E-26	3.310E-25	1.571E-24	5.649E-24	1.004E-23
Pb-210	äDOSE(j)		1.523E-19	1.527E-19	1.565E-19	2.106E-19	4.137E-19	7.880E-19	1.467E-18	2.684E-18	3.613E-18
0Ra-226	Ra-226	1.000E+00	5.468E-12	5.478E-12	5.563E-12	6.499E-12	9.179E-12	1.297E-11	1.831E-11	2.587E-11	3.074E-11
Ra-226	Th-230	1.000E+00	3.871E-15	1.163E-14	8.285E-14	9.443E-13	4.163E-12	1.023E-11	2.114E-11	4.014E-11	5.422E-11
Ra-226	U-234	1.000E+00	1.162E-20	8.146E-20	3.922E-18	4.303E-16	5.754E-15	2.389E-14	7.005E-14	1.734E-13	2.619E-13
Ra-226	U-238	9.999E-01	8.234E-27	1.237E-25	3.898E-23	4.101E-20	1.652E-18	1.150E-17	4.755E-17	1.523E-16	2.566E-16
Ra-226	äDOSE(j)		5.472E-12	5.489E-12	5.646E-12	7.443E-12	1.335E-11	2.322E-11	3.952E-11	6.618E-11	8.523E-11
0Ra-228	Ra-228	1.000E+00	3.515E-13	3.123E-13	1.078E-13	2.597E-18	1.417E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	2.162E-14	6.169E-14	2.743E-13	4.739E-13	7.643E-13	1.233E-12	1.988E-12	3.207E-12	4.073E-12
Ra-228	äDOSE(j)		3.731E-13	3.740E-13	3.821E-13	4.739E-13	7.643E-13	1.233E-12	1.988E-12	3.207E-12	4.073E-12
0Th-228	Ra-228	1.000E+00	8.923E-11	2.175E-10	2.287E-10	5.679E-15	2.762E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	4.838E-10	3.374E-10	1.315E-11	1.067E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	3.731E-12	2.293E-11	3.455E-10	6.915E-10	9.940E-10	1.429E-09	2.054E-09	2.952E-09	3.539E-09
Th-228	äDOSE(j)		5.768E-10	5.778E-10	5.873E-10	6.915E-10	9.940E-10	1.429E-09	2.054E-09	2.952E-09	3.539E-09
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	2.003E-23	2.011E-23	2.085E-23	2.981E-23	6.600E-23	1.461E-22	3.236E-22	7.164E-22	1.066E-21
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	1.314E-15	1.317E-15	1.348E-15	1.699E-15	2.843E-15	4.758E-15	7.961E-15	1.332E-14	1.724E-14
U-238	äDOSE(j)		1.314E-15	1.317E-15	1.348E-15	1.699E-15	2.843E-15	4.758E-15	7.961E-15	1.332E-14	1.724E-14
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THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03

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Ac-227	Ac-227	1.000E+00	3.000E-01	2.906E-01	2.182E-01	1.242E-02	2.131E-05	3.655E-08	6.268E-11	1.075E-13	4.452E-15
Ac-227	Pa-231	1.000E+00	0.000E+00	9.400E-03	8.178E-02	2.870E-01	2.978E-01	2.963E-01	2.947E-01	2.932E-01	2.924E-01
Ac-227	U-235	1.000E+00	0.000E+00	9.997E-08	9.111E-06	4.431E-04	1.698E-03	2.955E-03	4.206E-03	5.449E-03	6.069E-03
Ac-227	äS(j):		3.000E-01	3.000E-01	3.000E-01	2.998E-01	2.995E-01	2.992E-01	2.989E-01	2.986E-01	2.985E-01
0Pa-231	Pa-231	1.000E+00	3.000E-01	3.000E-01	2.999E-01	2.992E-01	2.976E-01	2.961E-01	2.945E-01	2.930E-01	2.922E-01
Pa-231	U-235	1.000E+00	0.000E+00	6.347E-06	6.347E-05	6.339E-04	1.897E-03	3.153E-03	4.402E-03	5.645E-03	6.264E-03
Pa-231	äS(j):		3.000E-01	3.000E-01	3.000E-01	2.998E-01	2.995E-01	2.992E-01	2.989E-01	2.986E-01	2.985E-01
0Pb-210	Pb-210	1.000E+00	1.500E+00	1.454E+00	1.099E+00	6.695E-02	1.334E-04	2.656E-07	5.291E-10	1.054E-12	4.704E-14
Pb-210	Ra-226	1.000E+00	0.000E+00	4.590E-02	3.998E-01	1.388E+00	1.335E+00	1.224E+00	1.123E+00	1.030E+00	9.860E-01
Pb-210	Th-230	1.000E+00	0.000E+00	3.265E-05	2.978E-03	1.444E-01	5.355E-01	8.962E-01	1.226E+00	1.528E+00	1.669E+00
Pb-210	U-234	1.000E+00	0.000E+00	9.822E-11	9.165E-08	5.230E-05	6.676E-04	1.960E-03	3.874E-03	6.354E-03	7.792E-03
Pb-210	U-238	9.999E-01	0.000E+00	6.972E-17	6.595E-13	4.157E-09	1.749E-07	8.892E-07	2.515E-06	5.389E-06	7.391E-06
Pb-210	äS(j):		1.500E+00	1.500E+00	1.502E+00	1.600E+00	1.872E+00	2.123E+00	2.353E+00	2.564E+00	2.663E+00
0Ra-226	Ra-226	1.000E+00	1.500E+00	1.499E+00	1.494E+00	1.436E+00	1.317E+00	1.208E+00	1.108E+00	1.016E+00	9.726E-01
Ra-226	Th-230	1.000E+00	0.000E+00	2.122E-03	2.118E-02	2.076E-01	5.963E-01	9.520E-01	1.277E+00	1.575E+00	1.714E+00
Ra-226	U-234	1.000E+00	0.000E+00	9.553E-09	9.540E-07	9.414E-05	8.228E-04	2.220E-03	4.230E-03	6.798E-03	8.277E-03
Ra-226	U-238	9.999E-01	0.000E+00	9.027E-15	9.018E-12	8.929E-09	2.358E-07	1.068E-06	2.869E-06	5.970E-06	8.104E-06
Ra-226	äS(j):		1.500E+00	1.501E+00	1.515E+00	1.644E+00	1.914E+00	2.162E+00	2.389E+00	2.598E+00	2.695E+00
0Ra-228	Ra-228	1.000E+00	2.800E+00	2.482E+00	8.387E-01	1.629E-05	5.511E-16	1.865E-26	6.310E-37	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	0.000E+00	3.180E-01	1.961E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00
Ra-228	äS(j):		2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00
0Th-228	Ra-228	1.000E+00	0.000E+00	7.988E-01	1.145E+00	2.441E-05	8.259E-16	2.795E-26	9.456E-37	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	2.800E+00	1.949E+00	7.475E-02	5.152E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	5.220E-02	1.580E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00
Th-228	äS(j):		2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00
0Th-230	Th-230	1.000E+00	4.900E+00	4.900E+00	4.900E+00	4.896E+00	4.887E+00	4.878E+00	4.869E+00	4.860E+00	4.855E+00
Th-230	U-234	1.000E+00	0.000E+00	4.411E-05	4.411E-04	4.408E-03	1.321E-02	2.199E-02	3.074E-02	3.948E-02	4.384E-02
Th-230	U-238	9.999E-01	0.000E+00	6.252E-11	6.252E-09	6.249E-07	5.620E-06	1.560E-05	3.055E-05	5.045E-05	6.226E-05
Th-230	äS(j):		4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.899E+00	4.899E+00	4.899E+00
0Th-232	Th-232	1.000E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00
0U-234	U-234	1.000E+00	4.900E+00	4.900E+00	4.900E+00	4.899E+00	4.896E+00	4.893E+00	4.890E+00	4.887E+00	4.885E+00
U-234	U-238	9.999E-01	0.000E+00	1.389E-05	1.389E-04	1.389E-03	4.165E-03	6.940E-03	9.712E-03	1.248E-02	1.387E-02
U-234	äS(j):		4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.899E+00	4.899E+00	4.899E+00
0U-235	U-235	1.000E+00	3.000E-01	3.000E-01	3.000E-01	3.000E-01	3.000E-01	3.000E-01	3.000E-01	2.999E-01	2.999E-01
0U-238	U-238	5.400E-05	2.646E-04	2.646E-04	2.646E-04	2.646E-04	2.646E-04	2.646E-04	2.646E-04	2.646E-04	2.645E-04
U-238	U-238	9.999E-01	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.899E+00	4.899E+00	4.899E+00	4.899E+00	4.899E+00
U-238	äS(j):		4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.899E+00	4.899E+00	4.899E+00
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THF(i) is the thread fraction of the parent nuclide.

0RESCALC.EXE execution time = 68.32 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)

A-1	Pb-212	(Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214	(Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210	(Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211	(Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214	(Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215	(Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216	(Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218	(Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223	(Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224	(Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226	(Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219	(Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220	(Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222	(Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227	(Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228	(Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230	(Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231	(Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232	(Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234	(Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207	(Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208	(Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210	(Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234	(Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235	(Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238	(Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:				
B-1	Ac-227+D		6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231		1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D		2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D		8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D		5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D		3.454E-01	3.420E-01	DCF2(6)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-238	1.180E-01	1.180E-01	DCF2(11)

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

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

Dose Library: FGR 11

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

D-5	U-234	, crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5					
D-5	U-235+D	, fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	*U-235+D*	*, crustacea and mollusks*	*6.000E+01*	*6.000E+01*	BIOFAC(10,2)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	2.210E+03	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	4.700E+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)	1.000E+01	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)	5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)	1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Ac-227	1.100E+00	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Pa-231	1.100E+00	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Pb-210	2.240E+01	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g): Ra-226	2.240E+01	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g): Ra-228	3.840E+01	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g): Th-228	3.840E+01	0.000E+00	---	S1(6)

R012	Initial principal radionuclide (pCi/g):	Th-230	1.580E+01	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	3.840E+01	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	1.580E+01	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	1.100E+00	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	1.580E+01	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Summary : SMC Industrial Worker Area 8 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109108.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 Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)

R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	3.480E+03	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	8.082E-07	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	6.595E+03	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.264E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Summary : SMC Industrial Worker Area 8 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109108.RAD

Site-Specific Parameter Summary (continued)

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

R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.600E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	7.000E-02	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	not used	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)	not used	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	4.100E+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	not used	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	not used	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	not used	-1	---	FPLANT
R018	Contamination fraction of meat	not used	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	not used	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	not used	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	not used	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	not used	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	not used	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	not used	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	not used	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)

R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	not used	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	not used	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	not used	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	not used	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area: 2210.00 square meters

Initial Soil Concentrations, pCi/g

Ac-227	1.100E+00

Thickness:	4.50 meters	Pa-231	1.100E+00
Cover Depth:	1.83 meters	Pb-210	2.240E+01
		Ra-226	2.240E+01
		Ra-228	3.840E+01
		Th-228	3.840E+01
		Th-230	1.580E+01
		Th-232	3.840E+01
		U-234	1.580E+01
		U-235	1.100E+00
		U-238	1.580E+01

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	7.997E-09	8.011E-09	8.143E-09	9.590E-09	1.379E-08	1.984E-08	2.854E-08	4.105E-08	4.923E-08
M(t):	3.199E-10	3.204E-10	3.257E-10	3.836E-10	5.517E-10	7.935E-10	1.141E-09	1.642E-09	1.969E-09

0Maximum TDOSE(t): 4.923E-08 mrem/yr at t = 1.000E+03 years

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

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	8.254E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.365E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.240E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.166E-11	0.0102	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.228E-09	0.1536	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	6.635E-09	0.8297	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.248E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.146E-11	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.746E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	8.327E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.236E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	7.997E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.254E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.365E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.240E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.166E-11	0.0102
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.228E-09	0.1536
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.635E-09	0.8297
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.248E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.146E-11	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.746E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.327E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.236E-15	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.997E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	8.018E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.963E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.177E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.180E-11	0.0102	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.987E-09	0.3729	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	4.627E-09	0.5775	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.751E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.152E-10	0.0394	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.627E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.401E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.247E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	8.011E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.018E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.963E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.177E-18	0.0000

Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.180E-11	0.0102
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.987E-09	0.3729
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.627E-09	0.5775
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.751E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.152E-10	0.0394
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.627E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.401E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.247E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.011E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 8 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109108.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	6.172E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.454E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.684E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.308E-11	0.0102	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.137E-09	0.3853	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.804E-10	0.0222	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.672E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.742E-09	0.5823	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.265E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.961E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.347E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	8.143E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.172E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.454E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.684E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.308E-11	0.0102
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.137E-09	0.3853
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.804E-10	0.0222
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.672E-13	0.0000

Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.742E-09	0.5823
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.265E-17	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.961E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.347E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.143E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 8 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109108.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	4.509E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.059E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.295E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	9.704E-11	0.0101	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	7.791E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.464E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.045E-12	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	9.490E-09	0.9896	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.387E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.647E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.480E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	9.590E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.509E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.059E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.295E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.704E-11	0.0101
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.791E-14	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.464E-24	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.045E-12	0.0003
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.490E-09	0.9896
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.387E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.647E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.480E-15	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.590E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 8 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109108.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

0 Water Independent Pathways (Inhalation excludes radon)

0 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.
Ac-227	1.345E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.912E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	4.333E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.370E-10	0.0099	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.790E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.342E-11	0.0010	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.364E-08	0.9891	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.855E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.093E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	9.173E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.379E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.345E-20	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.912E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.333E-22	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.370E-10	0.0099
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.790E-24	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.342E-11	0.0010
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.364E-08	0.9891
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.855E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.093E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.173E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.379E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 8 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109108.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 = 5.000E+02 years

0 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.
Ac-227	4.015E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.310E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.449E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.935E-10	0.0098	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.298E-11	0.0017	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.961E-08	0.9886	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	7.702E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.306E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.538E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.984E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.015E-23	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.310E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.449E-24	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.935E-10	0.0098
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.298E-11	0.0017
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.961E-08	0.9886
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.702E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.306E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.538E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.984E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 8 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109108.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 = 7.000E+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.
Ac-227	1.198E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.730E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	4.849E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.733E-10	0.0096	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	6.815E-11	0.0024	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.819E-08	0.9880	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.258E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	8.184E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.582E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.854E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

As mrem/yr and Fraction of Total Dose At t = 7.000E+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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.198E-25	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.730E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.849E-27	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.733E-10	0.0096
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.815E-11	0.0024
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.819E-08	0.9880
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.258E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.184E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.582E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.854E-08	1.0000

*Sum of all water independent and dependent pathways.

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

As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground	Inhalation	Radon	Plant	Meat	Milk	Soil

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	3.577E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	9.920E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.860E-10	0.0094	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.294E-10	0.0032	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.053E-08	0.9874	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	5.589E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.845E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.345E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.105E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.577E-28	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.920E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.860E-10	0.0094
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.294E-10	0.0032
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.053E-08	0.9874
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.589E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.845E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.345E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.105E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.954E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.305E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.587E-10	0.0093	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.748E-10	0.0035	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.860E-08	0.9871	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	8.445E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.711E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.641E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.923E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water Dependent Pathways

Radio-Nuclide	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.954E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.305E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.587E-10	0.0093
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.748E-10	0.0035
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.860E-08	0.9871
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.445E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.711E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.641E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.923E-08	1.0000

*Sum of all water independent and dependent pathways.

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

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	7.504E-17	7.289E-17	5.611E-17	4.099E-18	1.223E-20	3.650E-23	1.089E-25	3.252E-28	1.777E-29
Pa-231	Pa-231	1.000E+00	4.002E-20	4.016E-20	4.137E-20	5.575E-20	1.082E-19	2.099E-19	4.073E-19	7.904E-19	1.101E-18
Pa-231	Ac-227+D	1.000E+00	1.201E-18	3.562E-18	2.226E-17	9.626E-17	1.737E-16	3.007E-16	5.205E-16	9.010E-16	1.186E-15
Pa-231	äDSR(j)		1.241E-18	3.602E-18	2.231E-17	9.631E-17	1.738E-16	3.009E-16	5.209E-16	9.018E-16	1.187E-15
Pb-210+D	Pb-210+D	1.000E+00	9.998E-20	9.717E-20	7.518E-20	5.783E-21	1.934E-23	6.471E-26	2.165E-28	7.241E-31	4.188E-32
Ra-226+D	Ra-226+D	1.000E+00	3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.118E-12	8.640E-12	1.220E-11	1.723E-11	2.048E-11
Ra-226+D	Pb-210+D	1.000E+00	1.562E-21	4.633E-21	2.894E-20	1.218E-19	1.966E-19	3.028E-19	4.662E-19	7.178E-19	8.907E-19
Ra-226+D	äDSR(j)		3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.118E-12	8.640E-12	1.220E-11	1.723E-11	2.048E-11

0Ra-228+D	Ra-228+D	1.000E+00	1.255E-13	1.115E-13	3.851E-14	9.274E-19	5.061E-29	2.762E-39	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	3.187E-11	7.768E-11	8.166E-11	2.028E-15	9.863E-26	4.797E-36	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		3.199E-11	7.779E-11	8.170E-11	2.029E-15	9.869E-26	4.800E-36	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.728E-10	1.205E-10	4.697E-12	3.812E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	3.455E-33	3.473E-33	3.646E-33	5.915E-33	1.734E-32	5.081E-32	1.489E-31	4.364E-31	7.472E-31
Th-230	Ra-226+D	1.000E+00	7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.496E-13	2.088E-12	4.313E-12	8.190E-12	1.106E-11
Th-230	Pb-210+D	1.000E+00	2.262E-25	1.573E-24	6.951E-23	3.905E-21	2.419E-20	6.793E-20	1.560E-19	3.265E-19	4.621E-19
Th-230	äDSR(j)		7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.496E-13	2.088E-12	4.313E-12	8.190E-12	1.106E-11
0Th-232	Th-232	1.000E+00	8.787E-37	8.839E-37	9.329E-37	1.599E-36	5.300E-36	1.756E-35	5.820E-35	1.929E-34	3.511E-34
Th-232	Ra-228+D	1.000E+00	7.722E-15	2.203E-14	9.797E-14	1.692E-13	2.730E-13	4.403E-13	7.102E-13	1.145E-12	1.455E-12
Th-232	Th-228+D	1.000E+00	1.332E-12	8.188E-12	1.234E-10	2.470E-10	3.550E-10	5.103E-10	7.335E-10	1.054E-09	1.264E-09
Th-232	äDSR(j)		1.340E-12	8.210E-12	1.235E-10	2.471E-10	3.553E-10	5.107E-10	7.342E-10	1.056E-09	1.266E-09
0U-234	U-234	1.000E+00	8.221E-35	8.267E-35	8.693E-35	1.437E-34	4.390E-34	1.341E-33	4.098E-33	1.252E-32	2.188E-32
U-234	Th-230	1.000E+00	1.556E-38	4.692E-38	3.446E-37	5.353E-36	4.694E-35	2.293E-34	9.410E-34	3.548E-33	6.750E-33
U-234	Ra-226+D	1.000E+00	2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.874E-15	1.429E-14	3.537E-14	5.345E-14
U-234	Pb-210+D	1.000E+00	5.100E-31	7.616E-30	2.253E-27	1.422E-24	3.021E-23	1.488E-22	4.933E-22	1.358E-21	2.158E-21
U-234	äDSR(j)		2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.874E-15	1.429E-14	3.537E-14	5.345E-14
0U-235+D	U-235+D	1.000E+00	6.678E-23	6.705E-23	6.949E-23	9.937E-23	2.200E-22	4.871E-22	1.079E-21	2.388E-21	3.553E-21
U-235+D	Pa-231	1.000E+00	4.236E-25	1.275E-24	9.193E-24	1.187E-22	6.905E-22	2.238E-21	6.093E-21	1.524E-20	2.361E-20
U-235+D	Ac-227+D	1.000E+00	8.497E-24	5.908E-23	2.613E-21	1.495E-19	9.924E-19	3.002E-18	7.433E-18	1.676E-17	2.462E-17
U-235+D	äDSR(j)		7.570E-23	1.274E-22	2.691E-21	1.498E-19	9.933E-19	3.005E-18	7.440E-18	1.678E-17	2.465E-17
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.803E-16	9.709E-16	1.625E-15	2.719E-15	3.518E-15
U-238+D	U-234	9.999E-01	1.166E-40	3.516E-40	2.588E-39	4.094E-38	3.741E-37	1.904E-36	8.145E-36	3.200E-35	6.215E-35
U-238+D	Th-230	9.999E-01	1.401E-44	1.037E-43	5.133E-42	7.626E-40	2.000E-38	1.628E-37	9.356E-37	4.536E-36	9.591E-36
U-238+D	Ra-226+D	9.999E-01	1.680E-27	2.525E-26	7.956E-24	8.370E-21	3.371E-19	2.348E-18	9.703E-18	3.108E-17	5.236E-17
U-238+D	Pb-210+D	9.999E-01	2.895E-37	8.947E-36	1.707E-32	1.137E-28	7.930E-27	6.755E-26	3.206E-25	1.153E-24	2.049E-24
U-238+D	äDSR(j)		2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.806E-16	9.733E-16	1.634E-15	2.750E-15	3.570E-15

The DSR includes contributions from associated (half-life ó 180 days) daughters.

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	7.815E+11	3.214E+11	3.060E+11	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.447E+11	2.075E+11	5.322E+12	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

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*At specific activity limit
0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	1.100E+00	0.000E+00	7.504E-17	*7.232E+13	1.777E-29	*7.232E+13
Pa-231	1.100E+00	1.000E+03	1.187E-15	*4.723E+10	1.187E-15	*4.723E+10
Pb-210	2.240E+01	0.000E+00	9.998E-20	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	2.240E+01	1.000E+03	2.048E-11	*9.885E+11	2.048E-11	*9.885E+11
Ra-228	3.840E+01	4.112 ñ 0.008	1.197E-10	2.088E+11	0.000E+00	*2.726E+14
Th-228	3.840E+01	0.000E+00	1.728E-10	1.447E+11	0.000E+00	*8.195E+14
Th-230	1.580E+01	1.000E+03	1.106E-11	*2.018E+10	1.106E-11	*2.018E+10
Th-232	3.840E+01	1.000E+03	1.266E-09	*1.097E+05	1.266E-09	*1.097E+05
U-234	1.580E+01	1.000E+03	5.345E-14	*6.247E+09	5.345E-14	*6.247E+09
U-235	1.100E+00	1.000E+03	2.465E-17	*2.161E+06	2.465E-17	*2.161E+06
U-238	1.580E+01	1.000E+03	3.570E-15	*3.361E+05	3.570E-15	*3.361E+05

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*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	t=	DOSE(j,t), mrem/yr 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00		8.254E-17	8.018E-17	6.172E-17	4.509E-18	1.345E-20	4.015E-23	1.198E-25	3.577E-28	1.954E-29
Ac-227	Pa-231	1.000E+00		1.321E-18	3.919E-18	2.449E-17	1.059E-16	1.911E-16	3.307E-16	5.725E-16	9.911E-16	1.304E-15
Ac-227	U-235	1.000E+00		9.347E-24	6.499E-23	2.874E-21	1.645E-19	1.092E-18	3.303E-18	8.176E-18	1.843E-17	2.708E-17
Ac-227	äDOSE(j)			8.386E-17	8.409E-17	8.621E-17	1.106E-16	1.922E-16	3.340E-16	5.807E-16	1.010E-15	1.331E-15
0Pa-231	Pa-231	1.000E+00		4.402E-20	4.417E-20	4.551E-20	6.133E-20	1.190E-19	2.309E-19	4.481E-19	8.694E-19	1.211E-18
Pa-231	U-235	1.000E+00		4.660E-25	1.402E-24	1.011E-23	1.306E-22	7.596E-22	2.461E-21	6.702E-21	1.676E-20	2.598E-20
Pa-231	äDOSE(j)			4.403E-20	4.417E-20	4.552E-20	6.146E-20	1.198E-19	2.334E-19	4.548E-19	8.862E-19	1.237E-18
0Pb-210	Pb-210	1.000E+00		2.240E-18	2.177E-18	1.684E-18	1.295E-19	4.333E-22	1.449E-24	4.849E-27	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00		3.500E-20	1.038E-19	6.484E-19	2.729E-18	4.404E-18	6.782E-18	1.044E-17	1.608E-17	1.995E-17
Pb-210	Th-230	1.000E+00		3.575E-24	2.486E-23	1.098E-21	6.170E-20	3.822E-19	1.073E-18	2.465E-18	5.158E-18	7.301E-18
Pb-210	U-234	1.000E+00		0.000E+00	1.203E-28	3.559E-26	2.247E-23	4.774E-22	2.351E-21	7.795E-21	2.146E-20	3.410E-20
Pb-210	U-238	9.999E-01		0.000E+00	0.000E+00	0.000E+00	1.796E-27	1.253E-25	1.067E-24	5.065E-24	1.821E-23	3.237E-23
Pb-210	äDOSE(j)			2.275E-18	2.280E-18	2.334E-18	2.921E-18	4.787E-18	7.858E-18	1.292E-17	2.126E-17	2.729E-17
0Ra-226	Ra-226	1.000E+00		8.166E-11	8.180E-11	8.308E-11	9.704E-11	1.370E-10	1.935E-10	2.733E-10	3.860E-10	4.587E-10
Ra-226	Th-230	1.000E+00		1.248E-14	3.751E-14	2.672E-13	3.045E-12	1.342E-11	3.298E-11	6.815E-11	1.294E-10	1.748E-10
Ra-226	U-234	1.000E+00		3.746E-20	2.627E-19	1.265E-17	1.387E-15	1.855E-14	7.702E-14	2.258E-13	5.589E-13	8.445E-13
Ra-226	U-238	9.999E-01		2.655E-26	3.990E-25	1.257E-22	1.322E-19	5.326E-18	3.709E-17	1.533E-16	4.911E-16	8.272E-16

Ra-226	äDOSE(j)		8.167E-11	8.184E-11	8.335E-11	1.001E-10	1.505E-10	2.266E-10	3.417E-10	5.160E-10	6.344E-10
0Ra-228	Ra-228	1.000E+00	4.821E-12	4.283E-12	1.479E-12	3.561E-17	1.943E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	2.965E-13	8.460E-13	3.762E-12	6.499E-12	1.048E-11	1.691E-11	2.727E-11	4.399E-11	5.586E-11
Ra-228	äDOSE(j)		5.117E-12	5.129E-12	5.241E-12	6.499E-12	1.048E-11	1.691E-11	2.727E-11	4.399E-11	5.586E-11
0Th-228	Ra-228	1.000E+00	1.224E-09	2.983E-09	3.136E-09	7.788E-14	3.788E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	6.635E-09	4.627E-09	1.804E-10	1.464E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	5.116E-11	3.144E-10	4.738E-09	9.483E-09	1.363E-08	1.960E-08	2.817E-08	4.049E-08	4.854E-08
Th-228	äDOSE(j)		7.910E-09	7.924E-09	8.055E-09	9.483E-09	1.363E-08	1.960E-08	2.817E-08	4.049E-08	4.854E-08
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	7.346E-23	7.375E-23	7.644E-23	1.093E-22	2.420E-22	5.358E-22	1.186E-21	2.627E-21	3.909E-21
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	4.236E-15	4.247E-15	4.347E-15	5.480E-15	9.168E-15	1.534E-14	2.567E-14	4.296E-14	5.558E-14
U-238	äDOSE(j)		4.236E-15	4.247E-15	4.347E-15	5.480E-15	9.168E-15	1.534E-14	2.567E-14	4.296E-14	5.558E-14

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

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g								
		t=	0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	1.100E+00	1.066E+00	8.000E-01	4.556E-02	7.813E-05	1.340E-07	2.298E-10	3.942E-13	1.632E-14
Ac-227	Pa-231	1.000E+00	0.000E+00	3.447E-02	2.999E-01	1.052E+00	1.092E+00	1.086E+00	1.081E+00	1.075E+00	1.072E+00
Ac-227	U-235	1.000E+00	0.000E+00	3.666E-07	3.341E-05	1.625E-03	6.228E-03	1.084E-02	1.542E-02	1.998E-02	2.225E-02
Ac-227	äS(j):		1.100E+00	1.100E+00	1.100E+00	1.099E+00	1.098E+00	1.097E+00	1.096E+00	1.095E+00	1.094E+00
0Pa-231	Pa-231	1.000E+00	1.100E+00	1.100E+00	1.100E+00	1.097E+00	1.091E+00	1.086E+00	1.080E+00	1.074E+00	1.071E+00
Pa-231	U-235	1.000E+00	0.000E+00	2.327E-05	2.327E-04	2.324E-03	6.955E-03	1.156E-02	1.614E-02	2.070E-02	2.297E-02
Pa-231	äS(j):		1.100E+00	1.100E+00	1.100E+00	1.099E+00	1.098E+00	1.097E+00	1.096E+00	1.095E+00	1.094E+00
0Pb-210	Pb-210	1.000E+00	2.240E+01	2.171E+01	1.641E+01	9.997E-01	1.991E-03	3.967E-06	7.902E-09	1.574E-11	7.025E-13
Pb-210	Ra-226	1.000E+00	0.000E+00	6.854E-01	5.970E+00	2.073E+01	1.993E+01	1.828E+01	1.676E+01	1.537E+01	1.471E+01
Pb-210	Th-230	1.000E+00	0.000E+00	1.053E-04	9.601E-03	4.657E-01	1.727E+00	2.889E+00	3.953E+00	4.926E+00	5.381E+00
Pb-210	U-234	1.000E+00	0.000E+00	3.167E-10	2.955E-07	1.686E-04	2.152E-03	6.321E-03	1.249E-02	2.049E-02	2.512E-02
Pb-210	U-238	9.999E-01	0.000E+00	2.248E-16	2.127E-12	1.341E-08	5.639E-07	2.867E-06	8.109E-06	1.737E-05	2.383E-05
Pb-210	äS(j):		2.240E+01	2.240E+01	2.239E+01	2.220E+01	2.167E+01	2.118E+01	2.073E+01	2.031E+01	2.012E+01
0Ra-226	Ra-226	1.000E+00	2.240E+01	2.239E+01	2.230E+01	2.145E+01	1.967E+01	1.803E+01	1.653E+01	1.516E+01	1.451E+01
Ra-226	Th-230	1.000E+00	0.000E+00	6.843E-03	6.830E-02	6.695E-01	1.923E+00	3.069E+00	4.118E+00	5.078E+00	5.526E+00
Ra-226	U-234	1.000E+00	0.000E+00	3.080E-08	3.076E-06	3.036E-04	2.653E-03	7.159E-03	1.364E-02	2.192E-02	2.668E-02
Ra-226	U-238	9.999E-01	0.000E+00	2.911E-14	2.908E-11	2.879E-08	7.604E-07	3.444E-06	9.251E-06	1.925E-05	2.613E-05
Ra-226	äS(j):		2.240E+01	2.240E+01	2.237E+01	2.212E+01	2.159E+01	2.111E+01	2.066E+01	2.026E+01	2.007E+01
0Ra-228	Ra-228	1.000E+00	3.840E+01	3.404E+01	1.150E+01	2.234E-04	7.557E-15	2.557E-25	8.651E-36	0.000E+00	0.000E+00

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 Ra-228   Th-232   1.000E+00    0.000E+00 4.361E+00 2.690E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01
 Ra-228   äS(j):              3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01
0Th-228   Ra-228   1.000E+00    0.000E+00 1.096E+01 1.570E+01 3.347E-04 1.133E-14 3.832E-25 1.296E-35 0.000E+00 0.000E+00
 Th-228   Th-228   1.000E+00    3.840E+01 2.673E+01 1.025E+00 7.065E-15 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
 Th-228   Th-232   1.000E+00    0.000E+00 7.159E-01 2.167E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01
 Th-228   äS(j):              3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01
0Th-230   Th-230   1.000E+00    1.580E+01 1.580E+01 1.580E+01 1.579E+01 1.576E+01 1.573E+01 1.570E+01 1.567E+01 1.566E+01
 Th-230   U-234    1.000E+00    0.000E+00 1.422E-04 1.422E-03 1.421E-02 4.259E-02 7.090E-02 9.914E-02 1.273E-01 1.414E-01
 Th-230   U-238    9.999E-01    0.000E+00 2.016E-10 2.016E-08 2.015E-06 1.812E-05 5.030E-05 9.850E-05 1.627E-04 2.008E-04
 Th-230   äS(j):              1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01
0Th-232   Th-232   1.000E+00    3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01 3.840E+01
0U-234    U-234    1.000E+00    1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.579E+01 1.578E+01 1.577E+01 1.576E+01 1.575E+01
 U-234    U-238    9.999E-01    0.000E+00 4.479E-05 4.479E-04 4.478E-03 1.343E-02 2.238E-02 3.132E-02 4.025E-02 4.472E-02
 U-234    äS(j):              1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01
0U-235    U-235    1.000E+00    1.100E+00 1.100E+00 1.100E+00 1.100E+00 1.100E+00 1.100E+00 1.100E+00 1.100E+00 1.100E+00
0U-238    U-238    5.400E-05    8.532E-04 8.532E-04 8.532E-04 8.532E-04 8.532E-04 8.531E-04 8.531E-04 8.531E-04 8.530E-04
 U-238    U-238    9.999E-01    1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01
 U-238    äS(j):              1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01 1.580E+01
 fffffff  fffffff  fffffffff   fffffffff fffffffff fffffffff fffffffff fffffffff fffffffff fffffffff fffffffff fffffffff
 THF(i) is the thread fraction of the parent nuclide.
0RESCALC.EXE execution time =   68.39 seconds
```

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)
A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)

A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)

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

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

D-34	Ac-227+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,2)
D-34	Ac-227+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,3)
D-34				
D-34	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(2,2)
D-34	Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(2,3)
D-34				
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(3,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(3,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(3,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(4,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,3)
D-34				
D-34	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(5,1)
D-34	Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,2)
D-34	Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,3)
D-34				
D-34	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(6,3)
D-34				
D-34	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(7,3)
D-34				

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

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

D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(2,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(2,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(3,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(3,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(4,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(4,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(5,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(5,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(6,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(6,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(7,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(7,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(8,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(8,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(9,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	1.700E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	1.300E+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)	1.000E+01	3.000E+00	---	T(3)

R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide	(pCi/g): Ac-227	7.100E+00	0.000E+00	---	S1(1)
R012	Initial principal radionuclide	(pCi/g): Pa-231	7.100E+00	0.000E+00	---	S1(2)
R012	Initial principal radionuclide	(pCi/g): Pb-210	1.320E+02	0.000E+00	---	S1(3)
R012	Initial principal radionuclide	(pCi/g): Ra-226	1.320E+02	0.000E+00	---	S1(4)
R012	Initial principal radionuclide	(pCi/g): Ra-228	1.854E+02	0.000E+00	---	S1(5)
R012	Initial principal radionuclide	(pCi/g): Th-228	1.854E+02	0.000E+00	---	S1(6)
R012	Initial principal radionuclide	(pCi/g): Th-230	1.019E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide	(pCi/g): Th-232	1.854E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide	(pCi/g): U-234	1.019E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide	(pCi/g): U-235	7.100E+00	0.000E+00	---	S1(10)
R012	Initial principal radionuclide	(pCi/g): U-238	1.019E+02	0.000E+00	---	S1(11)
R012	Concentration in groundwater	(pCi/L): Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater	(pCi/L): Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater	(pCi/L): Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater	(pCi/L): Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater	(pCi/L): Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater	(pCi/L): Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater	(pCi/L): Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater	(pCi/L): Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater	(pCi/L): U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater	(pCi/L): U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater	(pCi/L): U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ

R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	1.606E+05	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.751E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.956E+04	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.438E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	6.180E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.551E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	6.180E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.551E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	6.180E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.551E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	3.087E+05	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.111E-09	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	3.087E+05	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)

R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.111E-09	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016					
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	3.087E+05	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.111E-09	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.600E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	7.000E-02	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)

R018	Meat and poultry consumption (kg/yr)	not used	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)	not used	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	4.100E+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	not used	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	not used	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	not used	-1	---	FPLANT
R018	Contamination fraction of meat	not used	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	not used	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	not used	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	not used	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	not used	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	not used	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	not used	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	not used	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	not used	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	not used	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	not used	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	not used	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN

C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area:	170.00 square meters
Thickness:	4.50 meters
Cover Depth:	1.83 meters

Initial Soil Concentrations, pCi/g

Ac-227	7.100E+00
Pa-231	7.100E+00
Pb-210	1.320E+02
Ra-226	1.320E+02
Ra-228	1.854E+02
Th-228	1.854E+02
Th-230	1.019E+02
Th-232	1.854E+02
U-234	1.019E+02
U-235	7.100E+00
U-238	1.019E+02

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	3.870E-08	3.877E-08	3.941E-08	4.641E-08	6.676E-08	9.604E-08	1.382E-07	1.988E-07	2.385E-07
M(t):	1.548E-09	1.551E-09	1.576E-09	1.856E-09	2.670E-09	3.842E-09	5.527E-09	7.953E-09	9.540E-09

0Maximum TDOSE(t): 2.385E-07 mrem/yr at t = 1.000E+03 years

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

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	5.328E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	8.813E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.320E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.812E-10	0.0124	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	5.931E-09	0.1533	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	3.203E-08	0.8279	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	8.050E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.485E-10	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.416E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.375E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.732E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.870E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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
0 Water Dependent Pathways

Radio-	Water	Fish	Radon	Plant	Meat	Milk	All Pathways*

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.328E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.813E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.320E-17	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.812E-10	0.0124
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.931E-09	0.1533
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.203E-08	0.8279
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.050E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.485E-10	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.416E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.375E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.732E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.870E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 7 Controls in Place Restricted Area

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

0

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	5.175E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.558E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.283E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.820E-10	0.0124	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.442E-08	0.3721	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	2.234E-08	0.5762	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.419E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.522E-09	0.0393	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.694E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	9.046E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.739E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.877E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.175E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.558E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.283E-17	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.820E-10	0.0124
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.442E-08	0.3721
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.234E-08	0.5762
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.419E-13	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.522E-09	0.0393
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.694E-18	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.046E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.739E-14	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.877E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	3.984E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.584E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	9.924E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.896E-10	0.0124	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.515E-08	0.3844	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	8.709E-10	0.0221	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.723E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.290E-08	0.5810	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	8.155E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.911E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.803E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.941E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.984E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.584E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.924E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.896E-10	0.0124
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.515E-08	0.3844
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.709E-10	0.0221
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.723E-12	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.290E-08	0.5810
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.155E-17	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.911E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.803E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.941E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	2.910E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.838E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	7.633E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.719E-10	0.0123	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.762E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	7.067E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.964E-11	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.582E-08	0.9872	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	8.948E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.063E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.534E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	4.641E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.910E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.838E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.633E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.719E-10	0.0123
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.762E-13	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.067E-24	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.964E-11	0.0004
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.582E-08	0.9872
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.948E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.063E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.534E-14	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.641E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 7 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109107.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

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	8.685E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.234E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.553E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.078E-10	0.0121	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.830E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	8.658E-11	0.0013	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	6.587E-08	0.9866	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.197E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	7.053E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.917E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	6.676E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.685E-20	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.234E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.553E-21	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.078E-10	0.0121
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.830E-23	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.658E-11	0.0013
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.587E-08	0.9866
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.197E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.053E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.917E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.676E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 7 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109107.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 = 5.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.592E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.136E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	8.541E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.141E-09	0.0119	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.128E-10	0.0022	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	9.469E-08	0.9859	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.968E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.134E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	9.919E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	9.604E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.592E-22	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.136E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.541E-24	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.141E-09	0.0119

Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.128E-10	0.0022
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.469E-08	0.9859
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.968E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.134E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.919E-14	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.604E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	7.735E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.698E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.857E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.612E-09	0.0117	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.396E-10	0.0032	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.361E-07	0.9851	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.457E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.283E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.666E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.382E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.735E-25	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.698E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.857E-26	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.612E-09	0.0117
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.396E-10	0.0032
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.361E-07	0.9851
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.457E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.283E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.666E-13	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.382E-07	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+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.
Ac-227	2.309E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.403E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.276E-09	0.0114	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	8.349E-10	0.0042	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.957E-07	0.9843	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.606E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.191E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.803E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.988E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.309E-27	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.403E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.276E-09	0.0114
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.349E-10	0.0042
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.957E-07	0.9843
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.606E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.191E-16	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.803E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.988E-07	1.0000

*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 7 Controls in Place Restricted Area
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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.261E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	8.425E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.705E-09	0.0113	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.128E-09	0.0047	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.347E-07	0.9839	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	5.448E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.750E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.638E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	2.385E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.261E-28	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.425E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.705E-09	0.0113
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.128E-09	0.0047
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.347E-07	0.9839
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.448E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.750E-16	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.638E-13	0.0000
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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	2.385E-07	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	7.504E-17	7.289E-17	5.611E-17	4.099E-18	1.223E-20	3.650E-23	1.089E-25	3.252E-28	1.777E-29
0Pa-231	Pa-231	1.000E+00	4.002E-20	4.016E-20	4.137E-20	5.575E-20	1.082E-19	2.099E-19	4.073E-19	7.904E-19	1.101E-18
Pa-231	Ac-227+D	1.000E+00	1.201E-18	3.562E-18	2.226E-17	9.626E-17	1.737E-16	3.007E-16	5.205E-16	9.010E-16	1.186E-15
Pa-231	äDSR(j)		1.241E-18	3.602E-18	2.231E-17	9.631E-17	1.738E-16	3.009E-16	5.209E-16	9.018E-16	1.187E-15
0Pb-210+D	Pb-210+D	1.000E+00	9.998E-20	9.717E-20	7.518E-20	5.783E-21	1.934E-23	6.471E-26	2.165E-28	7.241E-31	4.188E-32
0Ra-226+D	Ra-226+D	1.000E+00	3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.120E-12	8.644E-12	1.221E-11	1.725E-11	2.050E-11
Ra-226+D	Pb-210+D	1.000E+00	1.562E-21	4.633E-21	2.894E-20	1.219E-19	1.967E-19	3.029E-19	4.664E-19	7.183E-19	8.914E-19
Ra-226+D	äDSR(j)		3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.120E-12	8.644E-12	1.221E-11	1.725E-11	2.050E-11
0Ra-228+D	Ra-228+D	1.000E+00	1.255E-13	1.115E-13	3.851E-14	9.274E-19	5.061E-29	2.762E-39	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	3.187E-11	7.768E-11	8.167E-11	2.028E-15	9.864E-26	4.798E-36	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		3.199E-11	7.779E-11	8.170E-11	2.029E-15	9.869E-26	4.801E-36	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.728E-10	1.205E-10	4.697E-12	3.812E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	3.455E-33	3.473E-33	3.646E-33	5.915E-33	1.734E-32	5.081E-32	1.489E-31	4.364E-31	7.472E-31
Th-230	Ra-226+D	1.000E+00	7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.497E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
Th-230	Pb-210+D	1.000E+00	2.262E-25	1.573E-24	6.951E-23	3.905E-21	2.419E-20	6.795E-20	1.561E-19	3.266E-19	4.623E-19
Th-230	äDSR(j)		7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.497E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
0Th-232	Th-232	1.000E+00	8.787E-37	8.839E-37	9.329E-37	1.599E-36	5.300E-36	1.756E-35	5.820E-35	1.929E-34	3.511E-34
Th-232	Ra-228+D	1.000E+00	7.722E-15	2.203E-14	9.797E-14	1.692E-13	2.730E-13	4.403E-13	7.102E-13	1.145E-12	1.455E-12
Th-232	Th-228+D	1.000E+00	1.332E-12	8.188E-12	1.234E-10	2.470E-10	3.550E-10	5.103E-10	7.335E-10	1.054E-09	1.264E-09
Th-232	äDSR(j)		1.340E-12	8.210E-12	1.235E-10	2.471E-10	3.553E-10	5.107E-10	7.342E-10	1.056E-09	1.266E-09

0U-234	U-234	1.000E+00	8.221E-35	8.267E-35	8.693E-35	1.437E-34	4.390E-34	1.341E-33	4.098E-33	1.252E-32	2.189E-32
U-234	Th-230	1.000E+00	1.556E-38	4.692E-38	3.446E-37	5.353E-36	4.694E-35	2.293E-34	9.411E-34	3.548E-33	6.750E-33
U-234	Ra-226+D	1.000E+00	2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
U-234	Pb-210+D	1.000E+00	5.100E-31	7.616E-30	2.253E-27	1.422E-24	3.022E-23	1.488E-22	4.934E-22	1.359E-21	2.159E-21
U-234	äDSR(j)		2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
0U-235+D	U-235+D	1.000E+00	6.678E-23	6.705E-23	6.949E-23	9.937E-23	2.200E-22	4.872E-22	1.079E-21	2.388E-21	3.554E-21
U-235+D	Pa-231	1.000E+00	4.236E-25	1.275E-24	9.193E-24	1.187E-22	6.905E-22	2.238E-21	6.093E-21	1.524E-20	2.362E-20
U-235+D	Ac-227+D	1.000E+00	8.497E-24	5.908E-23	2.613E-21	1.495E-19	9.924E-19	3.003E-18	7.433E-18	1.676E-17	2.462E-17
U-235+D	äDSR(j)		7.570E-23	1.274E-22	2.691E-21	1.498E-19	9.934E-19	3.005E-18	7.440E-18	1.678E-17	2.465E-17
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.803E-16	9.710E-16	1.625E-15	2.719E-15	3.518E-15
U-238+D	U-234	9.999E-01	1.166E-40	3.516E-40	2.588E-39	4.094E-38	3.742E-37	1.905E-36	8.146E-36	3.200E-35	6.216E-35
U-238+D	Th-230	9.999E-01	1.401E-44	1.037E-43	5.133E-42	7.626E-40	2.000E-38	1.628E-37	9.357E-37	4.536E-36	9.592E-36
U-238+D	Ra-226+D	9.999E-01	1.680E-27	2.525E-26	7.956E-24	8.370E-21	3.371E-19	2.348E-18	9.705E-18	3.109E-17	5.237E-17
U-238+D	Pb-210+D	9.999E-01	2.895E-37	8.947E-36	1.707E-32	1.137E-28	7.930E-27	6.756E-26	3.206E-25	1.153E-24	2.049E-24
U-238+D	äDSR(j)		2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.806E-16	9.734E-16	1.635E-15	2.751E-15	3.571E-15

The DSR includes contributions from associated (half-life ó 180 days) daughters.

1RESRAD, Version 6.4 T« Limit = 180 days 07/25/2009 15:29 Page 24

Summary : SMC Industrial Worker Area 7 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109107.RAD

Single Radionuclide Soil Guidelines G(i,t) in pCi/g

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

0Nuclide

(i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	7.815E+11	3.214E+11	3.060E+11	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.447E+11	2.075E+11	5.322E+12	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)

and Single Radionuclide Soil Guidelines G(i,t) in pCi/g

at tmin = time of minimum single radionuclide soil guideline

and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	7.100E+00	0.000E+00	7.504E-17	*7.232E+13	1.777E-29	*7.232E+13
Pa-231	7.100E+00	1.000E+03	1.187E-15	*4.723E+10	1.187E-15	*4.723E+10
Pb-210	1.320E+02	0.000E+00	9.998E-20	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	1.320E+02	1.000E+03	2.050E-11	*9.885E+11	2.050E-11	*9.885E+11
Ra-228	1.854E+02	4.112 ñ 0.008	1.197E-10	2.088E+11	0.000E+00	*2.726E+14
Th-228	1.854E+02	0.000E+00	1.728E-10	1.447E+11	0.000E+00	*8.195E+14
Th-230	1.019E+02	1.000E+03	1.107E-11	*2.018E+10	1.107E-11	*2.018E+10
Th-232	1.854E+02	1.000E+03	1.266E-09	*1.097E+05	1.266E-09	*1.097E+05
U-234	1.019E+02	1.000E+03	5.346E-14	*6.247E+09	5.346E-14	*6.247E+09
U-235	7.100E+00	1.000E+03	2.465E-17	*2.161E+06	2.465E-17	*2.161E+06
U-238	1.019E+02	1.000E+03	3.571E-15	*3.361E+05	3.571E-15	*3.361E+05

*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	5.328E-16	5.175E-16	3.984E-16	2.910E-17	8.685E-20	2.592E-22	7.735E-25	2.309E-27	1.261E-28
Ac-227	Pa-231	1.000E+00	8.529E-18	2.529E-17	1.581E-16	6.834E-16	1.233E-15	2.135E-15	3.695E-15	6.397E-15	8.418E-15
Ac-227	U-235	1.000E+00	6.033E-23	4.195E-22	1.855E-20	1.062E-18	7.046E-18	2.132E-17	5.277E-17	1.190E-16	1.748E-16
Ac-227	äDOSE(j)		5.413E-16	5.428E-16	5.565E-16	7.136E-16	1.240E-15	2.156E-15	3.748E-15	6.516E-15	8.592E-15
0Pa-231	Pa-231	1.000E+00	2.842E-19	2.851E-19	2.937E-19	3.958E-19	7.681E-19	1.490E-18	2.892E-18	5.612E-18	7.817E-18
Pa-231	U-235	1.000E+00	3.008E-24	9.050E-24	6.527E-23	8.428E-22	4.903E-21	1.589E-20	4.326E-20	1.082E-19	1.677E-19
Pa-231	äDOSE(j)		2.842E-19	2.851E-19	2.938E-19	3.967E-19	7.730E-19	1.506E-18	2.935E-18	5.720E-18	7.985E-18
0Pb-210	Pb-210	1.000E+00	1.320E-17	1.283E-17	9.924E-18	7.633E-19	2.553E-21	8.541E-24	2.857E-26	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	2.062E-19	6.115E-19	3.821E-18	1.609E-17	2.596E-17	3.998E-17	6.157E-17	9.482E-17	1.177E-16
Pb-210	Th-230	1.000E+00	2.305E-23	1.603E-22	7.083E-21	3.979E-19	2.465E-18	6.924E-18	1.590E-17	3.328E-17	4.711E-17
Pb-210	U-234	1.000E+00	0.000E+00	7.761E-28	2.296E-25	1.449E-22	3.079E-21	1.516E-20	5.028E-20	1.385E-19	2.200E-19
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	1.158E-26	8.081E-25	6.884E-24	3.267E-23	1.175E-22	2.088E-22
Pb-210	äDOSE(j)		1.340E-17	1.344E-17	1.375E-17	1.725E-17	2.843E-17	4.692E-17	7.752E-17	1.282E-16	1.650E-16
0Ra-226	Ra-226	1.000E+00	4.812E-10	4.820E-10	4.896E-10	5.719E-10	8.078E-10	1.141E-09	1.612E-09	2.276E-09	2.705E-09
Ra-226	Th-230	1.000E+00	8.050E-14	2.419E-13	1.723E-12	1.964E-11	8.658E-11	2.128E-10	4.396E-10	8.349E-10	1.128E-09
Ra-226	U-234	1.000E+00	2.416E-19	1.694E-18	8.155E-17	8.948E-15	1.197E-13	4.968E-13	1.457E-12	3.606E-12	5.448E-12
Ra-226	U-238	9.999E-01	1.712E-25	2.573E-24	8.107E-22	8.529E-19	3.436E-17	2.393E-16	9.889E-16	3.168E-15	5.337E-15
Ra-226	äDOSE(j)		4.813E-10	4.823E-10	4.913E-10	5.915E-10	8.945E-10	1.354E-09	2.053E-09	3.115E-09	3.839E-09
0Ra-228	Ra-228	1.000E+00	2.327E-11	2.068E-11	7.140E-12	1.719E-16	9.384E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	1.432E-12	4.084E-12	1.816E-11	3.138E-11	5.061E-11	8.163E-11	1.317E-10	2.124E-10	2.697E-10
Ra-228	äDOSE(j)		2.471E-11	2.476E-11	2.530E-11	3.138E-11	5.061E-11	8.163E-11	1.317E-10	2.124E-10	2.697E-10
0Th-228	Ra-228	1.000E+00	5.908E-09	1.440E-08	1.514E-08	3.760E-13	1.829E-23	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	3.203E-08	2.234E-08	8.709E-10	7.067E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	2.470E-10	1.518E-09	2.288E-08	4.579E-08	6.582E-08	9.461E-08	1.360E-07	1.955E-07	2.344E-07
Th-228	äDOSE(j)		3.819E-08	3.826E-08	3.889E-08	4.579E-08	6.582E-08	9.461E-08	1.360E-07	1.955E-07	2.344E-07
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	4.741E-22	4.760E-22	4.934E-22	7.055E-22	1.562E-21	3.459E-21	7.659E-21	1.696E-20	2.523E-20
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	2.732E-14	2.739E-14	2.803E-14	3.534E-14	5.913E-14	9.895E-14	1.656E-13	2.771E-13	3.585E-13
U-238	äDOSE(j)		2.732E-14	2.739E-14	2.803E-14	3.534E-14	5.913E-14	9.895E-14	1.656E-13	2.771E-13	3.585E-13

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

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03

ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ
Ac-227	Ac-227	1.000E+00	7.100E+00	6.877E+00	5.164E+00	2.940E-01	5.043E-04	8.649E-07	1.483E-09	2.544E-12	1.054E-13
Ac-227	Pa-231	1.000E+00	0.000E+00	2.225E-01	1.936E+00	6.792E+00	7.048E+00	7.012E+00	6.975E+00	6.938E+00	6.920E+00
Ac-227	U-235	1.000E+00	0.000E+00	2.366E-06	2.156E-04	1.049E-02	4.020E-02	6.995E-02	9.954E-02	1.290E-01	1.436E-01
Ac-227	äS(j):		7.100E+00	7.100E+00	7.100E+00	7.096E+00	7.089E+00	7.082E+00	7.075E+00	7.067E+00	7.064E+00
0Pa-231	Pa-231	1.000E+00	7.100E+00	7.100E+00	7.098E+00	7.081E+00	7.044E+00	7.007E+00	6.971E+00	6.934E+00	6.916E+00
Pa-231	U-235	1.000E+00	0.000E+00	1.502E-04	1.502E-03	1.500E-02	4.489E-02	7.462E-02	1.042E-01	1.336E-01	1.483E-01
Pa-231	äS(j):		7.100E+00	7.100E+00	7.100E+00	7.096E+00	7.089E+00	7.082E+00	7.075E+00	7.068E+00	7.064E+00
0Pb-210	Pb-210	1.000E+00	1.320E+02	1.280E+02	9.672E+01	5.891E+00	1.174E-02	2.338E-05	4.656E-08	9.275E-11	4.140E-12
Pb-210	Ra-226	1.000E+00	0.000E+00	4.039E+00	3.518E+01	1.222E+02	1.175E+02	1.078E+02	9.881E+01	9.061E+01	8.677E+01
Pb-210	Th-230	1.000E+00	0.000E+00	6.789E-04	6.192E-02	3.004E+00	1.114E+01	1.864E+01	2.550E+01	3.178E+01	3.472E+01
Pb-210	U-234	1.000E+00	0.000E+00	2.043E-09	1.906E-06	1.088E-03	1.388E-02	4.077E-02	8.057E-02	1.322E-01	1.621E-01
Pb-210	U-238	9.999E-01	0.000E+00	1.450E-15	1.372E-11	8.646E-08	3.637E-06	1.849E-05	5.231E-05	1.121E-04	1.537E-04
Pb-210	äS(j):		1.320E+02	1.320E+02	1.320E+02	1.311E+02	1.287E+02	1.264E+02	1.244E+02	1.225E+02	1.216E+02
0Ra-226	Ra-226	1.000E+00	1.320E+02	1.319E+02	1.314E+02	1.264E+02	1.159E+02	1.063E+02	9.747E+01	8.938E+01	8.559E+01
Ra-226	Th-230	1.000E+00	0.000E+00	4.414E-02	4.405E-01	4.318E+00	1.240E+01	1.980E+01	2.657E+01	3.276E+01	3.565E+01
Ra-226	U-234	1.000E+00	0.000E+00	1.987E-07	1.984E-05	1.958E-03	1.711E-02	4.618E-02	8.797E-02	1.414E-01	1.721E-01
Ra-226	U-238	9.999E-01	0.000E+00	1.877E-13	1.875E-10	1.857E-07	4.904E-06	2.222E-05	5.967E-05	1.242E-04	1.685E-04
Ra-226	äS(j):		1.320E+02	1.320E+02	1.319E+02	1.307E+02	1.283E+02	1.261E+02	1.241E+02	1.223E+02	1.214E+02
0Ra-228	Ra-228	1.000E+00	1.854E+02	1.643E+02	5.554E+01	1.078E-03	3.649E-14	1.235E-24	4.178E-35	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	0.000E+00	2.105E+01	1.299E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02
Ra-228	äS(j):		1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02
0Th-228	Ra-228	1.000E+00	0.000E+00	5.289E+01	7.581E+01	1.616E-03	5.468E-14	1.850E-24	6.261E-35	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	1.854E+02	1.290E+02	4.950E+00	3.411E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	3.457E+00	1.046E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02
Th-228	äS(j):		1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02
0Th-230	Th-230	1.000E+00	1.019E+02	1.019E+02	1.019E+02	1.018E+02	1.016E+02	1.014E+02	1.013E+02	1.011E+02	1.010E+02
Th-230	U-234	1.000E+00	0.000E+00	9.173E-04	9.172E-03	9.167E-02	2.747E-01	4.573E-01	6.394E-01	8.212E-01	9.119E-01
Th-230	U-238	9.999E-01	0.000E+00	1.300E-09	1.300E-07	1.300E-05	1.169E-04	3.244E-04	6.353E-04	1.049E-03	1.295E-03
Th-230	äS(j):		1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02
0Th-232	Th-232	1.000E+00	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02
0U-234	U-234	1.000E+00	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.018E+02	1.018E+02	1.017E+02	1.016E+02	1.016E+02
U-234	U-238	9.999E-01	0.000E+00	2.889E-04	2.889E-03	2.888E-02	8.662E-02	1.443E-01	2.020E-01	2.596E-01	2.885E-01
U-234	äS(j):		1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02
0U-235	U-235	1.000E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00
0U-238	U-238	5.400E-05	5.503E-03	5.503E-03	5.503E-03	5.503E-03	5.503E-03	5.503E-03	5.503E-03	5.503E-03	5.503E-03
U-238	U-238	9.999E-01	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02
U-238	äS(j):		1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ

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

0RESCALC.EXE execution time = 68.03 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)

A-1	Pb-212	(Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214	(Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210	(Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211	(Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214	(Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215	(Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216	(Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218	(Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223	(Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224	(Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226	(Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219	(Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220	(Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222	(Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227	(Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228	(Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230	(Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231	(Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232	(Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234	(Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207	(Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208	(Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210	(Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234	(Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235	(Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238	(Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:				
B-1	Ac-227+D		6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231		1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D		2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D		8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D		5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D		3.454E-01	3.420E-01	DCF2(6)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-238	1.180E-01	1.180E-01	DCF2(11)

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

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

Dose Library: FGR 11

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

D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	3.400E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	1.840E+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)	1.000E+01	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)	5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)	1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Ac-227	1.010E+01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Pa-231	1.010E+01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Pb-210	1.851E+02	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g): Ra-226	1.851E+02	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g): Ra-228	8.365E+02	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g): Th-228	8.365E+02	0.000E+00	---	S1(6)

R012	Initial principal radionuclide (pCi/g):	Th-230	1.444E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	8.365E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	1.444E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	1.010E+01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	1.444E+02	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)

R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	3.028E+04	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.288E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	2.807E+05	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.002E-08	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	2.483E+05	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.133E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	2.483E+05	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.133E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	2.483E+05	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.133E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Summary : SMC Industrial Worker Area 6 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109106.RAD

Site-Specific Parameter Summary (continued)

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

R016	Distribution coefficients for U-234			
R016	Contaminated zone (cm**3/g)	4.669E+05	5.000E+01	--- DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.023E-09 ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used SOLUBK(9)
R016	Distribution coefficients for U-235			
R016	Contaminated zone (cm**3/g)	4.669E+05	5.000E+01	--- DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(10,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.023E-09 ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used SOLUBK(10)
R016	Distribution coefficients for U-238			
R016	Contaminated zone (cm**3/g)	4.669E+05	5.000E+01	--- DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.023E-09 ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	--- INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	--- MLINH
R017	Exposure duration	3.000E+01	3.000E+01	--- ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	--- SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	--- SHF1
R017	Fraction of time spent indoors	1.600E-01	5.000E-01	--- FIND
R017	Fraction of time spent outdoors (on site)	7.000E-02	2.500E-01	--- FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA. FS
R017	Radii of shape factor array (used if FS = -1):			
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	--- RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	--- RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	--- RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	--- RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	--- RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	--- RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	--- RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	--- RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	--- RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	--- RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	--- RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	--- RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	not used	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)	not used	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	4.100E+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	not used	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	not used	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	not used	-1	---	FPLANT
R018	Contamination fraction of meat	not used	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	not used	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	not used	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	not used	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	not used	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	not used	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	not used	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	not used	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)

R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	not used	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	not used	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	not used	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	not used	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area: 340.00 square meters

Initial Soil Concentrations, pCi/g

Ac-227	1.010E+01

Thickness:	4.50 meters	Pa-231	1.010E+01
Cover Depth:	1.83 meters	Pb-210	1.851E+02
		Ra-226	1.851E+02
		Ra-228	8.365E+02
		Th-228	8.365E+02
		Th-230	1.444E+02
		Th-232	8.365E+02
		U-234	1.444E+02
		U-235	1.010E+01
		U-238	1.444E+02

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	1.731E-07	1.734E-07	1.763E-07	2.076E-07	2.984E-07	4.291E-07	6.171E-07	8.874E-07	1.064E-06
M(t):	6.924E-09	6.936E-09	7.051E-09	8.302E-09	1.194E-08	1.717E-08	2.468E-08	3.550E-08	4.257E-08

0Maximum TDOSE(t): 1.064E-06 mrem/yr at t = 1.000E+03 years

Summary : SMC Industrial Worker Area 6 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109106.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
0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	7.579E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.254E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.851E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.748E-10	0.0039	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.676E-08	0.1546	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.445E-07	0.8350	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.141E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.121E-09	0.0065	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.424E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	7.646E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.872E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.731E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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
0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.579E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.254E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.851E-17	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.748E-10	0.0039
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.676E-08	0.1546
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.445E-07	0.8350
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.141E-13	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.121E-09	0.0065
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.424E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.646E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.872E-14	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.731E-07	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 6 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109106.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
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Ac-227	7.362E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.638E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.799E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.759E-10	0.0039	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	6.507E-08	0.3753	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.008E-07	0.5812	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.428E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	6.867E-09	0.0396	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.401E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.287E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.882E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.734E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.362E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.638E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.799E-17	0.0000

Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.759E-10	0.0039
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.507E-08	0.3753
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.008E-07	0.5812
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.428E-13	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.867E-09	0.0396
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.401E-18	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.287E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.882E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.734E-07	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 6 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109106.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

0 Water Independent Pathways (Inhalation excludes radon)

0 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.
Ac-227	5.667E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.253E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.392E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.865E-10	0.0039	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	6.835E-08	0.3877	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	3.929E-09	0.0223	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.442E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.033E-07	0.5861	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.156E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.718E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.973E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.763E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.667E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.253E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.392E-17	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.865E-10	0.0039
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.835E-08	0.3877
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.929E-09	0.0223
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.442E-12	0.0000

Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.033E-07	0.5861
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.156E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.718E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.973E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.763E-07	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 6 Controls in Place Restricted Area

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	4.140E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	9.728E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.070E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.019E-10	0.0039	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.697E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	3.188E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.783E-11	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.067E-07	0.9960	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.268E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.513E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.008E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.076E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.140E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.728E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.070E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.019E-10	0.0039
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.697E-12	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.188E-23	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.783E-11	0.0001
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.067E-07	0.9960
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.268E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.513E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.008E-14	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.076E-07	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 6 Controls in Place Restricted Area

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.235E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.755E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.580E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.133E-09	0.0038	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	8.256E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.227E-10	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.972E-07	0.9958	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.696E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.003E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	8.384E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.984E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+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-19	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.755E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.580E-21	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.133E-09	0.0038
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.256E-23	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.227E-10	0.0004
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.972E-07	0.9958
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.696E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.003E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.384E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.984E-07	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	3.687E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.039E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.198E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.600E-09	0.0037	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.015E-10	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.272E-07	0.9956	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	7.040E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.035E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.406E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.291E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years
Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.687E-22	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.039E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.198E-23	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.600E-09	0.0037
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.015E-10	0.0007
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.272E-07	0.9956
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.040E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.035E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.406E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.291E-07	1.0000

*Sum of all water independent and dependent pathways.

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

As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	1.100E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.261E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	4.007E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.260E-09	0.0037	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	6.230E-10	0.0010	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	6.142E-07	0.9953	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.064E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	7.515E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.360E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	6.171E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.100E-24	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.261E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.007E-26	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.260E-09	0.0037
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.230E-10	0.0010
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.142E-07	0.9953
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.064E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.515E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.360E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.171E-07	1.0000

*Sum of all water independent and dependent pathways.

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

As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground	Inhalation	Radon	Plant	Meat	Milk	Soil

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	3.284E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	9.108E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.192E-09	0.0036	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.183E-09	0.0013	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	8.830E-07	0.9951	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	5.109E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.694E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.972E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	8.874E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.284E-27	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.108E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.192E-09	0.0036
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.183E-09	0.0013
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.830E-07	0.9951
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.109E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.694E-16	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.972E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.874E-07	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.794E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.199E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.794E-09	0.0036	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.598E-09	0.0015	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.059E-06	0.9949	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	7.720E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.489E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.156E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.064E-06	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.794E-28	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.199E-14	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.794E-09	0.0036
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.598E-09	0.0015
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.059E-06	0.9949
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.720E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.489E-16	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.156E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.064E-06	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	7.504E-17	7.289E-17	5.611E-17	4.099E-18	1.223E-20	3.650E-23	1.089E-25	3.252E-28	1.777E-29
0Pa-231	Pa-231	1.000E+00	4.002E-20	4.016E-20	4.137E-20	5.575E-20	1.082E-19	2.099E-19	4.073E-19	7.904E-19	1.101E-18
Pa-231	Ac-227+D	1.000E+00	1.201E-18	3.562E-18	2.226E-17	9.626E-17	1.737E-16	3.007E-16	5.205E-16	9.010E-16	1.186E-15
Pa-231	äDSR(j)		1.241E-18	3.602E-18	2.231E-17	9.631E-17	1.738E-16	3.009E-16	5.209E-16	9.018E-16	1.187E-15
0Pb-210+D	Pb-210+D	1.000E+00	9.998E-20	9.717E-20	7.518E-20	5.783E-21	1.934E-23	6.471E-26	2.165E-28	7.241E-31	4.188E-32
0Ra-226+D	Ra-226+D	1.000E+00	3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.119E-12	8.644E-12	1.221E-11	1.724E-11	2.049E-11
Ra-226+D	Pb-210+D	1.000E+00	1.562E-21	4.633E-21	2.894E-20	1.219E-19	1.967E-19	3.029E-19	4.664E-19	7.182E-19	8.913E-19
Ra-226+D	äDSR(j)		3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.119E-12	8.644E-12	1.221E-11	1.724E-11	2.049E-11

0Ra-228+D	Ra-228+D	1.000E+00	1.255E-13	1.115E-13	3.851E-14	9.274E-19	5.062E-29	2.763E-39	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	3.187E-11	7.768E-11	8.167E-11	2.028E-15	9.865E-26	4.798E-36	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	ädSR(j)		3.199E-11	7.779E-11	8.170E-11	2.029E-15	9.870E-26	4.801E-36	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.728E-10	1.205E-10	4.697E-12	3.812E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	3.455E-33	3.473E-33	3.646E-33	5.915E-33	1.734E-32	5.081E-32	1.489E-31	4.365E-31	7.472E-31
Th-230	Ra-226+D	1.000E+00	7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.497E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
Th-230	Pb-210+D	1.000E+00	2.262E-25	1.573E-24	6.951E-23	3.905E-21	2.419E-20	6.794E-20	1.561E-19	3.266E-19	4.623E-19
Th-230	ädSR(j)		7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.497E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
0Th-232	Th-232	1.000E+00	8.787E-37	8.839E-37	9.329E-37	1.599E-36	5.300E-36	1.756E-35	5.820E-35	1.929E-34	3.511E-34
Th-232	Ra-228+D	1.000E+00	7.722E-15	2.203E-14	9.797E-14	1.692E-13	2.730E-13	4.403E-13	7.102E-13	1.146E-12	1.455E-12
Th-232	Th-228+D	1.000E+00	1.332E-12	8.188E-12	1.234E-10	2.470E-10	3.550E-10	5.103E-10	7.335E-10	1.054E-09	1.264E-09
Th-232	ädSR(j)		1.340E-12	8.210E-12	1.235E-10	2.471E-10	3.553E-10	5.107E-10	7.343E-10	1.056E-09	1.266E-09
0U-234	U-234	1.000E+00	8.221E-35	8.267E-35	8.693E-35	1.437E-34	4.390E-34	1.341E-33	4.098E-33	1.252E-32	2.189E-32
U-234	Th-230	1.000E+00	1.556E-38	4.692E-38	3.446E-37	5.353E-36	4.694E-35	2.293E-34	9.411E-34	3.548E-33	6.751E-33
U-234	Ra-226+D	1.000E+00	2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
U-234	Pb-210+D	1.000E+00	5.100E-31	7.616E-30	2.253E-27	1.422E-24	3.022E-23	1.488E-22	4.934E-22	1.359E-21	2.159E-21
U-234	ädSR(j)		2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
0U-235+D	U-235+D	1.000E+00	6.678E-23	6.705E-23	6.949E-23	9.937E-23	2.200E-22	4.872E-22	1.079E-21	2.388E-21	3.554E-21
U-235+D	Pa-231	1.000E+00	4.236E-25	1.275E-24	9.193E-24	1.187E-22	6.905E-22	2.238E-21	6.093E-21	1.524E-20	2.362E-20
U-235+D	Ac-227+D	1.000E+00	8.497E-24	5.908E-23	2.613E-21	1.495E-19	9.924E-19	3.003E-18	7.433E-18	1.676E-17	2.462E-17
U-235+D	ädSR(j)		7.570E-23	1.274E-22	2.691E-21	1.498E-19	9.934E-19	3.005E-18	7.440E-18	1.678E-17	2.465E-17
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.803E-16	9.710E-16	1.625E-15	2.719E-15	3.518E-15
U-238+D	U-234	9.999E-01	1.166E-40	3.516E-40	2.588E-39	4.094E-38	3.742E-37	1.905E-36	8.146E-36	3.200E-35	6.216E-35
U-238+D	Th-230	9.999E-01	1.401E-44	1.037E-43	5.133E-42	7.626E-40	2.000E-38	1.628E-37	9.357E-37	4.537E-36	9.592E-36
U-238+D	Ra-226+D	9.999E-01	1.680E-27	2.525E-26	7.956E-24	8.370E-21	3.371E-19	2.348E-18	9.705E-18	3.109E-17	5.237E-17
U-238+D	Pb-210+D	9.999E-01	2.895E-37	8.947E-36	1.707E-32	1.137E-28	7.930E-27	6.756E-26	3.206E-25	1.153E-24	2.049E-24
U-238+D	ädSR(j)		2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.806E-16	9.734E-16	1.635E-15	2.751E-15	3.571E-15

The DSR includes contributions from associated (half-life ó 180 days) daughters.

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	7.815E+11	3.214E+11	3.060E+11	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.447E+11	2.075E+11	5.322E+12	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	1.010E+01	0.000E+00	7.504E-17	*7.232E+13	1.777E-29	*7.232E+13
Pa-231	1.010E+01	1.000E+03	1.187E-15	*4.723E+10	1.187E-15	*4.723E+10
Pb-210	1.851E+02	0.000E+00	9.998E-20	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	1.851E+02	1.000E+03	2.049E-11	*9.885E+11	2.049E-11	*9.885E+11
Ra-228	8.365E+02	4.112 ñ 0.008	1.197E-10	2.088E+11	0.000E+00	*2.726E+14
Th-228	8.365E+02	0.000E+00	1.728E-10	1.447E+11	0.000E+00	*8.195E+14
Th-230	1.444E+02	1.000E+03	1.107E-11	*2.018E+10	1.107E-11	*2.018E+10
Th-232	8.365E+02	1.000E+03	1.266E-09	*1.097E+05	1.266E-09	*1.097E+05
U-234	1.444E+02	1.000E+03	5.346E-14	*6.247E+09	5.346E-14	*6.247E+09
U-235	1.010E+01	1.000E+03	2.465E-17	*2.161E+06	2.465E-17	*2.161E+06
U-238	1.444E+02	1.000E+03	3.571E-15	*3.361E+05	3.571E-15	*3.361E+05

*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	7.579E-16	7.362E-16	5.667E-16	4.140E-17	1.235E-19	3.687E-22	1.100E-24	3.284E-27	1.794E-28
Ac-227	Pa-231	1.000E+00	1.213E-17	3.598E-17	2.249E-16	9.722E-16	1.754E-15	3.037E-15	5.257E-15	9.100E-15	1.197E-14
Ac-227	U-235	1.000E+00	8.582E-23	5.967E-22	2.639E-20	1.510E-18	1.002E-17	3.033E-17	7.507E-17	1.693E-16	2.487E-16
Ac-227	äDOSE(j)		7.700E-16	7.721E-16	7.916E-16	1.015E-15	1.764E-15	3.067E-15	5.332E-15	9.270E-15	1.222E-14
0Pa-231	Pa-231	1.000E+00	4.042E-19	4.056E-19	4.178E-19	5.631E-19	1.093E-18	2.120E-18	4.114E-18	7.983E-18	1.112E-17
Pa-231	U-235	1.000E+00	4.279E-24	1.287E-23	9.285E-23	1.199E-21	6.974E-21	2.260E-20	6.154E-20	1.539E-19	2.385E-19
Pa-231	äDOSE(j)		4.042E-19	4.056E-19	4.179E-19	5.643E-19	1.100E-18	2.143E-18	4.176E-18	8.137E-18	1.136E-17
0Pb-210	Pb-210	1.000E+00	1.851E-17	1.799E-17	1.392E-17	1.070E-18	3.580E-21	1.198E-23	4.007E-26	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	2.892E-19	8.575E-19	5.358E-18	2.256E-17	3.640E-17	5.606E-17	8.633E-17	1.329E-16	1.650E-16
Pb-210	Th-230	1.000E+00	3.267E-23	2.272E-22	1.004E-20	5.639E-19	3.494E-18	9.811E-18	2.254E-17	4.716E-17	6.675E-17
Pb-210	U-234	1.000E+00	0.000E+00	1.100E-27	3.253E-25	2.053E-22	4.363E-21	2.149E-20	7.125E-20	1.962E-19	3.118E-19
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	1.641E-26	1.145E-24	9.756E-24	4.630E-23	1.665E-22	2.959E-22
Pb-210	äDOSE(j)		1.880E-17	1.884E-17	1.928E-17	2.419E-17	3.990E-17	6.589E-17	1.089E-16	1.803E-16	2.320E-16
0Ra-226	Ra-226	1.000E+00	6.748E-10	6.759E-10	6.865E-10	8.019E-10	1.133E-09	1.600E-09	2.260E-09	3.192E-09	3.794E-09
Ra-226	Th-230	1.000E+00	1.141E-13	3.428E-13	2.442E-12	2.783E-11	1.227E-10	3.015E-10	6.230E-10	1.183E-09	1.598E-09
Ra-226	U-234	1.000E+00	3.424E-19	2.401E-18	1.156E-16	1.268E-14	1.696E-13	7.040E-13	2.064E-12	5.109E-12	7.720E-12
Ra-226	U-238	9.999E-01	2.427E-25	3.646E-24	1.149E-21	1.209E-18	4.868E-17	3.390E-16	1.401E-15	4.490E-15	7.562E-15

Ra-226	äDOSE(j)		6.749E-10	6.763E-10	6.890E-10	8.298E-10	1.256E-09	1.902E-09	2.885E-09	4.380E-09	5.399E-09
0Ra-228	Ra-228	1.000E+00	1.050E-10	9.331E-11	3.222E-11	7.758E-16	4.234E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	6.459E-12	1.843E-11	8.195E-11	1.416E-10	2.283E-10	3.683E-10	5.941E-10	9.582E-10	1.217E-09
Ra-228	äDOSE(j)		1.115E-10	1.117E-10	1.142E-10	1.416E-10	2.283E-10	3.683E-10	5.941E-10	9.582E-10	1.217E-09
0Th-228	Ra-228	1.000E+00	2.666E-08	6.498E-08	6.831E-08	1.697E-12	8.252E-23	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	1.445E-07	1.008E-07	3.929E-09	3.188E-23	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	1.115E-09	6.849E-09	1.032E-07	2.066E-07	2.970E-07	4.269E-07	6.136E-07	8.821E-07	1.058E-06
Th-228	äDOSE(j)		1.723E-07	1.726E-07	1.755E-07	2.066E-07	2.970E-07	4.269E-07	6.136E-07	8.821E-07	1.058E-06
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	6.745E-22	6.772E-22	7.018E-22	1.004E-21	2.222E-21	4.920E-21	1.089E-20	2.412E-20	3.589E-20
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	3.872E-14	3.882E-14	3.973E-14	5.008E-14	8.379E-14	1.402E-13	2.346E-13	3.927E-13	5.080E-13
U-238	äDOSE(j)		3.872E-14	3.882E-14	3.973E-14	5.008E-14	8.379E-14	1.402E-13	2.346E-13	3.927E-13	5.080E-13
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THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
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Ac-227	Ac-227	1.000E+00	1.010E+01	9.783E+00	7.346E+00	4.183E-01	7.174E-04	1.230E-06	2.110E-09	3.619E-12	1.499E-13
Ac-227	Pa-231	1.000E+00	0.000E+00	3.165E-01	2.753E+00	9.661E+00	1.003E+01	9.974E+00	9.922E+00	9.870E+00	9.844E+00
Ac-227	U-235	1.000E+00	0.000E+00	3.366E-06	3.067E-04	1.492E-02	5.718E-02	9.950E-02	1.416E-01	1.835E-01	2.043E-01
Ac-227	äS(j):		1.010E+01	1.010E+01	1.010E+01	1.009E+01	1.008E+01	1.007E+01	1.006E+01	1.005E+01	1.005E+01
0Pa-231	Pa-231	1.000E+00	1.010E+01	1.010E+01	1.010E+01	1.007E+01	1.002E+01	9.968E+00	9.916E+00	9.864E+00	9.838E+00
Pa-231	U-235	1.000E+00	0.000E+00	2.137E-04	2.137E-03	2.134E-02	6.386E-02	1.062E-01	1.482E-01	1.901E-01	2.109E-01
Pa-231	äS(j):		1.010E+01	1.010E+01	1.010E+01	1.009E+01	1.008E+01	1.007E+01	1.006E+01	1.005E+01	1.005E+01
0Pb-210	Pb-210	1.000E+00	1.851E+02	1.794E+02	1.356E+02	8.261E+00	1.646E-02	3.278E-05	6.529E-08	1.301E-10	5.805E-12
Pb-210	Ra-226	1.000E+00	0.000E+00	5.664E+00	4.934E+01	1.713E+02	1.648E+02	1.511E+02	1.386E+02	1.271E+02	1.217E+02
Pb-210	Th-230	1.000E+00	0.000E+00	9.621E-04	8.775E-02	4.256E+00	1.578E+01	2.641E+01	3.614E+01	4.504E+01	4.920E+01
Pb-210	U-234	1.000E+00	0.000E+00	2.894E-09	2.701E-06	1.541E-03	1.967E-02	5.778E-02	1.142E-01	1.873E-01	2.296E-01
Pb-210	U-238	9.999E-01	0.000E+00	2.054E-15	1.944E-11	1.225E-07	5.154E-06	2.621E-05	7.412E-05	1.588E-04	2.178E-04
Pb-210	äS(j):		1.851E+02	1.851E+02	1.851E+02	1.838E+02	1.806E+02	1.776E+02	1.748E+02	1.723E+02	1.711E+02
0Ra-226	Ra-226	1.000E+00	1.851E+02	1.850E+02	1.843E+02	1.773E+02	1.625E+02	1.490E+02	1.367E+02	1.253E+02	1.200E+02
Ra-226	Th-230	1.000E+00	0.000E+00	6.254E-02	6.242E-01	6.119E+00	1.757E+01	2.806E+01	3.765E+01	4.642E+01	5.052E+01
Ra-226	U-234	1.000E+00	0.000E+00	2.815E-07	2.811E-05	2.774E-03	2.425E-02	6.544E-02	1.247E-01	2.004E-01	2.439E-01
Ra-226	U-238	9.999E-01	0.000E+00	2.660E-13	2.658E-10	2.631E-07	6.950E-06	3.148E-05	8.456E-05	1.760E-04	2.388E-04
Ra-226	äS(j):		1.851E+02	1.851E+02	1.849E+02	1.834E+02	1.801E+02	1.772E+02	1.744E+02	1.719E+02	1.708E+02
0Ra-228	Ra-228	1.000E+00	8.365E+02	7.415E+02	2.506E+02	4.866E-03	1.646E-13	5.571E-24	1.885E-34	0.000E+00	0.000E+00

Ra-228	Th-232	1.000E+00	0.000E+00	9.500E+01	5.859E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02
Ra-228	äS(j):		8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02
0Th-228	Ra-228	1.000E+00	0.000E+00	2.386E+02	3.420E+02	7.292E-03	2.467E-13	8.349E-24	2.825E-34	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	8.365E+02	5.823E+02	2.233E+01	1.539E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	1.560E+01	4.721E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02
Th-228	äS(j):		8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02
0Th-230	Th-230	1.000E+00	1.444E+02	1.444E+02	1.444E+02	1.443E+02	1.440E+02	1.438E+02	1.435E+02	1.432E+02	1.431E+02
Th-230	U-234	1.000E+00	0.000E+00	1.300E-03	1.300E-02	1.299E-01	3.893E-01	6.480E-01	9.061E-01	1.164E+00	1.292E+00
Th-230	U-238	9.999E-01	0.000E+00	1.842E-09	1.842E-07	1.842E-05	1.656E-04	4.597E-04	9.003E-04	1.487E-03	1.835E-03
Th-230	äS(j):		1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02
0Th-232	Th-232	1.000E+00	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02
0U-234	U-234	1.000E+00	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.443E+02	1.442E+02	1.441E+02	1.440E+02	1.440E+02
U-234	U-238	9.999E-01	0.000E+00	4.093E-04	4.093E-03	4.093E-02	1.228E-01	2.045E-01	2.863E-01	3.679E-01	4.088E-01
U-234	äS(j):		1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02
0U-235	U-235	1.000E+00	1.010E+01	1.010E+01	1.010E+01	1.010E+01	1.010E+01	1.010E+01	1.010E+01	1.010E+01	1.010E+01
0U-238	U-238	5.400E-05	7.798E-03	7.798E-03	7.798E-03	7.798E-03	7.798E-03	7.798E-03	7.798E-03	7.798E-03	7.798E-03
U-238	U-238	9.999E-01	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02
U-238	äS(j):		1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02
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THF(i) is the thread fraction of the parent nuclide.

0RESCALC.EXE execution time = 68.02 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)

A-1	Pb-212	(Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214	(Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210	(Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211	(Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214	(Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215	(Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216	(Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218	(Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223	(Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224	(Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226	(Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219	(Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220	(Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222	(Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227	(Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228	(Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230	(Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231	(Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232	(Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234	(Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207	(Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208	(Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210	(Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234	(Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235	(Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238	(Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:				
B-1	Ac-227+D		6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231		1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D		2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D		8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D		5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D		3.454E-01	3.420E-01	DCF2(6)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-238	1.180E-01	1.180E-01	DCF2(11)

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

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

Dose Library: FGR 11

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

D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	8.500E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	2.920E+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)	1.000E+01	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)	5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)	1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Ac-227	7.000E-01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Pa-231	7.000E-01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Pb-210	2.360E+01	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g): Ra-226	2.360E+01	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g): Ra-228	2.700E+01	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g): Th-228	2.700E+01	0.000E+00	---	S1(6)

R012	Initial principal radionuclide (pCi/g):	Th-230	1.050E+01	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	2.700E+01	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	1.050E+01	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	7.000E-01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	1.050E+01	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)

R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016					
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	1.646E+05	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.709E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016					
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.093E+04	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.574E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016					
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	1.912E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.471E-07	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016					
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	1.912E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.471E-07	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016					
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	1.912E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.471E-07	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

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

R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.600E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	7.000E-02	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	not used	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)	not used	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	4.100E+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	not used	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	not used	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	not used	-1	---	FPLANT
R018	Contamination fraction of meat	not used	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	not used	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	not used	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	not used	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	not used	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	not used	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	not used	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	not used	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)

R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	not used	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	not used	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	not used	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	not used	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area: 850.00 square meters

Initial Soil Concentrations, pCi/g

Ac-227	7.000E-01

Thickness:	4.50 meters	Pa-231	7.000E-01
Cover Depth:	1.83 meters	Pb-210	2.360E+01
		Ra-226	2.360E+01
		Ra-228	2.700E+01
		Th-228	2.700E+01
		Th-230	1.050E+01
		Th-232	2.700E+01
		U-234	1.050E+01
		U-235	7.000E-01
		U-238	1.050E+01

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	5.651E-09	5.661E-09	5.755E-09	6.777E-09	9.745E-09	1.402E-08	2.016E-08	2.899E-08	3.477E-08
M(t):	2.260E-10	2.265E-10	2.302E-10	2.711E-10	3.898E-10	5.606E-10	8.063E-10	1.160E-09	1.391E-09

0Maximum TDOSE(t): 3.477E-08 mrem/yr at t = 1.000E+03 years

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

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	5.253E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	8.689E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.360E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.603E-11	0.0152	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	8.638E-10	0.1528	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	4.665E-09	0.8255	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	8.295E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.618E-11	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.489E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.299E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.815E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.651E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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
0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.253E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.689E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.360E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.603E-11	0.0152
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.638E-10	0.1528
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.665E-09	0.8255
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.295E-15	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.618E-11	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.489E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.299E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.815E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.651E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	5.102E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.522E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.293E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.618E-11	0.0152	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.100E-09	0.3710	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	3.253E-09	0.5746	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.493E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.217E-10	0.0392	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.746E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	8.918E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.823E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.661E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.102E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.522E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.293E-18	0.0000

Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.618E-11	0.0152
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.100E-09	0.3710
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.253E-09	0.5746
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.493E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.217E-10	0.0392
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.746E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.918E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.823E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.661E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 5 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109105.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

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio- Nuclide	Ground mrem/yr	fract.	Inhalation mrem/yr	fract.	Radon mrem/yr	fract.	Plant mrem/yr	fract.	Meat mrem/yr	fract.	Milk mrem/yr	fract.	Soil mrem/yr	fract.
Ac-227	3.928E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.561E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.774E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.753E-11	0.0152	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.206E-09	0.3833	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.268E-10	0.0220	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.775E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.334E-09	0.5794	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	8.404E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.884E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.889E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.755E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio- Nuclide	Water mrem/yr	fract.	Fish mrem/yr	fract.	Radon mrem/yr	fract.	Plant mrem/yr	fract.	Meat mrem/yr	fract.	Milk mrem/yr	fract.	All Pathways* mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.928E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.561E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.774E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.753E-11	0.0152
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.206E-09	0.3833
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.268E-10	0.0220
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.775E-13	0.0000

Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.334E-09	0.5794
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.404E-18	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.884E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.889E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.755E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 5 Controls in Place Restricted Area

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.869E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.742E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.365E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.022E-10	0.0151	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	5.478E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.029E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.023E-12	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	6.672E-09	0.9846	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	9.220E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.048E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.642E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	6.777E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+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-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.742E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.365E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.022E-10	0.0151
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.478E-14	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.029E-24	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.023E-12	0.0003
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.672E-09	0.9846
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.220E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.048E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.642E-15	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.777E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	8.562E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.217E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	4.565E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.444E-10	0.0148	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.665E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	8.921E-12	0.0009	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	9.592E-09	0.9843	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.233E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	6.953E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.096E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	9.745E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.562E-21	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.217E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.565E-22	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.444E-10	0.0148
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.665E-24	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.921E-12	0.0009
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.592E-09	0.9843
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.233E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.953E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.096E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.745E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	2.555E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.106E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.527E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.040E-10	0.0146	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.192E-11	0.0016	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.379E-08	0.9839	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	5.119E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.104E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.022E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.402E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years
Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.555E-23	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.106E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.527E-24	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.040E-10	0.0146
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.192E-11	0.0016
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.379E-08	0.9839
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.119E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.104E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.022E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.402E-08	1.0000

*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 5 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109105.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 = 7.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	7.626E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.646E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	5.108E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.881E-10	0.0143	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.530E-11	0.0022	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.982E-08	0.9834	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.501E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.208E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.716E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.016E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.626E-26	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.646E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.108E-27	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.881E-10	0.0143
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.530E-11	0.0022
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.982E-08	0.9834
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.501E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.208E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.716E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.016E-08	1.0000

0*Sum of all water independent and dependent pathways.

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

As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground	Inhalation	Radon	Plant	Meat	Milk	Soil

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.276E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.313E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.070E-10	0.0140	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	8.602E-11	0.0030	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.850E-08	0.9830	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.715E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.174E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.888E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.899E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.276E-28	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.313E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.070E-10	0.0140
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.602E-11	0.0030
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.850E-08	0.9830
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.715E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.174E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.888E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.899E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 5 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109105.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

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.244E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	8.307E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Ra-226	4.837E-10	0.0139	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Th-230	1.162E-10	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Th-232	3.417E-08	0.9827	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
U-234	5.613E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
U-235	1.725E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
U-238	3.748E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Total	3.477E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		

0

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

0 Water Dependent Pathways

0 Radio- Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.244E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.307E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.837E-10	0.0139
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.162E-10	0.0033
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.417E-08	0.9827
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.613E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.725E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.748E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.477E-08	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	7.504E-17	7.289E-17	5.611E-17	4.099E-18	1.223E-20	3.650E-23	1.089E-25	3.252E-28	1.777E-29
0Pa-231	Pa-231	1.000E+00	4.002E-20	4.016E-20	4.137E-20	5.575E-20	1.082E-19	2.099E-19	4.073E-19	7.904E-19	1.101E-18
Pa-231	Ac-227+D	1.000E+00	1.201E-18	3.562E-18	2.226E-17	9.626E-17	1.737E-16	3.007E-16	5.205E-16	9.010E-16	1.186E-15
Pa-231	äDSR(j)		1.241E-18	3.602E-18	2.231E-17	9.631E-17	1.738E-16	3.009E-16	5.209E-16	9.018E-16	1.187E-15
0Pb-210+D	Pb-210+D	1.000E+00	9.998E-20	9.717E-20	7.518E-20	5.783E-21	1.934E-23	6.471E-26	2.165E-28	7.241E-31	4.188E-32
0Ra-226+D	Ra-226+D	1.000E+00	3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.120E-12	8.644E-12	1.221E-11	1.725E-11	2.050E-11
Ra-226+D	Pb-210+D	1.000E+00	1.562E-21	4.633E-21	2.894E-20	1.219E-19	1.967E-19	3.029E-19	4.664E-19	7.183E-19	8.914E-19
Ra-226+D	äDSR(j)		3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.120E-12	8.644E-12	1.221E-11	1.725E-11	2.050E-11

0Ra-228+D	Ra-228+D	1.000E+00	1.255E-13	1.115E-13	3.851E-14	9.274E-19	5.061E-29	2.762E-39	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	3.187E-11	7.768E-11	8.166E-11	2.028E-15	9.864E-26	4.798E-36	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	ädSR(j)		3.199E-11	7.779E-11	8.170E-11	2.029E-15	9.869E-26	4.800E-36	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.728E-10	1.205E-10	4.697E-12	3.812E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	3.455E-33	3.473E-33	3.646E-33	5.915E-33	1.733E-32	5.081E-32	1.489E-31	4.364E-31	7.471E-31
Th-230	Ra-226+D	1.000E+00	7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.496E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
Th-230	Pb-210+D	1.000E+00	2.262E-25	1.573E-24	6.951E-23	3.905E-21	2.419E-20	6.794E-20	1.561E-19	3.266E-19	4.623E-19
Th-230	ädSR(j)		7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.496E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
0Th-232	Th-232	1.000E+00	8.787E-37	8.839E-37	9.329E-37	1.599E-36	5.300E-36	1.756E-35	5.820E-35	1.928E-34	3.510E-34
Th-232	Ra-228+D	1.000E+00	7.722E-15	2.203E-14	9.797E-14	1.692E-13	2.730E-13	4.403E-13	7.101E-13	1.145E-12	1.455E-12
Th-232	Th-228+D	1.000E+00	1.332E-12	8.188E-12	1.234E-10	2.470E-10	3.550E-10	5.103E-10	7.335E-10	1.054E-09	1.264E-09
Th-232	ädSR(j)		1.340E-12	8.210E-12	1.235E-10	2.471E-10	3.553E-10	5.107E-10	7.342E-10	1.055E-09	1.266E-09
0U-234	U-234	1.000E+00	8.221E-35	8.267E-35	8.693E-35	1.437E-34	4.390E-34	1.341E-33	4.098E-33	1.252E-32	2.188E-32
U-234	Th-230	1.000E+00	1.556E-38	4.692E-38	3.446E-37	5.353E-36	4.693E-35	2.293E-34	9.410E-34	3.547E-33	6.749E-33
U-234	Ra-226+D	1.000E+00	2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
U-234	Pb-210+D	1.000E+00	5.100E-31	7.616E-30	2.253E-27	1.422E-24	3.021E-23	1.488E-22	4.934E-22	1.359E-21	2.159E-21
U-234	ädSR(j)		2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
0U-235+D	U-235+D	1.000E+00	6.678E-23	6.705E-23	6.949E-23	9.937E-23	2.200E-22	4.871E-22	1.079E-21	2.388E-21	3.553E-21
U-235+D	Pa-231	1.000E+00	4.236E-25	1.275E-24	9.193E-24	1.187E-22	6.905E-22	2.238E-21	6.093E-21	1.524E-20	2.361E-20
U-235+D	Ac-227+D	1.000E+00	8.497E-24	5.908E-23	2.613E-21	1.495E-19	9.924E-19	3.002E-18	7.433E-18	1.676E-17	2.462E-17
U-235+D	ädSR(j)		7.570E-23	1.274E-22	2.691E-21	1.498E-19	9.933E-19	3.005E-18	7.440E-18	1.678E-17	2.465E-17
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.803E-16	9.709E-16	1.625E-15	2.719E-15	3.517E-15
U-238+D	U-234	9.999E-01	1.166E-40	3.516E-40	2.588E-39	4.094E-38	3.741E-37	1.904E-36	8.145E-36	3.200E-35	6.215E-35
U-238+D	Th-230	9.999E-01	1.401E-44	1.037E-43	5.133E-42	7.626E-40	2.000E-38	1.628E-37	9.356E-37	4.536E-36	9.590E-36
U-238+D	Ra-226+D	9.999E-01	1.680E-27	2.525E-26	7.956E-24	8.370E-21	3.371E-19	2.348E-18	9.704E-18	3.109E-17	5.236E-17
U-238+D	Pb-210+D	9.999E-01	2.895E-37	8.947E-36	1.707E-32	1.137E-28	7.930E-27	6.756E-26	3.206E-25	1.153E-24	2.049E-24
U-238+D	ädSR(j)		2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.806E-16	9.733E-16	1.634E-15	2.750E-15	3.570E-15
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The DSR includes contributions from associated (half-life ó 180 days) daughters.

Summary : SMC Industrial Worker Area 5 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109105.RAD

Single Radionuclide Soil Guidelines G(i,t) in pCi/g

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	7.815E+11	3.214E+11	3.060E+11	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.447E+11	2.075E+11	5.322E+12	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

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*At specific activity limit
0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	7.000E-01	0.000E+00	7.504E-17	*7.232E+13	1.777E-29	*7.232E+13
Pa-231	7.000E-01	1.000E+03	1.187E-15	*4.723E+10	1.187E-15	*4.723E+10
Pb-210	2.360E+01	0.000E+00	9.998E-20	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	2.360E+01	1.000E+03	2.050E-11	*9.885E+11	2.050E-11	*9.885E+11
Ra-228	2.700E+01	4.112 ñ 0.008	1.197E-10	2.088E+11	0.000E+00	*2.726E+14
Th-228	2.700E+01	0.000E+00	1.728E-10	1.447E+11	0.000E+00	*8.195E+14
Th-230	1.050E+01	1.000E+03	1.107E-11	*2.018E+10	1.107E-11	*2.018E+10
Th-232	2.700E+01	1.000E+03	1.266E-09	*1.097E+05	1.266E-09	*1.097E+05
U-234	1.050E+01	1.000E+03	5.346E-14	*6.247E+09	5.346E-14	*6.247E+09
U-235	7.000E-01	1.000E+03	2.465E-17	*2.161E+06	2.465E-17	*2.161E+06
U-238	1.050E+01	1.000E+03	3.570E-15	*3.361E+05	3.570E-15	*3.361E+05

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*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	5.253E-17	5.102E-17	3.928E-17	2.869E-18	8.562E-21	2.555E-23	7.626E-26	2.276E-28	1.244E-29
Ac-227	Pa-231	1.000E+00	8.409E-19	2.494E-18	1.559E-17	6.738E-17	1.216E-16	2.105E-16	3.643E-16	6.307E-16	8.299E-16
Ac-227	U-235	1.000E+00	5.948E-24	4.136E-23	1.829E-21	1.047E-19	6.947E-19	2.102E-18	5.203E-18	1.173E-17	1.723E-17
Ac-227	äDOSE(j)		5.337E-17	5.351E-17	5.486E-17	7.035E-17	1.223E-16	2.126E-16	3.695E-16	6.425E-16	8.471E-16
0Pa-231	Pa-231	1.000E+00	2.802E-20	2.811E-20	2.896E-20	3.903E-20	7.573E-20	1.469E-19	2.851E-19	5.533E-19	7.707E-19
Pa-231	U-235	1.000E+00	2.965E-25	8.923E-25	6.435E-24	8.309E-23	4.834E-22	1.566E-21	4.265E-21	1.067E-20	1.653E-20
Pa-231	äDOSE(j)		2.802E-20	2.811E-20	2.897E-20	3.911E-20	7.621E-20	1.485E-19	2.894E-19	5.639E-19	7.872E-19
0Pb-210	Pb-210	1.000E+00	2.360E-18	2.293E-18	1.774E-18	1.365E-19	4.565E-22	1.527E-24	5.108E-27	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	3.687E-20	1.093E-19	6.831E-19	2.876E-18	4.641E-18	7.148E-18	1.101E-17	1.695E-17	2.104E-17
Pb-210	Th-230	1.000E+00	2.376E-24	1.652E-23	7.299E-22	4.100E-20	2.540E-19	7.134E-19	1.639E-18	3.429E-18	4.854E-18
Pb-210	U-234	1.000E+00	0.000E+00	7.997E-29	2.365E-26	1.493E-23	3.173E-22	1.562E-21	5.181E-21	1.427E-20	2.267E-20
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	1.193E-27	8.326E-26	7.093E-25	3.366E-24	1.211E-23	2.151E-23
Pb-210	äDOSE(j)		2.396E-18	2.403E-18	2.458E-18	3.053E-18	4.896E-18	7.863E-18	1.265E-17	2.040E-17	2.591E-17
0Ra-226	Ra-226	1.000E+00	8.603E-11	8.618E-11	8.753E-11	1.022E-10	1.444E-10	2.040E-10	2.881E-10	4.070E-10	4.837E-10
Ra-226	Th-230	1.000E+00	8.295E-15	2.493E-14	1.775E-13	2.023E-12	8.921E-12	2.192E-11	4.530E-11	8.602E-11	1.162E-10
Ra-226	U-234	1.000E+00	2.489E-20	1.746E-19	8.404E-18	9.220E-16	1.233E-14	5.119E-14	1.501E-13	3.715E-13	5.613E-13
Ra-226	U-238	9.999E-01	1.765E-26	2.651E-25	8.354E-23	8.788E-20	3.540E-18	2.465E-17	1.019E-16	3.264E-16	5.498E-16

Ra-226	äDOSE(j)		8.604E-11	8.620E-11	8.771E-11	1.043E-10	1.534E-10	2.260E-10	3.336E-10	4.934E-10	6.005E-10
0Ra-228	Ra-228	1.000E+00	3.389E-12	3.012E-12	1.040E-12	2.504E-17	1.367E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	2.085E-13	5.948E-13	2.645E-12	4.569E-12	7.370E-12	1.189E-11	1.917E-11	3.093E-11	3.928E-11
Ra-228	äDOSE(j)		3.598E-12	3.607E-12	3.685E-12	4.569E-12	7.370E-12	1.189E-11	1.917E-11	3.093E-11	3.928E-11
0Th-228	Ra-228	1.000E+00	8.604E-10	2.097E-09	2.205E-09	5.476E-14	2.663E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	4.665E-09	3.253E-09	1.268E-10	1.029E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	3.597E-11	2.211E-10	3.332E-09	6.668E-09	9.585E-09	1.378E-08	1.980E-08	2.847E-08	3.413E-08
Th-228	äDOSE(j)		5.562E-09	5.572E-09	5.663E-09	6.668E-09	9.585E-09	1.378E-08	1.980E-08	2.847E-08	3.413E-08
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	4.675E-23	4.693E-23	4.864E-23	6.956E-23	1.540E-22	3.410E-22	7.550E-22	1.672E-21	2.487E-21
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	2.815E-15	2.823E-15	2.889E-15	3.642E-15	6.093E-15	1.019E-14	1.706E-14	2.855E-14	3.693E-14
U-238	äDOSE(j)		2.815E-15	2.823E-15	2.889E-15	3.642E-15	6.093E-15	1.019E-14	1.706E-14	2.855E-14	3.693E-14
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ

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

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ
Ac-227	Ac-227	1.000E+00	7.000E-01	6.781E-01	5.091E-01	2.899E-02	4.972E-05	8.528E-08	1.463E-10	2.508E-13	1.039E-14
Ac-227	Pa-231	1.000E+00	0.000E+00	2.193E-02	1.908E-01	6.696E-01	6.949E-01	6.913E-01	6.877E-01	6.841E-01	6.823E-01
Ac-227	U-235	1.000E+00	0.000E+00	2.333E-07	2.126E-05	1.034E-03	3.963E-03	6.896E-03	9.813E-03	1.272E-02	1.416E-02
Ac-227	äS(j):		7.000E-01	7.000E-01	7.000E-01	6.996E-01	6.989E-01	6.982E-01	6.975E-01	6.968E-01	6.964E-01
0Pa-231	Pa-231	1.000E+00	7.000E-01	7.000E-01	6.998E-01	6.982E-01	6.945E-01	6.909E-01	6.872E-01	6.836E-01	6.819E-01
Pa-231	U-235	1.000E+00	0.000E+00	1.481E-05	1.481E-04	1.479E-03	4.426E-03	7.357E-03	1.027E-02	1.317E-02	1.462E-02
Pa-231	äS(j):		7.000E-01	7.000E-01	7.000E-01	6.996E-01	6.989E-01	6.982E-01	6.975E-01	6.968E-01	6.965E-01
0Pb-210	Pb-210	1.000E+00	2.360E+01	2.288E+01	1.729E+01	1.053E+00	2.098E-03	4.179E-06	8.325E-09	1.658E-11	7.401E-13
Pb-210	Ra-226	1.000E+00	0.000E+00	7.221E-01	6.290E+00	2.184E+01	2.101E+01	1.927E+01	1.767E+01	1.620E+01	1.551E+01
Pb-210	Th-230	1.000E+00	0.000E+00	6.996E-05	6.381E-03	3.095E-01	1.148E+00	1.921E+00	2.628E+00	3.275E+00	3.577E+00
Pb-210	U-234	1.000E+00	0.000E+00	2.105E-10	1.964E-07	1.121E-04	1.430E-03	4.201E-03	8.301E-03	1.362E-02	1.670E-02
Pb-210	U-238	9.999E-01	0.000E+00	1.494E-16	1.413E-12	8.909E-09	3.748E-07	1.905E-06	5.389E-06	1.155E-05	1.584E-05
Pb-210	äS(j):		2.360E+01	2.360E+01	2.359E+01	2.321E+01	2.216E+01	2.119E+01	2.030E+01	1.949E+01	1.911E+01
0Ra-226	Ra-226	1.000E+00	2.360E+01	2.359E+01	2.350E+01	2.260E+01	2.072E+01	1.900E+01	1.743E+01	1.598E+01	1.530E+01
Ra-226	Th-230	1.000E+00	0.000E+00	4.548E-03	4.539E-02	4.450E-01	1.278E+00	2.040E+00	2.737E+00	3.375E+00	3.674E+00
Ra-226	U-234	1.000E+00	0.000E+00	2.047E-08	2.044E-06	2.017E-04	1.763E-03	4.758E-03	9.064E-03	1.457E-02	1.774E-02
Ra-226	U-238	9.999E-01	0.000E+00	1.934E-14	1.932E-11	1.913E-08	5.053E-07	2.289E-06	6.148E-06	1.279E-05	1.737E-05
Ra-226	äS(j):		2.360E+01	2.359E+01	2.354E+01	2.304E+01	2.200E+01	2.105E+01	2.017E+01	1.937E+01	1.899E+01
0Ra-228	Ra-228	1.000E+00	2.700E+01	2.393E+01	8.088E+00	1.571E-04	5.314E-15	1.798E-25	6.084E-36	0.000E+00	0.000E+00

Ra-228	Th-232	1.000E+00	0.000E+00	3.066E+00	1.891E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01
Ra-228	äS(j):		2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01
0Th-228	Ra-228	1.000E+00	0.000E+00	7.703E+00	1.104E+01	2.354E-04	7.964E-15	2.694E-25	9.117E-36	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	2.700E+01	1.879E+01	7.208E-01	4.968E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	5.034E-01	1.524E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01
Th-228	äS(j):		2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01
0Th-230	Th-230	1.000E+00	1.050E+01	1.050E+01	1.050E+01	1.049E+01	1.047E+01	1.045E+01	1.043E+01	1.041E+01	1.040E+01
Th-230	U-234	1.000E+00	0.000E+00	9.452E-05	9.451E-04	9.446E-03	2.830E-02	4.712E-02	6.588E-02	8.460E-02	9.395E-02
Th-230	U-238	9.999E-01	0.000E+00	1.340E-10	1.340E-08	1.339E-06	1.204E-05	3.342E-05	6.546E-05	1.081E-04	1.334E-04
Th-230	äS(j):		1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01
0Th-232	Th-232	1.000E+00	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01
0U-234	U-234	1.000E+00	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.049E+01	1.048E+01	1.048E+01	1.047E+01	1.047E+01
U-234	U-238	9.999E-01	0.000E+00	2.977E-05	2.976E-04	2.976E-03	8.925E-03	1.487E-02	2.081E-02	2.675E-02	2.972E-02
U-234	äS(j):		1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01
0U-235	U-235	1.000E+00	7.000E-01	7.000E-01	7.000E-01	7.000E-01	7.000E-01	6.999E-01	6.999E-01	6.999E-01	6.999E-01
0U-238	U-238	5.400E-05	5.670E-04	5.670E-04	5.670E-04	5.670E-04	5.670E-04	5.669E-04	5.669E-04	5.669E-04	5.669E-04
U-238	U-238	9.999E-01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01
U-238	äS(j):		1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01
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THF(i) is the thread fraction of the parent nuclide.

0RESCALC.EXE execution time = 68.29 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)

A-1	Pb-212	(Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214	(Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210	(Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211	(Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214	(Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215	(Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216	(Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218	(Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223	(Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224	(Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226	(Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219	(Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220	(Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222	(Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227	(Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228	(Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230	(Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231	(Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232	(Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234	(Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207	(Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208	(Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210	(Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234	(Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235	(Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238	(Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:				
B-1	Ac-227+D		6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231		1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D		2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D		8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D		5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D		3.454E-01	3.420E-01	DCF2(6)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-238	1.180E-01	1.180E-01	DCF2(11)

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

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

Dose Library: FGR 11

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

D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

Menu	Parameter		User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)		5.100E+03	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)		4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)		7.140E+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)		1.000E+01	3.000E+00	---	T(3)
R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	1.720E+01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	1.720E+01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	1.778E+02	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	1.778E+02	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	4.505E+02	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	4.505E+02	0.000E+00	---	S1(6)

R012	Initial principal radionuclide (pCi/g):	Th-230	1.778E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	4.505E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	2.463E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	1.720E+01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	2.463E+02	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)

R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	7.100E+03	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.961E-07	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.051E+04	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.676E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	1.561E+05	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.802E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	1.561E+05	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.802E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	1.561E+05	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.802E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

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

R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	7.672E+05	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.666E-09	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	7.672E+05	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.666E-09	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	7.672E+05	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.666E-09	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.600E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	7.000E-02	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	not used	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)	not used	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	4.100E+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	not used	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	not used	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	not used	-1	---	FPLANT
R018	Contamination fraction of meat	not used	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	not used	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	not used	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	not used	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	not used	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	not used	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	not used	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	not used	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)

R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	not used	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	not used	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	not used	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	not used	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area: 5100.00 square meters

Initial Soil Concentrations, pCi/g

Ac-227	1.720E+01

Thickness:	4.50 meters	Pa-231	1.720E+01
Cover Depth:	1.83 meters	Pb-210	1.778E+02
		Ra-226	1.778E+02
		Ra-228	4.505E+02
		Th-228	4.505E+02
		Th-230	1.778E+02
		Th-232	4.505E+02
		U-234	2.463E+02
		U-235	1.720E+01
		U-238	2.463E+02

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	9.350E-08	9.367E-08	9.522E-08	1.121E-07	1.613E-07	2.320E-07	3.337E-07	4.801E-07	5.758E-07
M(t):	3.740E-09	3.747E-09	3.809E-09	4.485E-09	6.452E-09	9.280E-09	1.335E-08	1.920E-08	2.303E-08

0Maximum TDOSE(t): 5.758E-07 mrem/yr at t = 1.000E+03 years

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

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.291E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.135E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.778E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.482E-10	0.0069	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.441E-08	0.1541	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	7.784E-08	0.8325	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.405E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	6.037E-10	0.0065	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	5.840E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.302E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.604E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	9.350E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.291E-15	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.135E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.778E-17	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.482E-10	0.0069
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.441E-08	0.1541
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.784E-08	0.8325
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.405E-13	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.037E-10	0.0065
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.840E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.302E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.604E-14	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.350E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
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Ac-227	1.254E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.196E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.728E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.493E-10	0.0069	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.505E-08	0.3741	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	5.428E-08	0.5795	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.221E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.698E-09	0.0395	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.095E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.191E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.621E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	9.367E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.254E-15	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.196E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.728E-17	0.0000

Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.493E-10	0.0069
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.505E-08	0.3741
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.428E-08	0.5795
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.221E-13	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.698E-09	0.0395
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.095E-18	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.191E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.621E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.367E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 4 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109104.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

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio- Nuclide	Ground mrem/yr	fract.	Inhalation mrem/yr	fract.	Radon mrem/yr	fract.	Plant mrem/yr	fract.	Meat mrem/yr	fract.	Milk mrem/yr	fract.	Soil mrem/yr	fract.
Ac-227	9.650E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.837E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.337E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.594E-10	0.0069	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.681E-08	0.3866	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	2.116E-09	0.0222	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.006E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.563E-08	0.5843	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.971E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.629E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.776E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	9.522E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio- Nuclide	Water mrem/yr	fract.	Fish mrem/yr	fract.	Radon mrem/yr	fract.	Plant mrem/yr	fract.	Meat mrem/yr	fract.	Milk mrem/yr	fract.	All Pathways* mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.650E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.837E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.337E-17	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.594E-10	0.0069
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.681E-08	0.3866
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.116E-09	0.0222
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.006E-12	0.0000

Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.563E-08	0.5843
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.971E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.629E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.776E-14	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.522E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 4 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109104.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	7.050E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.657E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.028E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	7.703E-10	0.0069	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	9.141E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.717E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.426E-11	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.113E-07	0.9928	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.163E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.576E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	8.542E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	1.121E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.050E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.657E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.028E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.703E-10	0.0069
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.141E-13	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.717E-23	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.426E-11	0.0003
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.113E-07	0.9928
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.163E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.576E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.542E-14	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.121E-07	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 4 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109104.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.104E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.989E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.439E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.088E-09	0.0067	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	4.446E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.511E-10	0.0009	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.601E-07	0.9923	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.892E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.709E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.430E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.613E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.104E-19	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.989E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.439E-21	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.088E-09	0.0067
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.446E-23	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.511E-10	0.0009
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.601E-07	0.9923
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.892E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.709E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.430E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.613E-07	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 4 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109104.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 = 5.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	6.279E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.175E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.150E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.537E-09	0.0066	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.712E-10	0.0016	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.301E-07	0.9918	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.201E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.169E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.397E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.320E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years
Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.279E-22	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.175E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.150E-23	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.537E-09	0.0066
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.712E-10	0.0016
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.301E-07	0.9918
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.201E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.169E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.397E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.320E-07	1.0000

*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 4 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109104.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 = 7.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	1.874E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	8.959E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.849E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.170E-09	0.0065	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	7.670E-10	0.0023	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.308E-07	0.9912	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.521E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.280E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.026E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.337E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.874E-24	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.959E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.849E-26	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.170E-09	0.0065
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.670E-10	0.0023
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.308E-07	0.9912
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.521E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.280E-16	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.026E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.337E-07	1.0000

*Sum of all water independent and dependent pathways.

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

As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground	Inhalation	Radon	Plant	Meat	Milk	Soil

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	5.593E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.551E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.065E-09	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.457E-09	0.0030	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.755E-07	0.9906	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	8.714E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.886E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.775E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.801E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.593E-27	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.551E-14	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.065E-09	0.0064
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.457E-09	0.0030
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.755E-07	0.9906
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.714E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.886E-16	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.775E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.801E-07	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	3.056E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.041E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.643E-09	0.0063	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.967E-09	0.0034	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.702E-07	0.9902	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.317E-11	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.240E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	8.794E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.758E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio- Nuclide	Water mrem/yr	fract.	Fish mrem/yr	fract.	Radon mrem/yr	fract.	Plant mrem/yr	fract.	Meat mrem/yr	fract.	Milk mrem/yr	fract.	All Pathways* mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.056E-28	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.041E-14	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.643E-09	0.0063
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.967E-09	0.0034
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.702E-07	0.9902
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.317E-11	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.240E-16	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.794E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.758E-07	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	7.504E-17	7.289E-17	5.611E-17	4.099E-18	1.223E-20	3.650E-23	1.089E-25	3.252E-28	1.777E-29
0Pa-231	Pa-231	1.000E+00	4.002E-20	4.016E-20	4.137E-20	5.575E-20	1.082E-19	2.099E-19	4.073E-19	7.904E-19	1.101E-18
Pa-231	Ac-227+D	1.000E+00	1.201E-18	3.562E-18	2.226E-17	9.626E-17	1.737E-16	3.007E-16	5.205E-16	9.010E-16	1.186E-15
Pa-231	äDSR(j)		1.241E-18	3.602E-18	2.231E-17	9.631E-17	1.738E-16	3.009E-16	5.209E-16	9.018E-16	1.187E-15
0Pb-210+D	Pb-210+D	1.000E+00	9.998E-20	9.717E-20	7.518E-20	5.783E-21	1.934E-23	6.471E-26	2.165E-28	7.241E-31	4.188E-32
0Ra-226+D	Ra-226+D	1.000E+00	3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.119E-12	8.642E-12	1.221E-11	1.724E-11	2.049E-11
Ra-226+D	Pb-210+D	1.000E+00	1.562E-21	4.633E-21	2.894E-20	1.219E-19	1.966E-19	3.028E-19	4.663E-19	7.181E-19	8.910E-19
Ra-226+D	äDSR(j)		3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.119E-12	8.642E-12	1.221E-11	1.724E-11	2.049E-11

0Ra-228+D	Ra-228+D	1.000E+00	1.255E-13	1.115E-13	3.851E-14	9.274E-19	5.061E-29	2.762E-39	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	3.187E-11	7.768E-11	8.166E-11	2.028E-15	9.864E-26	4.798E-36	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	ädSR(j)		3.199E-11	7.779E-11	8.170E-11	2.029E-15	9.869E-26	4.800E-36	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.728E-10	1.205E-10	4.697E-12	3.812E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	3.455E-33	3.473E-33	3.646E-33	5.915E-33	1.734E-32	5.081E-32	1.489E-31	4.365E-31	7.472E-31
Th-230	Ra-226+D	1.000E+00	7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.496E-13	2.088E-12	4.314E-12	8.192E-12	1.106E-11
Th-230	Pb-210+D	1.000E+00	2.262E-25	1.573E-24	6.951E-23	3.905E-21	2.419E-20	6.794E-20	1.561E-19	3.265E-19	4.622E-19
Th-230	ädSR(j)		7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.496E-13	2.088E-12	4.314E-12	8.192E-12	1.106E-11
0Th-232	Th-232	1.000E+00	8.787E-37	8.839E-37	9.329E-37	1.599E-36	5.300E-36	1.756E-35	5.820E-35	1.929E-34	3.511E-34
Th-232	Ra-228+D	1.000E+00	7.722E-15	2.203E-14	9.797E-14	1.692E-13	2.730E-13	4.403E-13	7.102E-13	1.146E-12	1.455E-12
Th-232	Th-228+D	1.000E+00	1.332E-12	8.188E-12	1.234E-10	2.470E-10	3.550E-10	5.103E-10	7.335E-10	1.054E-09	1.264E-09
Th-232	ädSR(j)		1.340E-12	8.210E-12	1.235E-10	2.471E-10	3.553E-10	5.107E-10	7.343E-10	1.056E-09	1.266E-09
0U-234	U-234	1.000E+00	8.221E-35	8.267E-35	8.693E-35	1.437E-34	4.390E-34	1.341E-33	4.098E-33	1.252E-32	2.189E-32
U-234	Th-230	1.000E+00	1.556E-38	4.692E-38	3.446E-37	5.353E-36	4.694E-35	2.293E-34	9.411E-34	3.548E-33	6.751E-33
U-234	Ra-226+D	1.000E+00	2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
U-234	Pb-210+D	1.000E+00	5.100E-31	7.616E-30	2.253E-27	1.422E-24	3.021E-23	1.488E-22	4.934E-22	1.359E-21	2.159E-21
U-234	ädSR(j)		2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
0U-235+D	U-235+D	1.000E+00	6.678E-23	6.705E-23	6.949E-23	9.937E-23	2.200E-22	4.872E-22	1.079E-21	2.388E-21	3.554E-21
U-235+D	Pa-231	1.000E+00	4.236E-25	1.275E-24	9.193E-24	1.187E-22	6.905E-22	2.238E-21	6.093E-21	1.524E-20	2.362E-20
U-235+D	Ac-227+D	1.000E+00	8.497E-24	5.908E-23	2.613E-21	1.495E-19	9.924E-19	3.003E-18	7.433E-18	1.676E-17	2.462E-17
U-235+D	ädSR(j)		7.570E-23	1.274E-22	2.691E-21	1.498E-19	9.934E-19	3.005E-18	7.440E-18	1.678E-17	2.465E-17
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.803E-16	9.710E-16	1.625E-15	2.719E-15	3.518E-15
U-238+D	U-234	9.999E-01	1.166E-40	3.516E-40	2.588E-39	4.094E-38	3.742E-37	1.905E-36	8.146E-36	3.200E-35	6.216E-35
U-238+D	Th-230	9.999E-01	1.401E-44	1.037E-43	5.133E-42	7.626E-40	2.000E-38	1.628E-37	9.357E-37	4.537E-36	9.592E-36
U-238+D	Ra-226+D	9.999E-01	1.680E-27	2.525E-26	7.956E-24	8.370E-21	3.371E-19	2.348E-18	9.705E-18	3.109E-17	5.237E-17
U-238+D	Pb-210+D	9.999E-01	2.895E-37	8.947E-36	1.707E-32	1.137E-28	7.930E-27	6.756E-26	3.206E-25	1.153E-24	2.049E-24
U-238+D	ädSR(j)		2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.806E-16	9.734E-16	1.635E-15	2.751E-15	3.571E-15

The DSR includes contributions from associated (half-life ó 180 days) daughters.

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	7.815E+11	3.214E+11	3.060E+11	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.447E+11	2.075E+11	5.322E+12	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	1.720E+01	0.000E+00	7.504E-17	*7.232E+13	1.777E-29	*7.232E+13
Pa-231	1.720E+01	1.000E+03	1.187E-15	*4.723E+10	1.187E-15	*4.723E+10
Pb-210	1.778E+02	0.000E+00	9.998E-20	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	1.778E+02	1.000E+03	2.049E-11	*9.885E+11	2.049E-11	*9.885E+11
Ra-228	4.505E+02	4.112 ñ 0.008	1.197E-10	2.088E+11	0.000E+00	*2.726E+14
Th-228	4.505E+02	0.000E+00	1.728E-10	1.447E+11	0.000E+00	*8.195E+14
Th-230	1.778E+02	1.000E+03	1.106E-11	*2.018E+10	1.106E-11	*2.018E+10
Th-232	4.505E+02	1.000E+03	1.266E-09	*1.097E+05	1.266E-09	*1.097E+05
U-234	2.463E+02	1.000E+03	5.346E-14	*6.247E+09	5.346E-14	*6.247E+09
U-235	1.720E+01	1.000E+03	2.465E-17	*2.161E+06	2.465E-17	*2.161E+06
U-238	2.463E+02	1.000E+03	3.571E-15	*3.361E+05	3.571E-15	*3.361E+05

*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	1.291E-15	1.254E-15	9.650E-16	7.050E-17	2.104E-19	6.279E-22	1.874E-24	5.593E-27	3.056E-28
Ac-227	Pa-231	1.000E+00	2.066E-17	6.127E-17	3.830E-16	1.656E-15	2.987E-15	5.171E-15	8.952E-15	1.550E-14	2.039E-14
Ac-227	U-235	1.000E+00	1.461E-22	1.016E-21	4.494E-20	2.572E-18	1.707E-17	5.164E-17	1.278E-16	2.883E-16	4.235E-16
Ac-227	äDOSE(j)		1.311E-15	1.315E-15	1.348E-15	1.729E-15	3.005E-15	5.223E-15	9.080E-15	1.579E-14	2.082E-14
0Pa-231	Pa-231	1.000E+00	6.884E-19	6.907E-19	7.116E-19	9.589E-19	1.861E-18	3.611E-18	7.006E-18	1.359E-17	1.894E-17
Pa-231	U-235	1.000E+00	7.287E-24	2.192E-23	1.581E-22	2.042E-21	1.188E-20	3.849E-20	1.048E-19	2.621E-19	4.062E-19
Pa-231	äDOSE(j)		6.884E-19	6.907E-19	7.117E-19	9.610E-19	1.873E-18	3.649E-18	7.111E-18	1.386E-17	1.934E-17
0Pb-210	Pb-210	1.000E+00	1.778E-17	1.728E-17	1.337E-17	1.028E-18	3.439E-21	1.150E-23	3.849E-26	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	2.778E-19	8.237E-19	5.146E-18	2.167E-17	3.496E-17	5.384E-17	8.291E-17	1.277E-16	1.584E-16
Pb-210	Th-230	1.000E+00	4.023E-23	2.797E-22	1.236E-20	6.943E-19	4.302E-18	1.208E-17	2.775E-17	5.806E-17	8.218E-17
Pb-210	U-234	1.000E+00	0.000E+00	1.876E-27	5.548E-25	3.502E-22	7.442E-21	3.665E-20	1.215E-19	3.347E-19	5.317E-19
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	2.799E-26	1.953E-24	1.664E-23	7.896E-23	2.840E-22	5.046E-22
Pb-210	äDOSE(j)		1.805E-17	1.810E-17	1.853E-17	2.339E-17	3.928E-17	6.596E-17	1.108E-16	1.861E-16	2.411E-16
0Ra-226	Ra-226	1.000E+00	6.482E-10	6.493E-10	6.594E-10	7.703E-10	1.088E-09	1.537E-09	2.170E-09	3.065E-09	3.643E-09
Ra-226	Th-230	1.000E+00	1.405E-13	4.221E-13	3.006E-12	3.426E-11	1.511E-10	3.712E-10	7.670E-10	1.457E-09	1.967E-09
Ra-226	U-234	1.000E+00	5.840E-19	4.095E-18	1.971E-16	2.163E-14	2.892E-13	1.201E-12	3.521E-12	8.714E-12	1.317E-11
Ra-226	U-238	9.999E-01	4.139E-25	6.219E-24	1.960E-21	2.062E-18	8.304E-17	5.783E-16	2.390E-15	7.657E-15	1.290E-14

Ra-226	äDOSE(j)		6.483E-10	6.497E-10	6.624E-10	8.046E-10	1.239E-09	1.909E-09	2.941E-09	4.530E-09	5.623E-09
0Ra-228	Ra-228	1.000E+00	5.655E-11	5.025E-11	1.735E-11	4.178E-16	2.280E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	3.479E-12	9.925E-12	4.413E-11	7.624E-11	1.230E-10	1.984E-10	3.199E-10	5.161E-10	6.554E-10
Ra-228	äDOSE(j)		6.003E-11	6.018E-11	6.148E-11	7.624E-11	1.230E-10	1.984E-10	3.199E-10	5.161E-10	6.554E-10
0Th-228	Ra-228	1.000E+00	1.436E-08	3.500E-08	3.679E-08	9.136E-13	4.444E-23	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	7.784E-08	5.428E-08	2.116E-09	1.717E-23	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	6.002E-10	3.688E-09	5.559E-08	1.113E-07	1.599E-07	2.299E-07	3.305E-07	4.750E-07	5.695E-07
Th-228	äDOSE(j)		9.280E-08	9.296E-08	9.449E-08	1.113E-07	1.599E-07	2.299E-07	3.305E-07	4.750E-07	5.695E-07
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	1.149E-21	1.153E-21	1.195E-21	1.709E-21	3.784E-21	8.379E-21	1.855E-20	4.108E-20	6.113E-20
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	6.604E-14	6.621E-14	6.776E-14	8.542E-14	1.429E-13	2.392E-13	4.002E-13	6.698E-13	8.665E-13
U-238	äDOSE(j)		6.604E-14	6.621E-14	6.776E-14	8.542E-14	1.429E-13	2.392E-13	4.002E-13	6.698E-13	8.665E-13
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THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ
Ac-227	Ac-227	1.000E+00	1.720E+01	1.666E+01	1.251E+01	7.123E-01	1.222E-03	2.095E-06	3.594E-09	6.164E-12	2.553E-13
Ac-227	Pa-231	1.000E+00	0.000E+00	5.389E-01	4.689E+00	1.645E+01	1.707E+01	1.699E+01	1.690E+01	1.681E+01	1.676E+01
Ac-227	U-235	1.000E+00	0.000E+00	5.732E-06	5.223E-04	2.540E-02	9.738E-02	1.694E-01	2.411E-01	3.125E-01	3.480E-01
Ac-227	äS(j):		1.720E+01	1.720E+01	1.720E+01	1.719E+01	1.717E+01	1.716E+01	1.714E+01	1.712E+01	1.711E+01
0Pa-231	Pa-231	1.000E+00	1.720E+01	1.720E+01	1.720E+01	1.715E+01	1.706E+01	1.698E+01	1.689E+01	1.680E+01	1.675E+01
Pa-231	U-235	1.000E+00	0.000E+00	3.639E-04	3.639E-03	3.634E-02	1.087E-01	1.808E-01	2.524E-01	3.237E-01	3.592E-01
Pa-231	äS(j):		1.720E+01	1.720E+01	1.720E+01	1.719E+01	1.717E+01	1.716E+01	1.714E+01	1.712E+01	1.711E+01
0Pb-210	Pb-210	1.000E+00	1.778E+02	1.724E+02	1.303E+02	7.935E+00	1.581E-02	3.149E-05	6.272E-08	1.249E-10	5.576E-12
Pb-210	Ra-226	1.000E+00	0.000E+00	5.440E+00	4.739E+01	1.646E+02	1.583E+02	1.451E+02	1.331E+02	1.220E+02	1.168E+02
Pb-210	Th-230	1.000E+00	0.000E+00	1.185E-03	1.080E-01	5.241E+00	1.943E+01	3.252E+01	4.449E+01	5.545E+01	6.057E+01
Pb-210	U-234	1.000E+00	0.000E+00	4.937E-09	4.607E-06	2.629E-03	3.355E-02	9.854E-02	1.947E-01	3.194E-01	3.917E-01
Pb-210	U-238	9.999E-01	0.000E+00	3.504E-15	3.315E-11	2.090E-07	8.791E-06	4.470E-05	1.264E-04	2.709E-04	3.715E-04
Pb-210	äS(j):		1.778E+02	1.778E+02	1.778E+02	1.777E+02	1.777E+02	1.777E+02	1.778E+02	1.778E+02	1.778E+02
0Ra-226	Ra-226	1.000E+00	1.778E+02	1.777E+02	1.770E+02	1.703E+02	1.561E+02	1.431E+02	1.313E+02	1.204E+02	1.152E+02
Ra-226	Th-230	1.000E+00	0.000E+00	7.701E-02	7.686E-01	7.535E+00	2.164E+01	3.454E+01	4.635E+01	5.715E+01	6.220E+01
Ra-226	U-234	1.000E+00	0.000E+00	4.802E-07	4.795E-05	4.732E-03	4.136E-02	1.116E-01	2.126E-01	3.417E-01	4.161E-01
Ra-226	U-238	9.999E-01	0.000E+00	4.538E-13	4.533E-10	4.488E-07	1.185E-05	5.370E-05	1.442E-04	3.001E-04	4.074E-04
Ra-226	äS(j):		1.778E+02	1.778E+02	1.778E+02	1.778E+02	1.778E+02	1.778E+02	1.778E+02	1.778E+02	1.779E+02
0Ra-228	Ra-228	1.000E+00	4.505E+02	3.993E+02	1.349E+02	2.620E-03	8.866E-14	3.000E-24	1.015E-34	0.000E+00	0.000E+00

```
 Ra-228  Th-232  1.000E+00    0.000E+00 5.116E+01 3.156E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02
 Ra-228  äS(j):               4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02
0Th-228  Ra-228  1.000E+00    0.000E+00 1.285E+02 1.842E+02 3.927E-03 1.329E-13 4.496E-24 1.521E-34 0.000E+00 0.000E+00
 Th-228  Th-228  1.000E+00    4.505E+02 3.136E+02 1.203E+01 8.289E-14 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
 Th-228  Th-232  1.000E+00    0.000E+00 8.399E+00 2.543E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02
 Th-228  äS(j):               4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02
0Th-230  Th-230  1.000E+00    1.778E+02 1.778E+02 1.778E+02 1.776E+02 1.773E+02 1.770E+02 1.767E+02 1.764E+02 1.762E+02
 Th-230  U-234   1.000E+00    0.000E+00 2.217E-03 2.217E-02 2.216E-01 6.640E-01 1.105E+00 1.546E+00 1.985E+00 2.204E+00
 Th-230  U-238   9.999E-01    0.000E+00 3.143E-09 3.142E-07 3.141E-05 2.825E-04 7.841E-04 1.536E-03 2.536E-03 3.130E-03
 Th-230  äS(j):               1.778E+02 1.778E+02 1.778E+02 1.779E+02 1.780E+02 1.781E+02 1.782E+02 1.783E+02 1.784E+02
0Th-232  Th-232  1.000E+00    4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02 4.505E+02
0U-234   U-234   1.000E+00    2.463E+02 2.463E+02 2.463E+02 2.462E+02 2.461E+02 2.460E+02 2.458E+02 2.457E+02 2.456E+02
 U-234   U-238   9.999E-01    0.000E+00 6.982E-04 6.982E-03 6.981E-02 2.094E-01 3.489E-01 4.883E-01 6.276E-01 6.972E-01
 U-234   äS(j):               2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02
0U-235   U-235   1.000E+00    1.720E+01 1.720E+01 1.720E+01 1.720E+01 1.720E+01 1.720E+01 1.720E+01 1.720E+01 1.720E+01
0U-238   U-238   5.400E-05    1.330E-02 1.330E-02 1.330E-02 1.330E-02 1.330E-02 1.330E-02 1.330E-02 1.330E-02 1.330E-02
 U-238   U-238   9.999E-01    2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02
 U-238   äS(j):               2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02 2.463E+02
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 THF(i) is the thread fraction of the parent nuclide.
0RESCALC.EXE execution time =   68.36 seconds
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Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

1RESRAD, Version 6.4 T* Limit = 180 days 07/25/2009 15:14 Page 2
Summary : SMC Industrial Worker Area 3 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109103.RAD

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)
A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)

A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)

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

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

D-34	Ac-227+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,2)
D-34	Ac-227+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,3)
D-34					
D-34	Pa-231	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pa-231	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(2,2)
D-34	Pa-231	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(2,3)
D-34					
D-34	Pb-210+D	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(3,1)
D-34	Pb-210+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(3,2)
D-34	Pb-210+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(3,3)
D-34					
D-34	Ra-226+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(4,1)
D-34	Ra-226+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,2)
D-34	Ra-226+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,3)
D-34					
D-34	Ra-228+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(5,1)
D-34	Ra-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,2)
D-34	Ra-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,3)
D-34					
D-34	Th-228+D	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Th-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Th-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(6,3)
D-34					
D-34	Th-230	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Th-230	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Th-230	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(7,3)
D-34					

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

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

D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(2,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(2,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(3,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(3,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(4,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(4,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(5,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(5,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(6,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(6,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(7,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(7,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(8,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(8,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(9,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	8.710E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	2.950E+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)	1.000E+01	3.000E+00	---	T(3)

R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	1.690E+01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	1.690E+01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	2.640E+02	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	2.640E+02	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	4.173E+02	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	4.173E+02	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g):	Th-230	2.408E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	4.173E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	2.408E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	1.690E+01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	2.408E+02	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ

R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.600E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	2.500E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	1.604E+03	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.753E-06	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.257E+04	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.238E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	1.391E+05	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.022E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	1.391E+05	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.022E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	1.391E+05	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.022E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	7.297E+05	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.854E-09	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	7.297E+05	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)

R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.854E-09	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016					
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	7.297E+05	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.854E-09	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.600E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	7.000E-02	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)

R018	Meat and poultry consumption (kg/yr)	not used	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)	not used	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	4.100E+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	not used	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	not used	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	not used	-1	---	FPLANT
R018	Contamination fraction of meat	not used	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	not used	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	not used	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	not used	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	not used	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	not used	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	not used	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	not used	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	not used	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	not used	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	not used	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	not used	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN

C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

9 -- radon ³ suppressed
Find peak pathway doses ³ active

1RESRAD, Version 6.4 T« Limit = 180 days 07/25/2009 15:14 Page 13
Summary : SMC Industrial Worker Area 3 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109103.RAD

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	871.00 square meters	Ac-227	1.690E+01
Thickness:	4.50 meters	Pa-231	1.690E+01
Cover Depth:	1.83 meters	Pb-210	2.640E+02
		Ra-226	2.640E+02
		Ra-228	4.173E+02
		Th-228	4.173E+02
		Th-230	2.408E+02
		Th-232	4.173E+02
		U-234	2.408E+02
		U-235	1.690E+01
		U-238	2.408E+02

0
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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	8.698E-08	8.713E-08	8.857E-08	1.043E-07	1.501E-07	2.159E-07	3.107E-07	4.470E-07	5.362E-07
M(t):	3.479E-09	3.485E-09	3.543E-09	4.173E-09	6.003E-09	8.637E-09	1.243E-08	1.788E-08	2.145E-08

0Maximum TDOSE(t): 5.362E-07 mrem/yr at t = 1.000E+03 years

1RESRAD, Version 6.4 T« Limit = 180 days 07/25/2009 15:14 Page 14
Summary : SMC Industrial Worker Area 3 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109103.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
0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.268E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.098E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.639E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	9.624E-10	0.0111	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.335E-08	0.1535	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	7.210E-08	0.8290	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.902E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.592E-10	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	5.709E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.279E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.456E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	8.698E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0
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
0 Water Dependent Pathways

Radio-	Water	Fish	Radon	Plant	Meat	Milk	All Pathways*

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.268E-15	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.098E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.639E-17	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.624E-10	0.0111
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.335E-08	0.1535
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.210E-08	0.8290
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.902E-13	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.592E-10	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.709E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.279E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.456E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.698E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 3 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109103.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

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.232E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.088E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.565E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	9.640E-10	0.0111	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.246E-08	0.3726	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	5.028E-08	0.5770	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	5.717E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.426E-09	0.0393	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.003E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.153E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.473E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	8.713E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.232E-15	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.088E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.565E-17	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.640E-10	0.0111
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.246E-08	0.3726
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.028E-08	0.5770
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.717E-13	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.426E-09	0.0393
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.003E-18	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.153E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.473E-14	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.713E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
Water Independent Pathways (Inhalation excludes radon)

Radio-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.
Ac-227	9.482E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.770E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.985E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	9.791E-10	0.0111	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.409E-08	0.3849	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.960E-09	0.0221	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.072E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.153E-08	0.5818	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.927E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.549E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.625E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	8.857E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
Water Dependent Pathways

Radio-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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.482E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.770E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.985E-17	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.791E-10	0.0111
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.409E-08	0.3849
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.960E-09	0.0221
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.072E-12	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.153E-08	0.5818
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.927E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.549E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.625E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.857E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-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.

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Ac-227	6.927E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.628E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.527E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.144E-09	0.0110	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	8.467E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.591E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.640E-11	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.031E-07	0.9886	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.114E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.531E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	8.352E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.043E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.927E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.628E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.527E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.144E-09	0.0110
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.467E-13	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.591E-23	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.640E-11	0.0004
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.031E-07	0.9886
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.114E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.531E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.352E-14	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.043E-07	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
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Ac-227	2.067E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.937E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	5.107E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.615E-09	0.0108	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	4.118E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.045E-10	0.0014	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.483E-07	0.9879	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.827E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.679E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.398E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.501E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.067E-19	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.937E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.107E-21	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.615E-09	0.0108
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.118E-23	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.045E-10	0.0014
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.483E-07	0.9879
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.827E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.679E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.398E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.501E-07	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	6.169E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.085E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.708E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.280E-09	0.0106	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	5.026E-10	0.0023	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.131E-07	0.9871	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.174E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.079E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.344E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.159E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.169E-22	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.085E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.708E-23	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.280E-09	0.0106

Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.026E-10	0.0023
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.131E-07	0.9871
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.174E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.079E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.344E-13	0.0000
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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	2.159E-07	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.841E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	8.803E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	5.714E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.219E-09	0.0104	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.038E-09	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.064E-07	0.9863	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.441E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.257E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.936E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	3.107E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.841E-24	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.803E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.714E-26	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.219E-09	0.0104
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.038E-09	0.0033
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.064E-07	0.9863
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.441E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.257E-16	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.936E-13	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.107E-07	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+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.
Ac-227	5.496E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.524E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.546E-09	0.0102	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.971E-09	0.0044	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.405E-07	0.9854	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	8.517E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.835E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.623E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.470E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.496E-27	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.524E-14	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.546E-09	0.0102
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.971E-09	0.0044
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.405E-07	0.9854
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.517E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.835E-16	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.623E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.470E-07	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years
Water Independent Pathways (Inhalation excludes radon)

Radio-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.
Ac-227	3.003E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.005E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.402E-09	0.0101	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.663E-09	0.0050	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.282E-07	0.9849	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.287E-11	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.166E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	8.598E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.362E-07	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water Dependent Pathways

Radio-Nuclide	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.003E-28	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.005E-14	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.402E-09	0.0101
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.663E-09	0.0050
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.282E-07	0.9849
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.287E-11	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.166E-16	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.598E-13	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.362E-07	1.0000

*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 3 Controls in Place Restricted Area
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Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	7.504E-17	7.289E-17	5.611E-17	4.099E-18	1.223E-20	3.650E-23	1.089E-25	3.252E-28	1.777E-29
Pa-231	Pa-231	1.000E+00	4.002E-20	4.016E-20	4.137E-20	5.575E-20	1.082E-19	2.099E-19	4.073E-19	7.904E-19	1.101E-18
Pa-231	Ac-227+D	1.000E+00	1.201E-18	3.562E-18	2.226E-17	9.626E-17	1.737E-16	3.007E-16	5.205E-16	9.010E-16	1.186E-15
Pa-231	äDSR(j)		1.241E-18	3.602E-18	2.231E-17	9.631E-17	1.738E-16	3.009E-16	5.209E-16	9.018E-16	1.187E-15
Pb-210+D	Pb-210+D	1.000E+00	9.998E-20	9.717E-20	7.518E-20	5.783E-21	1.934E-23	6.471E-26	2.165E-28	7.241E-31	4.188E-32
Ra-226+D	Ra-226+D	1.000E+00	3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.116E-12	8.636E-12	1.219E-11	1.722E-11	2.046E-11
Ra-226+D	Pb-210+D	1.000E+00	1.562E-21	4.633E-21	2.894E-20	1.218E-19	1.966E-19	3.026E-19	4.659E-19	7.172E-19	8.899E-19
Ra-226+D	äDSR(j)		3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.116E-12	8.636E-12	1.219E-11	1.722E-11	2.046E-11
Ra-228+D	Ra-228+D	1.000E+00	1.255E-13	1.115E-13	3.851E-14	9.274E-19	5.061E-29	2.762E-39	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	3.187E-11	7.768E-11	8.166E-11	2.028E-15	9.864E-26	4.798E-36	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		3.199E-11	7.779E-11	8.170E-11	2.029E-15	9.869E-26	4.800E-36	0.000E+00	0.000E+00	0.000E+00
Th-228+D	Th-228+D	1.000E+00	1.728E-10	1.205E-10	4.697E-12	3.812E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	Th-230	1.000E+00	3.455E-33	3.473E-33	3.646E-33	5.915E-33	1.734E-32	5.081E-32	1.489E-31	4.365E-31	7.472E-31
Th-230	Ra-226+D	1.000E+00	7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.494E-13	2.087E-12	4.312E-12	8.187E-12	1.106E-11
Th-230	Pb-210+D	1.000E+00	2.262E-25	1.573E-24	6.951E-23	3.905E-21	2.419E-20	6.792E-20	1.560E-19	3.264E-19	4.619E-19
Th-230	äDSR(j)		7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.494E-13	2.087E-12	4.312E-12	8.187E-12	1.106E-11
Th-232	Th-232	1.000E+00	8.787E-37	8.839E-37	9.329E-37	1.599E-36	5.300E-36	1.756E-35	5.820E-35	1.929E-34	3.511E-34
Th-232	Ra-228+D	1.000E+00	7.722E-15	2.203E-14	9.797E-14	1.692E-13	2.730E-13	4.403E-13	7.102E-13	1.146E-12	1.455E-12
Th-232	Th-228+D	1.000E+00	1.332E-12	8.188E-12	1.234E-10	2.470E-10	3.550E-10	5.103E-10	7.335E-10	1.054E-09	1.264E-09
Th-232	äDSR(j)		1.340E-12	8.210E-12	1.235E-10	2.471E-10	3.553E-10	5.107E-10	7.343E-10	1.056E-09	1.266E-09

0U-234	U-234	1.000E+00	8.221E-35	8.267E-35	8.693E-35	1.437E-34	4.390E-34	1.341E-33	4.098E-33	1.252E-32	2.189E-32
U-234	Th-230	1.000E+00	1.556E-38	4.692E-38	3.446E-37	5.353E-36	4.694E-35	2.293E-34	9.411E-34	3.548E-33	6.751E-33
U-234	Ra-226+D	1.000E+00	2.371E-21	1.662E-20	8.003E-19	8.780E-17	1.174E-15	4.874E-15	1.429E-14	3.537E-14	5.343E-14
U-234	Pb-210+D	1.000E+00	5.100E-31	7.616E-30	2.253E-27	1.422E-24	3.021E-23	1.488E-22	4.933E-22	1.358E-21	2.158E-21
U-234	ädSR(j)		2.371E-21	1.662E-20	8.003E-19	8.780E-17	1.174E-15	4.874E-15	1.429E-14	3.537E-14	5.343E-14
0U-235+D	U-235+D	1.000E+00	6.678E-23	6.705E-23	6.949E-23	9.937E-23	2.200E-22	4.872E-22	1.079E-21	2.388E-21	3.554E-21
U-235+D	Pa-231	1.000E+00	4.236E-25	1.275E-24	9.193E-24	1.187E-22	6.905E-22	2.238E-21	6.093E-21	1.524E-20	2.362E-20
U-235+D	Ac-227+D	1.000E+00	8.497E-24	5.908E-23	2.613E-21	1.495E-19	9.924E-19	3.003E-18	7.433E-18	1.676E-17	2.462E-17
U-235+D	ädSR(j)		7.570E-23	1.274E-22	2.691E-21	1.498E-19	9.934E-19	3.005E-18	7.440E-18	1.678E-17	2.465E-17
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.803E-16	9.710E-16	1.625E-15	2.719E-15	3.518E-15
U-238+D	U-234	9.999E-01	1.166E-40	3.516E-40	2.588E-39	4.094E-38	3.742E-37	1.905E-36	8.146E-36	3.200E-35	6.216E-35
U-238+D	Th-230	9.999E-01	1.401E-44	1.037E-43	5.133E-42	7.626E-40	2.000E-38	1.628E-37	9.357E-37	4.537E-36	9.592E-36
U-238+D	Ra-226+D	9.999E-01	1.680E-27	2.525E-26	7.956E-24	8.370E-21	3.371E-19	2.347E-18	9.702E-18	3.108E-17	5.235E-17
U-238+D	Pb-210+D	9.999E-01	2.895E-37	8.947E-36	1.707E-32	1.137E-28	7.929E-27	6.755E-26	3.205E-25	1.153E-24	2.048E-24
U-238+D	ädSR(j)		2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.806E-16	9.734E-16	1.635E-15	2.751E-15	3.571E-15

The DSR includes contributions from associated (half-life ó 180 days) daughters.

Summary : SMC Industrial Worker Area 3 Controls in Place Restricted Area

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	7.815E+11	3.214E+11	3.060E+11	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.447E+11	2.075E+11	5.322E+12	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	1.690E+01	0.000E+00	7.504E-17	*7.232E+13	1.777E-29	*7.232E+13
Pa-231	1.690E+01	1.000E+03	1.187E-15	*4.723E+10	1.187E-15	*4.723E+10
Pb-210	2.640E+02	0.000E+00	9.998E-20	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	2.640E+02	1.000E+03	2.046E-11	*9.885E+11	2.046E-11	*9.885E+11
Ra-228	4.173E+02	4.112 ñ 0.008	1.197E-10	2.088E+11	0.000E+00	*2.726E+14
Th-228	4.173E+02	0.000E+00	1.728E-10	1.447E+11	0.000E+00	*8.195E+14
Th-230	2.408E+02	1.000E+03	1.106E-11	*2.018E+10	1.106E-11	*2.018E+10
Th-232	4.173E+02	1.000E+03	1.266E-09	*1.097E+05	1.266E-09	*1.097E+05
U-234	2.408E+02	1.000E+03	5.343E-14	*6.247E+09	5.343E-14	*6.247E+09
U-235	1.690E+01	1.000E+03	2.465E-17	*2.161E+06	2.465E-17	*2.161E+06
U-238	2.408E+02	1.000E+03	3.571E-15	*3.361E+05	3.571E-15	*3.361E+05

*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	1.268E-15	1.232E-15	9.482E-16	6.927E-17	2.067E-19	6.169E-22	1.841E-24	5.496E-27	3.003E-28
Ac-227	Pa-231	1.000E+00	2.030E-17	6.020E-17	3.763E-16	1.627E-15	2.935E-15	5.081E-15	8.796E-15	1.523E-14	2.004E-14
Ac-227	U-235	1.000E+00	1.436E-22	9.985E-22	4.416E-20	2.527E-18	1.677E-17	5.074E-17	1.256E-16	2.832E-16	4.161E-16
Ac-227	äDOSE(j)		1.288E-15	1.292E-15	1.325E-15	1.699E-15	2.952E-15	5.132E-15	8.921E-15	1.551E-14	2.045E-14
0Pa-231	Pa-231	1.000E+00	6.764E-19	6.786E-19	6.992E-19	9.422E-19	1.828E-18	3.548E-18	6.884E-18	1.336E-17	1.861E-17
Pa-231	U-235	1.000E+00	7.160E-24	2.154E-23	1.554E-22	2.006E-21	1.167E-20	3.782E-20	1.030E-19	2.575E-19	3.991E-19
Pa-231	äDOSE(j)		6.764E-19	6.786E-19	6.993E-19	9.442E-19	1.840E-18	3.585E-18	6.987E-18	1.361E-17	1.901E-17
0Pb-210	Pb-210	1.000E+00	2.639E-17	2.565E-17	1.985E-17	1.527E-18	5.107E-21	1.708E-23	5.714E-26	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	4.125E-19	1.223E-18	7.641E-18	3.217E-17	5.190E-17	7.990E-17	1.230E-16	1.893E-16	2.349E-16
Pb-210	Th-230	1.000E+00	5.448E-23	3.788E-22	1.674E-20	9.403E-19	5.825E-18	1.635E-17	3.756E-17	7.859E-17	1.112E-16
Pb-210	U-234	1.000E+00	0.000E+00	1.834E-27	5.425E-25	3.424E-22	7.275E-21	3.582E-20	1.188E-19	3.271E-19	5.196E-19
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	2.737E-26	1.909E-24	1.627E-23	7.718E-23	2.776E-22	4.932E-22
Pb-210	äDOSE(j)		2.681E-17	2.688E-17	2.751E-17	3.463E-17	5.773E-17	9.629E-17	1.607E-16	2.683E-16	3.467E-16
0Ra-226	Ra-226	1.000E+00	9.624E-10	9.640E-10	9.791E-10	1.144E-09	1.615E-09	2.280E-09	3.219E-09	4.546E-09	5.402E-09
Ra-226	Th-230	1.000E+00	1.902E-13	5.717E-13	4.072E-12	4.640E-11	2.045E-10	5.026E-10	1.038E-09	1.971E-09	2.663E-09
Ra-226	U-234	1.000E+00	5.709E-19	4.003E-18	1.927E-16	2.114E-14	2.827E-13	1.174E-12	3.441E-12	8.517E-12	1.287E-11
Ra-226	U-238	9.999E-01	4.047E-25	6.081E-24	1.916E-21	2.015E-18	8.118E-17	5.653E-16	2.336E-15	7.484E-15	1.261E-14
Ra-226	äDOSE(j)		9.626E-10	9.646E-10	9.832E-10	1.190E-09	1.820E-09	2.784E-09	4.261E-09	6.526E-09	8.077E-09
0Ra-228	Ra-228	1.000E+00	5.239E-11	4.655E-11	1.607E-11	3.870E-16	2.112E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	3.222E-12	9.193E-12	4.088E-11	7.062E-11	1.139E-10	1.837E-10	2.964E-10	4.780E-10	6.071E-10
Ra-228	äDOSE(j)		5.561E-11	5.574E-11	5.695E-11	7.062E-11	1.139E-10	1.837E-10	2.964E-10	4.780E-10	6.071E-10
0Th-228	Ra-228	1.000E+00	1.330E-08	3.242E-08	3.408E-08	8.463E-13	4.116E-23	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	7.210E-08	5.028E-08	1.960E-09	1.591E-23	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	5.560E-10	3.417E-09	5.149E-08	1.031E-07	1.481E-07	2.129E-07	3.061E-07	4.400E-07	5.276E-07
Th-228	äDOSE(j)		8.596E-08	8.611E-08	8.753E-08	1.031E-07	1.481E-07	2.129E-07	3.061E-07	4.400E-07	5.276E-07
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	1.129E-21	1.133E-21	1.174E-21	1.679E-21	3.718E-21	8.233E-21	1.823E-20	4.036E-20	6.006E-20
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	6.456E-14	6.473E-14	6.625E-14	8.351E-14	1.397E-13	2.338E-13	3.913E-13	6.548E-13	8.472E-13
U-238	äDOSE(j)		6.456E-14	6.473E-14	6.625E-14	8.351E-14	1.397E-13	2.338E-13	3.913E-13	6.548E-13	8.472E-13
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ

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

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03

ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ
Ac-227	Ac-227	1.000E+00	1.690E+01	1.637E+01	1.229E+01	6.999E-01	1.200E-03	2.059E-06	3.531E-09	6.056E-12	2.508E-13
Ac-227	Pa-231	1.000E+00	0.000E+00	5.295E-01	4.607E+00	1.617E+01	1.678E+01	1.669E+01	1.660E+01	1.652E+01	1.647E+01
Ac-227	U-235	1.000E+00	0.000E+00	5.632E-06	5.132E-04	2.496E-02	9.568E-02	1.665E-01	2.369E-01	3.070E-01	3.419E-01
Ac-227	äS(j):		1.690E+01	1.690E+01	1.690E+01	1.689E+01	1.687E+01	1.686E+01	1.684E+01	1.682E+01	1.681E+01
0Pa-231	Pa-231	1.000E+00	1.690E+01	1.690E+01	1.690E+01	1.686E+01	1.677E+01	1.668E+01	1.659E+01	1.651E+01	1.646E+01
Pa-231	U-235	1.000E+00	0.000E+00	3.576E-04	3.575E-03	3.571E-02	1.069E-01	1.776E-01	2.480E-01	3.180E-01	3.529E-01
Pa-231	äS(j):		1.690E+01	1.690E+01	1.690E+01	1.689E+01	1.687E+01	1.686E+01	1.684E+01	1.682E+01	1.681E+01
0Pb-210	Pb-210	1.000E+00	2.640E+02	2.559E+02	1.934E+02	1.178E+01	2.347E-02	4.675E-05	9.313E-08	1.855E-10	8.279E-12
Pb-210	Ra-226	1.000E+00	0.000E+00	8.078E+00	7.037E+01	2.443E+02	2.349E+02	2.153E+02	1.974E+02	1.810E+02	1.732E+02
Pb-210	Th-230	1.000E+00	0.000E+00	1.604E-03	1.463E-01	7.097E+00	2.631E+01	4.403E+01	6.023E+01	7.505E+01	8.198E+01
Pb-210	U-234	1.000E+00	0.000E+00	4.827E-09	4.504E-06	2.570E-03	3.280E-02	9.632E-02	1.903E-01	3.122E-01	3.828E-01
Pb-210	U-238	9.999E-01	0.000E+00	3.426E-15	3.241E-11	2.043E-07	8.594E-06	4.369E-05	1.236E-04	2.648E-04	3.631E-04
Pb-210	äS(j):		2.640E+02	2.640E+02	2.640E+02	2.632E+02	2.613E+02	2.595E+02	2.578E+02	2.563E+02	2.556E+02
0Ra-226	Ra-226	1.000E+00	2.640E+02	2.639E+02	2.629E+02	2.528E+02	2.317E+02	2.124E+02	1.947E+02	1.785E+02	1.709E+02
Ra-226	Th-230	1.000E+00	0.000E+00	1.043E-01	1.041E+00	1.020E+01	2.930E+01	4.677E+01	6.275E+01	7.736E+01	8.418E+01
Ra-226	U-234	1.000E+00	0.000E+00	4.695E-07	4.688E-05	4.626E-03	4.043E-02	1.091E-01	2.078E-01	3.340E-01	4.066E-01
Ra-226	U-238	9.999E-01	0.000E+00	4.436E-13	4.432E-10	4.388E-07	1.159E-05	5.249E-05	1.410E-04	2.933E-04	3.981E-04
Ra-226	äS(j):		2.640E+02	2.640E+02	2.639E+02	2.630E+02	2.610E+02	2.593E+02	2.577E+02	2.562E+02	2.555E+02
0Ra-228	Ra-228	1.000E+00	4.173E+02	3.699E+02	1.250E+02	2.427E-03	8.213E-14	2.779E-24	9.403E-35	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	0.000E+00	4.739E+01	2.923E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02
Ra-228	äS(j):		4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02
0Th-228	Ra-228	1.000E+00	0.000E+00	1.191E+02	1.706E+02	3.638E-03	1.231E-13	4.165E-24	1.409E-34	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	4.173E+02	2.905E+02	1.114E+01	7.678E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	7.780E+00	2.355E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02
Th-228	äS(j):		4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02
0Th-230	Th-230	1.000E+00	2.408E+02	2.408E+02	2.408E+02	2.406E+02	2.401E+02	2.397E+02	2.393E+02	2.389E+02	2.386E+02
Th-230	U-234	1.000E+00	0.000E+00	2.168E-03	2.168E-02	2.166E-01	6.491E-01	1.081E+00	1.511E+00	1.941E+00	2.155E+00
Th-230	U-238	9.999E-01	0.000E+00	3.072E-09	3.072E-07	3.071E-05	2.762E-04	7.666E-04	1.501E-03	2.480E-03	3.060E-03
Th-230	äS(j):		2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02
0Th-232	Th-232	1.000E+00	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02
0U-234	U-234	1.000E+00	2.408E+02	2.408E+02	2.408E+02	2.407E+02	2.406E+02	2.405E+02	2.403E+02	2.402E+02	2.401E+02
U-234	U-238	9.999E-01	0.000E+00	6.826E-04	6.826E-03	6.825E-02	2.047E-01	3.411E-01	4.774E-01	6.136E-01	6.817E-01
U-234	äS(j):		2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02
0U-235	U-235	1.000E+00	1.690E+01	1.690E+01	1.690E+01	1.690E+01	1.690E+01	1.690E+01	1.690E+01	1.690E+01	1.690E+01
0U-238	U-238	5.400E-05	1.300E-02	1.300E-02	1.300E-02	1.300E-02	1.300E-02	1.300E-02	1.300E-02	1.300E-02	1.300E-02
U-238	U-238	9.999E-01	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02
U-238	äS(j):		2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02
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THF(i) is the thread fraction of the parent nuclide.

0RESCALC.EXE execution time = 68.14 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)

A-1	Pb-212	(Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214	(Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210	(Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211	(Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214	(Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215	(Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216	(Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218	(Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223	(Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224	(Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226	(Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219	(Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220	(Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222	(Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227	(Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228	(Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230	(Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231	(Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232	(Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234	(Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207	(Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208	(Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210	(Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234	(Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235	(Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238	(Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:				
B-1	Ac-227+D		6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231		1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D		2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D		8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D		5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D		3.454E-01	3.420E-01	DCF2(6)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-238	1.180E-01	1.180E-01	DCF2(11)

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

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-34	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,1)
D-34	Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(8,2)
D-34	Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(8,3)
D-34				
D-34	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(9,1)

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

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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)		2.900E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)		4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)		1.700E+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)		1.000E+01	3.000E+00	---	T(3)
R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	2.000E-01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	2.000E-01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	1.900E+00	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	1.900E+00	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	3.500E+00	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	3.500E+00	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g):	Th-230	2.900E+00	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	3.500E+00	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	2.900E+00	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	2.000E-01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	2.900E+00	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	7.300E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	5.030E+04	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.591E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.099E+05	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.560E-08	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.600E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	7.000E-02	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

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

R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	not used	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)	not used	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	4.100E+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	not used	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	not used	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	not used	-1	---	FPLANT
R018	Contamination fraction of meat	not used	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	not used	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	not used	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	not used	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	not used	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	not used	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	not used	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	not used	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	not used	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	not used	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

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

R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	not used	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	not used	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

TITL ³ Maximum number of integration points for dose ³ 17 ³ --- ³ --- ³ LYMAX
TITL ³ Maximum number of integration points for risk ³ 1 ³ --- ³ --- ³ KYMAX

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area:	290.00 square meters
Thickness:	4.50 meters
Cover Depth:	1.83 meters

Initial Soil Concentrations, pCi/g

Ac-227	2.000E-01
Pa-231	2.000E-01
Pb-210	1.900E+00
Ra-226	1.900E+00
Ra-228	3.500E+00
Th-228	3.500E+00
Th-230	2.900E+00
Th-232	3.500E+00
U-234	2.900E+00
U-235	2.000E-01
U-238	2.900E+00

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	7.283E-10	7.297E-10	7.417E-10	8.737E-10	1.257E-09	1.810E-09	2.605E-09	3.751E-09	4.500E-09
M(t):	2.913E-11	2.919E-11	2.967E-11	3.495E-11	5.030E-11	7.240E-11	1.042E-10	1.500E-10	1.800E-10

0Maximum TDOSE(t): 4.500E-09 mrem/yr at t = 1.000E+03 years

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

0 Water Independent Pathways (Inhalation excludes radon)

0 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.
Ac-227	1.501E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Pa-231	2.483E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.900E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.926E-12	0.0095	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.120E-10	0.1537	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	6.047E-10	0.8303	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.291E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.690E-12	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	6.876E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.514E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	7.776E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	7.283E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.501E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.483E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.900E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.926E-12	0.0095
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.120E-10	0.1537
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.047E-10	0.8303
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.291E-15	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.690E-12	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.876E-21	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.514E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.776E-16	0.0000
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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	7.283E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.458E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	7.205E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.846E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.938E-12	0.0095	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.723E-10	0.3732	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	4.217E-10	0.5779	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	6.885E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.873E-11	0.0394	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.821E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.548E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	7.796E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	7.297E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio- Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.458E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.205E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.846E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.938E-12	0.0095
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.723E-10	0.3732
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.217E-10	0.5779
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.885E-15	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.873E-11	0.0394
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.821E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.548E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.796E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.297E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio- Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	1.122E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	4.461E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.429E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	7.047E-12	0.0095	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.860E-10	0.3855	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.644E-11	0.0222	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.904E-14	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.322E-10	0.5827	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.321E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.383E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	7.978E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	7.417E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio- Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.122E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.461E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.429E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.047E-12	0.0095
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.860E-10	0.3855
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.644E-11	0.0222

Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.904E-14	0.0001
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.322E-10	0.5827
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.321E-18	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.383E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.978E-16	0.0000
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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	7.417E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	8.198E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.926E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.099E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.232E-12	0.0094	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	7.102E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.334E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	5.588E-13	0.0006	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	8.649E-10	0.9899	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.546E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.995E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.006E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	8.737E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.198E-19	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.926E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.099E-20	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.232E-12	0.0094
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.102E-15	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.334E-25	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.588E-13	0.0006
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.649E-10	0.9899
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.546E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.995E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.006E-15	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.737E-10	1.0000

0*Sum of all water independent and dependent pathways.

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

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

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	2.446E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.476E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.675E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.163E-11	0.0092	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.454E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.464E-12	0.0020	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.243E-09	0.9888	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.405E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.987E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.684E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.257E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

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

Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.446E-21	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.476E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.675E-23	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.163E-11	0.0092
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.454E-25	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.464E-12	0.0020
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.243E-09	0.9888
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.405E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.987E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.684E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.257E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 2 Controls in Place Restricted Area

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

As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	7.301E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.017E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.229E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.642E-11	0.0091	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	6.055E-12	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Th-232	1.787E-09	0.9876	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.414E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	6.010E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.822E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.810E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Dependent Pathways

0 Radio- Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.301E-24	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.017E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.229E-25	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.642E-11	0.0091
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.055E-12	0.0033
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.787E-09	0.9876
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.414E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.010E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.822E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.810E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio- Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	2.179E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.042E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	4.113E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.320E-11	0.0089	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.251E-11	0.0048	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.570E-09	0.9863	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.146E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.488E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.740E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	2.605E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Dependent Pathways

0 Radio- Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.

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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.179E-26	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.042E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.113E-28	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.320E-11	0.0089
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.251E-11	0.0048
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.570E-09	0.9863
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.146E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.488E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.740E-15	0.0000
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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	2.605E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 2 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109102.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 = 9.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	6.504E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.804E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.277E-11	0.0087	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.376E-11	0.0063	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.694E-09	0.9849	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.026E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.355E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	7.975E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	3.751E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.504E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.804E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.277E-11	0.0087
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.376E-11	0.0063
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.694E-09	0.9849
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.026E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.355E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.975E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.751E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	3.553E-30	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.373E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.894E-11	0.0087	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.209E-11	0.0071	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.429E-09	0.9842	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.550E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.929E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.035E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.500E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.553E-30	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.373E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.894E-11	0.0087
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.209E-11	0.0071
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.429E-09	0.9842
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.550E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.929E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.035E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.500E-09	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	7.504E-17	7.289E-17	5.611E-17	4.099E-18	1.223E-20	3.650E-23	1.089E-25	3.252E-28	1.777E-29
0Pa-231	Pa-231	1.000E+00	4.002E-20	4.016E-20	4.137E-20	5.575E-20	1.082E-19	2.099E-19	4.073E-19	7.904E-19	1.101E-18

Pa-231	Ac-227+D	1.000E+00	1.201E-18	3.562E-18	2.226E-17	9.626E-17	1.737E-16	3.007E-16	5.205E-16	9.010E-16	1.186E-15
Pa-231	äDSR(j)		1.241E-18	3.602E-18	2.231E-17	9.631E-17	1.738E-16	3.009E-16	5.209E-16	9.018E-16	1.187E-15
0Pb-210+D	Pb-210+D	1.000E+00	9.998E-20	9.717E-20	7.518E-20	5.783E-21	1.934E-23	6.471E-26	2.165E-28	7.241E-31	4.188E-32
0Ra-226+D	Ra-226+D	1.000E+00	3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.120E-12	8.644E-12	1.221E-11	1.724E-11	2.050E-11
Ra-226+D	Pb-210+D	1.000E+00	1.562E-21	4.633E-21	2.894E-20	1.219E-19	1.967E-19	3.029E-19	4.664E-19	7.183E-19	8.913E-19
Ra-226+D	äDSR(j)		3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.120E-12	8.644E-12	1.221E-11	1.724E-11	2.050E-11
0Ra-228+D	Ra-228+D	1.000E+00	1.255E-13	1.115E-13	3.851E-14	9.274E-19	5.062E-29	2.763E-39	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	3.187E-11	7.768E-11	8.167E-11	2.028E-15	9.865E-26	4.798E-36	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		3.199E-11	7.779E-11	8.170E-11	2.029E-15	9.870E-26	4.801E-36	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.728E-10	1.205E-10	4.697E-12	3.812E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	3.455E-33	3.473E-33	3.646E-33	5.915E-33	1.733E-32	5.080E-32	1.489E-31	4.364E-31	7.471E-31
Th-230	Ra-226+D	1.000E+00	7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.496E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
Th-230	Pb-210+D	1.000E+00	2.262E-25	1.573E-24	6.951E-23	3.905E-21	2.419E-20	6.794E-20	1.561E-19	3.266E-19	4.622E-19
Th-230	äDSR(j)		7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.496E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
0Th-232	Th-232	1.000E+00	8.787E-37	8.839E-37	9.329E-37	1.599E-36	5.300E-36	1.756E-35	5.819E-35	1.928E-34	3.510E-34
Th-232	Ra-228+D	1.000E+00	7.722E-15	2.203E-14	9.797E-14	1.692E-13	2.730E-13	4.403E-13	7.101E-13	1.145E-12	1.455E-12
Th-232	Th-228+D	1.000E+00	1.332E-12	8.188E-12	1.234E-10	2.470E-10	3.550E-10	5.103E-10	7.335E-10	1.054E-09	1.264E-09
Th-232	äDSR(j)		1.340E-12	8.210E-12	1.235E-10	2.471E-10	3.553E-10	5.107E-10	7.342E-10	1.055E-09	1.265E-09
0U-234	U-234	1.000E+00	8.221E-35	8.267E-35	8.693E-35	1.437E-34	4.390E-34	1.341E-33	4.098E-33	1.252E-32	2.188E-32
U-234	Th-230	1.000E+00	1.556E-38	4.692E-38	3.446E-37	5.353E-36	4.693E-35	2.293E-34	9.410E-34	3.547E-33	6.749E-33
U-234	Ra-226+D	1.000E+00	2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
U-234	Pb-210+D	1.000E+00	5.100E-31	7.616E-30	2.253E-27	1.422E-24	3.021E-23	1.488E-22	4.934E-22	1.359E-21	2.159E-21
U-234	äDSR(j)		2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
0U-235+D	U-235+D	1.000E+00	6.678E-23	6.705E-23	6.949E-23	9.937E-23	2.200E-22	4.871E-22	1.079E-21	2.388E-21	3.553E-21
U-235+D	Pa-231	1.000E+00	4.236E-25	1.275E-24	9.193E-24	1.187E-22	6.905E-22	2.238E-21	6.093E-21	1.524E-20	2.361E-20
U-235+D	Ac-227+D	1.000E+00	8.497E-24	5.908E-23	2.613E-21	1.495E-19	9.924E-19	3.002E-18	7.433E-18	1.676E-17	2.462E-17
U-235+D	äDSR(j)		7.570E-23	1.274E-22	2.691E-21	1.498E-19	9.933E-19	3.005E-18	7.440E-18	1.678E-17	2.465E-17
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.803E-16	9.709E-16	1.625E-15	2.719E-15	3.517E-15
U-238+D	U-234	9.999E-01	1.166E-40	3.516E-40	2.588E-39	4.094E-38	3.741E-37	1.904E-36	8.145E-36	3.200E-35	6.215E-35
U-238+D	Th-230	9.999E-01	1.401E-44	1.037E-43	5.133E-42	7.626E-40	2.000E-38	1.628E-37	9.356E-37	4.536E-36	9.590E-36
U-238+D	Ra-226+D	9.999E-01	1.680E-27	2.525E-26	7.956E-24	8.370E-21	3.371E-19	2.348E-18	9.704E-18	3.109E-17	5.236E-17
U-238+D	Pb-210+D	9.999E-01	2.895E-37	8.947E-36	1.707E-32	1.137E-28	7.930E-27	6.756E-26	3.206E-25	1.153E-24	2.049E-24
U-238+D	äDSR(j)		2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.806E-16	9.733E-16	1.634E-15	2.750E-15	3.570E-15

The DSR includes contributions from associated (half-life ó 180 days) daughters.

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

0Nuclide

(i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	7.815E+11	3.214E+11	3.060E+11	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.447E+11	2.075E+11	5.322E+12	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	2.000E-01	0.000E+00	7.504E-17	*7.232E+13	1.777E-29	*7.232E+13
Pa-231	2.000E-01	1.000E+03	1.187E-15	*4.723E+10	1.187E-15	*4.723E+10
Pb-210	1.900E+00	0.000E+00	9.998E-20	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	1.900E+00	1.000E+03	2.050E-11	*9.885E+11	2.050E-11	*9.885E+11
Ra-228	3.500E+00	4.112 ñ 0.008	1.197E-10	2.088E+11	0.000E+00	*2.726E+14
Th-228	3.500E+00	0.000E+00	1.728E-10	1.447E+11	0.000E+00	*8.195E+14
Th-230	2.900E+00	1.000E+03	1.107E-11	*2.018E+10	1.107E-11	*2.018E+10
Th-232	3.500E+00	1.000E+03	1.265E-09	*1.097E+05	1.265E-09	*1.097E+05
U-234	2.900E+00	1.000E+03	5.346E-14	*6.247E+09	5.346E-14	*6.247E+09
U-235	2.000E-01	1.000E+03	2.465E-17	*2.161E+06	2.465E-17	*2.161E+06
U-238	2.900E+00	1.000E+03	3.570E-15	*3.361E+05	3.570E-15	*3.361E+05

*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated
DOSE(j,t), mrem/yr

0Nuclide (j)	Parent (i)	THF(i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	1.501E-17	1.458E-17	1.122E-17	8.198E-19	2.446E-21	7.301E-24	2.179E-26	6.504E-29	3.553E-30
Ac-227	Pa-231	1.000E+00	2.403E-19	7.125E-19	4.453E-18	1.925E-17	3.474E-17	6.013E-17	1.041E-16	1.802E-16	2.371E-16
Ac-227	U-235	1.000E+00	1.699E-24	1.182E-23	5.226E-22	2.991E-20	1.985E-19	6.005E-19	1.487E-18	3.352E-18	4.924E-18
Ac-227	äDOSE(j)		1.525E-17	1.529E-17	1.567E-17	2.010E-17	3.494E-17	6.073E-17	1.056E-16	1.836E-16	2.420E-16
0Pa-231	Pa-231	1.000E+00	8.004E-21	8.031E-21	8.274E-21	1.115E-20	2.164E-20	4.198E-20	8.146E-20	1.581E-19	2.202E-19
Pa-231	U-235	1.000E+00	8.473E-26	2.549E-25	1.839E-24	2.374E-23	1.381E-22	4.475E-22	1.219E-21	3.047E-21	4.723E-21
Pa-231	äDOSE(j)		8.005E-21	8.031E-21	8.276E-21	1.117E-20	2.177E-20	4.243E-20	8.268E-20	1.611E-19	2.249E-19
0Pb-210	Pb-210	1.000E+00	1.900E-19	1.846E-19	1.429E-19	1.099E-20	3.675E-23	1.229E-25	4.113E-28	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	2.968E-21	8.802E-21	5.499E-20	2.315E-19	3.737E-19	5.755E-19	8.862E-19	1.365E-18	1.694E-18
Pb-210	Th-230	1.000E+00	6.561E-25	4.562E-24	2.016E-22	1.132E-20	7.016E-20	1.970E-19	4.526E-19	9.470E-19	1.341E-18
Pb-210	U-234	1.000E+00	0.000E+00	2.209E-29	6.533E-27	4.124E-24	8.762E-23	4.315E-22	1.431E-21	3.940E-21	6.261E-21
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	3.296E-28	2.300E-26	1.959E-25	9.297E-25	3.343E-24	5.941E-24
Pb-210	äDOSE(j)		1.929E-19	1.934E-19	1.980E-19	2.538E-19	4.439E-19	7.729E-19	1.340E-18	2.316E-18	3.040E-18
0Ra-226	Ra-226	1.000E+00	6.926E-12	6.938E-12	7.047E-12	8.232E-12	1.163E-11	1.642E-11	2.320E-11	3.277E-11	3.894E-11
Ra-226	Th-230	1.000E+00	2.291E-15	6.885E-15	4.904E-14	5.588E-13	2.464E-12	6.055E-12	1.251E-11	2.376E-11	3.209E-11
Ra-226	U-234	1.000E+00	6.876E-21	4.821E-20	2.321E-18	2.546E-16	3.405E-15	1.414E-14	4.146E-14	1.026E-13	1.550E-13
Ra-226	U-238	9.999E-01	4.873E-27	7.323E-26	2.307E-23	2.427E-20	9.777E-19	6.809E-18	2.814E-17	9.015E-17	1.519E-16
Ra-226	äDOSE(j)		6.929E-12	6.945E-12	7.096E-12	8.791E-12	1.409E-11	2.249E-11	3.575E-11	5.663E-11	7.119E-11
0Ra-228	Ra-228	1.000E+00	4.394E-13	3.904E-13	1.348E-13	3.246E-18	1.772E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	2.703E-14	7.711E-14	3.429E-13	5.923E-13	9.554E-13	1.541E-12	2.485E-12	4.009E-12	5.091E-12
Ra-228	äDOSE(j)		4.664E-13	4.675E-13	4.777E-13	5.923E-13	9.554E-13	1.541E-12	2.485E-12	4.009E-12	5.091E-12
0Th-228	Ra-228	1.000E+00	1.115E-10	2.719E-10	2.858E-10	7.098E-15	3.453E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	6.047E-10	4.217E-10	1.644E-11	1.334E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	4.663E-12	2.866E-11	4.319E-10	8.643E-10	1.242E-09	1.786E-09	2.567E-09	3.690E-09	4.424E-09
Th-228	äDOSE(j)		7.209E-10	7.223E-10	7.341E-10	8.644E-10	1.242E-09	1.786E-09	2.567E-09	3.690E-09	4.424E-09
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	1.336E-23	1.341E-23	1.390E-23	1.987E-23	4.400E-23	9.743E-23	2.157E-22	4.776E-22	7.107E-22	
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	7.776E-16	7.796E-16	7.978E-16	1.006E-15	1.683E-15	2.816E-15	4.712E-15	7.885E-15	1.020E-14	
U-238	äDOSE(j)		7.776E-16	7.796E-16	7.978E-16	1.006E-15	1.683E-15	2.816E-15	4.712E-15	7.885E-15	1.020E-14	
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THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ
Ac-227	Ac-227	1.000E+00	2.000E-01	1.937E-01	1.455E-01	8.283E-03	1.421E-05	2.436E-08	4.179E-11	7.167E-14	2.968E-15	
Ac-227	Pa-231	1.000E+00	0.000E+00	6.267E-03	5.452E-02	1.913E-01	1.985E-01	1.975E-01	1.965E-01	1.954E-01	1.949E-01	
Ac-227	U-235	1.000E+00	0.000E+00	6.665E-08	6.074E-06	2.954E-04	1.132E-03	1.970E-03	2.804E-03	3.633E-03	4.046E-03	
Ac-227	äS(j):		2.000E-01	2.000E-01	2.000E-01	1.999E-01	1.997E-01	1.995E-01	1.993E-01	1.991E-01	1.990E-01	
0Pa-231	Pa-231	1.000E+00	2.000E-01	2.000E-01	1.999E-01	1.995E-01	1.984E-01	1.974E-01	1.964E-01	1.953E-01	1.948E-01	
Pa-231	U-235	1.000E+00	0.000E+00	4.232E-06	4.231E-05	4.226E-04	1.264E-03	2.102E-03	2.935E-03	3.763E-03	4.176E-03	
Pa-231	äS(j):		2.000E-01	2.000E-01	2.000E-01	1.999E-01	1.997E-01	1.995E-01	1.993E-01	1.991E-01	1.990E-01	
0Pb-210	Pb-210	1.000E+00	1.900E+00	1.842E+00	1.392E+00	8.480E-02	1.689E-04	3.365E-07	6.702E-10	1.335E-12	5.958E-14	
Pb-210	Ra-226	1.000E+00	0.000E+00	5.814E-02	5.064E-01	1.759E+00	1.691E+00	1.551E+00	1.422E+00	1.304E+00	1.249E+00	
Pb-210	Th-230	1.000E+00	0.000E+00	1.932E-05	1.762E-03	8.548E-02	3.169E-01	5.304E-01	7.258E-01	9.044E-01	9.880E-01	
Pb-210	U-234	1.000E+00	0.000E+00	5.813E-11	5.424E-08	3.095E-05	3.951E-04	1.160E-03	2.293E-03	3.761E-03	4.611E-03	
Pb-210	U-238	9.999E-01	0.000E+00	4.126E-17	3.903E-13	2.461E-09	1.035E-07	5.263E-07	1.488E-06	3.189E-06	4.374E-06	
Pb-210	äS(j):		1.900E+00	1.900E+00	1.900E+00	1.929E+00	2.009E+00	2.083E+00	2.150E+00	2.212E+00	2.241E+00	
0Ra-226	Ra-226	1.000E+00	1.900E+00	1.899E+00	1.892E+00	1.819E+00	1.668E+00	1.530E+00	1.403E+00	1.286E+00	1.232E+00	
Ra-226	Th-230	1.000E+00	0.000E+00	1.256E-03	1.254E-02	1.229E-01	3.529E-01	5.634E-01	7.560E-01	9.322E-01	1.015E+00	
Ra-226	U-234	1.000E+00	0.000E+00	5.654E-09	5.646E-07	5.572E-05	4.870E-04	1.314E-03	2.503E-03	4.024E-03	4.899E-03	
Ra-226	U-238	9.999E-01	0.000E+00	5.343E-15	5.337E-12	5.284E-09	1.396E-07	6.323E-07	1.698E-06	3.533E-06	4.796E-06	
Ra-226	äS(j):		1.900E+00	1.900E+00	1.904E+00	1.942E+00	2.022E+00	2.095E+00	2.161E+00	2.223E+00	2.251E+00	
0Ra-228	Ra-228	1.000E+00	3.500E+00	3.103E+00	1.048E+00	2.036E-05	6.889E-16	2.331E-26	7.887E-37	0.000E+00	0.000E+00	
Ra-228	Th-232	1.000E+00	0.000E+00	3.975E-01	2.452E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.499E+00	3.499E+00	
Ra-228	äS(j):		3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.499E+00	3.499E+00	
0Th-228	Ra-228	1.000E+00	0.000E+00	9.985E-01	1.431E+00	3.051E-05	1.032E-15	3.493E-26	1.182E-36	0.000E+00	0.000E+00	
Th-228	Th-228	1.000E+00	3.500E+00	2.436E+00	9.344E-02	6.440E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
Th-228	Th-232	1.000E+00	0.000E+00	6.525E-02	1.975E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.499E+00	3.499E+00	
Th-228	äS(j):		3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.499E+00	3.499E+00	
0Th-230	Th-230	1.000E+00	2.900E+00	2.900E+00	2.900E+00	2.897E+00	2.892E+00	2.887E+00	2.881E+00	2.876E+00	2.874E+00	
Th-230	U-234	1.000E+00	0.000E+00	2.611E-05	2.610E-04	2.609E-03	7.817E-03	1.301E-02	1.820E-02	2.337E-02	2.595E-02	
Th-230	U-238	9.999E-01	0.000E+00	3.700E-11	3.700E-09	3.699E-07	3.326E-06	9.231E-06	1.808E-05	2.986E-05	3.685E-05	
Th-230	äS(j):		2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	
0Th-232	Th-232	1.000E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.499E+00	3.499E+00	
0U-234	U-234	1.000E+00	2.900E+00	2.900E+00	2.900E+00	2.899E+00	2.897E+00	2.896E+00	2.894E+00	2.892E+00	2.891E+00	
U-234	U-238	9.999E-01	0.000E+00	8.221E-06	8.221E-05	8.220E-04	2.465E-03	4.107E-03	5.748E-03	7.388E-03	8.208E-03	
U-234	äS(j):		2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.899E+00	2.899E+00	
0U-235	U-235	1.000E+00	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	
0U-238	U-238	5.400E-05	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04	
U-238	U-238	9.999E-01	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.899E+00	2.899E+00	2.899E+00	
U-238	äS(j):		2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.899E+00	2.899E+00	
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	

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

0RESCALC.EXE execution time = 68.38 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)
A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)

A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)

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

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

D-34	Ac-227+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,2)
D-34	Ac-227+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,3)
D-34					
D-34	Pa-231	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pa-231	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(2,2)
D-34	Pa-231	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(2,3)
D-34					
D-34	Pb-210+D	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(3,1)
D-34	Pb-210+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(3,2)
D-34	Pb-210+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(3,3)
D-34					
D-34	Ra-226+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(4,1)
D-34	Ra-226+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,2)
D-34	Ra-226+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,3)
D-34					
D-34	Ra-228+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(5,1)
D-34	Ra-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,2)
D-34	Ra-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,3)
D-34					
D-34	Th-228+D	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Th-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Th-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(6,3)
D-34					
D-34	Th-230	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Th-230	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Th-230	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(7,3)
D-34					

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

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

D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(2,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(2,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(3,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(3,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(4,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(4,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(5,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(5,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(6,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(6,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(7,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(7,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(8,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(8,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(9,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	6.800E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	2.610E+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)	1.000E+01	3.000E+00	---	T(3)

R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	1.600E+00	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	1.600E+00	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	6.040E+01	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	6.040E+01	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	5.040E+01	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	5.040E+01	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g):	Th-230	2.270E+01	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	5.040E+01	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	2.270E+01	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	1.600E+00	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	2.270E+01	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Summary : SMC Industrial Worker Area 9 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109109.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 Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	1.341E+05	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.097E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.440E+04	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.953E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Summary : SMC Industrial Worker Area 9 Controls in Place Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109109.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 U-234				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)

R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.600E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	7.000E-02	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)

R018	Meat and poultry consumption (kg/yr)	not used	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)	not used	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	4.100E+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	not used	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	not used	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	not used	-1	---	FPLANT
R018	Contamination fraction of meat	not used	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	not used	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	not used	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	not used	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	not used	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	not used	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	not used	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	not used	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	not used	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	not used	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	not used	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	not used	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	not used	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN

C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	680.00 square meters	Ac-227	1.600E+00
Thickness:	4.50 meters	Pa-231	1.600E+00
Cover Depth:	1.83 meters	Pb-210	6.040E+01
		Ra-226	6.040E+01
		Ra-228	5.040E+01
		Th-228	5.040E+01
		Th-230	2.270E+01
		Th-232	5.040E+01
		U-234	2.270E+01
		U-235	1.600E+00
		U-238	2.270E+01

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	1.061E-08	1.063E-08	1.080E-08	1.272E-08	1.829E-08	2.631E-08	3.784E-08	5.443E-08	6.528E-08
M(t):	4.243E-10	4.251E-10	4.321E-10	5.089E-10	7.318E-10	1.052E-09	1.514E-09	2.177E-09	2.611E-09

0Maximum TDOSE(t): 6.528E-08 mrem/yr at t = 1.000E+03 years

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

0 Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.201E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.986E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	6.039E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.202E-10	0.0208	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.612E-09	0.1520	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	8.708E-09	0.8209	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.793E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	6.754E-11	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	5.382E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.211E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.086E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.061E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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
0 Water Dependent Pathways

0 Radio-	Water	Fish	Radon	Plant	Meat	Milk	All Pathways*

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.201E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.986E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.039E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.202E-10	0.0208
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.612E-09	0.1520
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.708E-09	0.8209
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.793E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.754E-11	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.382E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.211E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.086E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.061E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Industrial Worker Area 9 Controls in Place Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109109.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

0
Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.166E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.764E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	5.869E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.206E-10	0.0208	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.921E-09	0.3689	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	6.073E-09	0.5714	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	5.389E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.138E-10	0.0389	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.774E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.038E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.102E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.063E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0
Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.166E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.764E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.869E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.206E-10	0.0208
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.921E-09	0.3689
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.073E-09	0.5714
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.389E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.138E-10	0.0389
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.774E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.038E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.102E-15	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.063E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	8.977E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.569E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	4.541E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.240E-10	0.0207	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	4.118E-09	0.3812	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	2.368E-10	0.0219	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.838E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	6.224E-09	0.5761	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.817E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.306E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.245E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.080E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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
0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.977E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.569E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.541E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.240E-10	0.0207
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.118E-09	0.3812
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.368E-10	0.0219
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.838E-13	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.224E-09	0.5761
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.817E-17	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.306E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.245E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.080E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years
0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	6.558E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.541E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.493E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.617E-10	0.0206	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.023E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.921E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.374E-12	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.246E-08	0.9791	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.993E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.396E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	7.873E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.272E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.558E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.541E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.493E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.617E-10	0.0206
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.023E-13	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.921E-24	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.374E-12	0.0003
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.246E-08	0.9791
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.993E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.396E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.873E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.272E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	1.957E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.781E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.168E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.696E-10	0.0202	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	4.974E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.929E-11	0.0011	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.791E-08	0.9787	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.666E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.589E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.318E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.829E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.957E-20	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.781E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.168E-21	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.696E-10	0.0202
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.974E-24	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.929E-11	0.0011
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.791E-08	0.9787
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.666E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.589E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.318E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.829E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	5.841E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	4.814E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.908E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.221E-10	0.0198	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.740E-11	0.0018	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.574E-08	0.9784	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.107E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.808E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.209E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.631E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.841E-23	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.814E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.908E-24	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.221E-10	0.0198

Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.740E-11	0.0018
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.574E-08	0.9784
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.107E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.808E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.209E-14	0.0000
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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	2.631E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.743E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	8.334E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.307E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	7.374E-10	0.0195	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	9.794E-11	0.0026	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.701E-08	0.9779	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.245E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.190E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.710E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	3.784E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.743E-25	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.334E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.307E-26	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.374E-10	0.0195
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.794E-11	0.0026
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.701E-08	0.9779
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.245E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.190E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.710E-14	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.784E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+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.
Ac-227	5.203E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.443E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.042E-09	0.0191	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.860E-10	0.0034	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.320E-08	0.9774	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	8.032E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.684E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.243E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.443E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.203E-28	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.443E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.042E-09	0.0191
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.860E-10	0.0034
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.320E-08	0.9774
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.032E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.684E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.243E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.443E-08	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years
Water Independent Pathways (Inhalation excludes radon)

Radio-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.
Ac-227	2.843E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.899E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.238E-09	0.0190	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Th-230	2.512E-10	0.0038	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Th-232	6.379E-08	0.9772	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
U-234	1.214E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
U-235	3.943E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
U-238	8.104E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		
Total	6.528E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000		

0

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

0 Water Dependent Pathways

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.843E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.899E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.238E-09	0.0190
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.512E-10	0.0038
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.379E-08	0.9772
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.214E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.943E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.104E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.528E-08	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	7.504E-17	7.289E-17	5.611E-17	4.099E-18	1.223E-20	3.650E-23	1.089E-25	3.252E-28	1.777E-29
0Pa-231	Pa-231	1.000E+00	4.002E-20	4.016E-20	4.137E-20	5.575E-20	1.082E-19	2.099E-19	4.073E-19	7.904E-19	1.101E-18
Pa-231	Ac-227+D	1.000E+00	1.201E-18	3.562E-18	2.226E-17	9.626E-17	1.737E-16	3.007E-16	5.205E-16	9.010E-16	1.186E-15
Pa-231	äDSR(j)		1.241E-18	3.602E-18	2.231E-17	9.631E-17	1.738E-16	3.009E-16	5.209E-16	9.018E-16	1.187E-15
0Pb-210+D	Pb-210+D	1.000E+00	9.998E-20	9.717E-20	7.518E-20	5.783E-21	1.934E-23	6.471E-26	2.165E-28	7.241E-31	4.188E-32
0Ra-226+D	Ra-226+D	1.000E+00	3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.120E-12	8.644E-12	1.221E-11	1.725E-11	2.050E-11
Ra-226+D	Pb-210+D	1.000E+00	1.562E-21	4.633E-21	2.894E-20	1.219E-19	1.967E-19	3.029E-19	4.664E-19	7.183E-19	8.914E-19
Ra-226+D	äDSR(j)		3.645E-12	3.652E-12	3.709E-12	4.332E-12	6.120E-12	8.644E-12	1.221E-11	1.725E-11	2.050E-11
0Ra-228+D	Ra-228+D	1.000E+00	1.255E-13	1.115E-13	3.851E-14	9.274E-19	5.061E-29	2.762E-39	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	3.187E-11	7.768E-11	8.167E-11	2.028E-15	9.864E-26	4.798E-36	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		3.199E-11	7.779E-11	8.170E-11	2.029E-15	9.869E-26	4.800E-36	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.728E-10	1.205E-10	4.697E-12	3.812E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	3.455E-33	3.473E-33	3.646E-33	5.915E-33	1.734E-32	5.081E-32	1.489E-31	4.364E-31	7.472E-31
Th-230	Ra-226+D	1.000E+00	7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.497E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
Th-230	Pb-210+D	1.000E+00	2.262E-25	1.573E-24	6.951E-23	3.905E-21	2.419E-20	6.795E-20	1.561E-19	3.266E-19	4.623E-19
Th-230	äDSR(j)		7.900E-16	2.374E-15	1.691E-14	1.927E-13	8.497E-13	2.088E-12	4.314E-12	8.193E-12	1.107E-11
0Th-232	Th-232	1.000E+00	8.787E-37	8.839E-37	9.329E-37	1.599E-36	5.300E-36	1.756E-35	5.820E-35	1.929E-34	3.511E-34
Th-232	Ra-228+D	1.000E+00	7.722E-15	2.203E-14	9.797E-14	1.692E-13	2.730E-13	4.403E-13	7.102E-13	1.145E-12	1.455E-12
Th-232	Th-228+D	1.000E+00	1.332E-12	8.188E-12	1.234E-10	2.470E-10	3.550E-10	5.103E-10	7.335E-10	1.054E-09	1.264E-09
Th-232	äDSR(j)		1.340E-12	8.210E-12	1.235E-10	2.471E-10	3.553E-10	5.107E-10	7.342E-10	1.056E-09	1.266E-09

0U-234	U-234	1.000E+00	8.221E-35	8.267E-35	8.693E-35	1.437E-34	4.390E-34	1.341E-33	4.098E-33	1.252E-32	2.188E-32
U-234	Th-230	1.000E+00	1.556E-38	4.692E-38	3.446E-37	5.353E-36	4.694E-35	2.293E-34	9.410E-34	3.548E-33	6.750E-33
U-234	Ra-226+D	1.000E+00	2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
U-234	Pb-210+D	1.000E+00	5.100E-31	7.616E-30	2.253E-27	1.422E-24	3.022E-23	1.488E-22	4.934E-22	1.359E-21	2.159E-21
U-234	ädSR(j)		2.371E-21	1.662E-20	8.003E-19	8.781E-17	1.174E-15	4.875E-15	1.430E-14	3.538E-14	5.346E-14
0U-235+D	U-235+D	1.000E+00	6.678E-23	6.705E-23	6.949E-23	9.937E-23	2.200E-22	4.871E-22	1.079E-21	2.388E-21	3.553E-21
U-235+D	Pa-231	1.000E+00	4.236E-25	1.275E-24	9.193E-24	1.187E-22	6.905E-22	2.238E-21	6.093E-21	1.524E-20	2.361E-20
U-235+D	Ac-227+D	1.000E+00	8.497E-24	5.908E-23	2.613E-21	1.495E-19	9.924E-19	3.002E-18	7.433E-18	1.676E-17	2.462E-17
U-235+D	ädSR(j)		7.570E-23	1.274E-22	2.691E-21	1.498E-19	9.933E-19	3.005E-18	7.440E-18	1.678E-17	2.465E-17
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.803E-16	9.709E-16	1.625E-15	2.719E-15	3.518E-15
U-238+D	U-234	9.999E-01	1.166E-40	3.516E-40	2.588E-39	4.094E-38	3.741E-37	1.904E-36	8.145E-36	3.200E-35	6.215E-35
U-238+D	Th-230	9.999E-01	1.401E-44	1.037E-43	5.133E-42	7.626E-40	2.000E-38	1.628E-37	9.356E-37	4.536E-36	9.591E-36
U-238+D	Ra-226+D	9.999E-01	1.680E-27	2.525E-26	7.956E-24	8.370E-21	3.371E-19	2.348E-18	9.704E-18	3.109E-17	5.237E-17
U-238+D	Pb-210+D	9.999E-01	2.895E-37	8.947E-36	1.707E-32	1.137E-28	7.930E-27	6.756E-26	3.206E-25	1.153E-24	2.049E-24
U-238+D	ädSR(j)		2.681E-16	2.688E-16	2.751E-16	3.468E-16	5.806E-16	9.733E-16	1.634E-15	2.750E-15	3.570E-15

The DSR includes contributions from associated (half-life ó 180 days) daughters.

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

0Nuclide

(i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	7.815E+11	3.214E+11	3.060E+11	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.447E+11	2.075E+11	5.322E+12	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	1.600E+00	0.000E+00	7.504E-17	*7.232E+13	1.777E-29	*7.232E+13
Pa-231	1.600E+00	1.000E+03	1.187E-15	*4.723E+10	1.187E-15	*4.723E+10
Pb-210	6.040E+01	0.000E+00	9.998E-20	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	6.040E+01	1.000E+03	2.050E-11	*9.885E+11	2.050E-11	*9.885E+11
Ra-228	5.040E+01	4.112 ñ 0.008	1.197E-10	2.088E+11	0.000E+00	*2.726E+14
Th-228	5.040E+01	0.000E+00	1.728E-10	1.447E+11	0.000E+00	*8.195E+14
Th-230	2.270E+01	1.000E+03	1.107E-11	*2.018E+10	1.107E-11	*2.018E+10
Th-232	5.040E+01	1.000E+03	1.266E-09	*1.097E+05	1.266E-09	*1.097E+05
U-234	2.270E+01	1.000E+03	5.346E-14	*6.247E+09	5.346E-14	*6.247E+09
U-235	1.600E+00	1.000E+03	2.465E-17	*2.161E+06	2.465E-17	*2.161E+06
U-238	2.270E+01	1.000E+03	3.570E-15	*3.361E+05	3.570E-15	*3.361E+05

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	1.201E-16	1.166E-16	8.977E-17	6.558E-18	1.957E-20	5.841E-23	1.743E-25	5.203E-28	2.843E-29
Ac-227	Pa-231	1.000E+00	1.922E-18	5.700E-18	3.562E-17	1.540E-16	2.779E-16	4.811E-16	8.327E-16	1.442E-15	1.897E-15
Ac-227	U-235	1.000E+00	1.360E-23	9.453E-23	4.180E-21	2.393E-19	1.588E-18	4.804E-18	1.189E-17	2.681E-17	3.939E-17
Ac-227	äDOSE(j)		1.220E-16	1.223E-16	1.254E-16	1.608E-16	2.795E-16	4.859E-16	8.446E-16	1.468E-15	1.936E-15
0Pa-231	Pa-231	1.000E+00	6.404E-20	6.425E-20	6.619E-20	8.920E-20	1.731E-19	3.359E-19	6.517E-19	1.265E-18	1.762E-18
Pa-231	U-235	1.000E+00	6.778E-25	2.039E-24	1.471E-23	1.899E-22	1.105E-21	3.580E-21	9.748E-21	2.438E-20	3.778E-20
Pa-231	äDOSE(j)		6.404E-20	6.425E-20	6.621E-20	8.939E-20	1.742E-19	3.394E-19	6.615E-19	1.289E-18	1.799E-18
0Pb-210	Pb-210	1.000E+00	6.039E-18	5.869E-18	4.541E-18	3.493E-19	1.168E-21	3.908E-24	1.307E-26	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	9.436E-20	2.798E-19	1.748E-18	7.360E-18	1.188E-17	1.829E-17	2.817E-17	4.338E-17	5.384E-17
Pb-210	Th-230	1.000E+00	5.136E-24	3.571E-23	1.578E-21	8.865E-20	5.492E-19	1.542E-18	3.543E-18	7.413E-18	1.049E-17
Pb-210	U-234	1.000E+00	0.000E+00	1.729E-28	5.114E-26	3.228E-23	6.859E-22	3.377E-21	1.120E-20	3.084E-20	4.901E-20
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	2.580E-27	1.800E-25	1.534E-24	7.277E-24	2.617E-23	4.651E-23
Pb-210	äDOSE(j)		6.133E-18	6.149E-18	6.291E-18	7.798E-18	1.243E-17	1.984E-17	3.173E-17	5.083E-17	6.438E-17
0Ra-226	Ra-226	1.000E+00	2.202E-10	2.206E-10	2.240E-10	2.617E-10	3.696E-10	5.221E-10	7.374E-10	1.042E-09	1.238E-09
Ra-226	Th-230	1.000E+00	1.793E-14	5.389E-14	3.838E-13	4.374E-12	1.929E-11	4.740E-11	9.794E-11	1.860E-10	2.512E-10
Ra-226	U-234	1.000E+00	5.382E-20	3.774E-19	1.817E-17	1.993E-15	2.666E-14	1.107E-13	3.245E-13	8.032E-13	1.214E-12
Ra-226	U-238	9.999E-01	3.815E-26	5.732E-25	1.806E-22	1.900E-19	7.653E-18	5.330E-17	2.203E-16	7.057E-16	1.189E-15
Ra-226	äDOSE(j)		2.202E-10	2.206E-10	2.244E-10	2.661E-10	3.889E-10	5.696E-10	8.357E-10	1.228E-09	1.490E-09
0Ra-228	Ra-228	1.000E+00	6.327E-12	5.622E-12	1.941E-12	4.674E-17	2.551E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	3.892E-13	1.110E-12	4.937E-12	8.530E-12	1.376E-11	2.219E-11	3.579E-11	5.773E-11	7.332E-11
Ra-228	äDOSE(j)		6.716E-12	6.732E-12	6.879E-12	8.530E-12	1.376E-11	2.219E-11	3.579E-11	5.773E-11	7.332E-11
0Th-228	Ra-228	1.000E+00	1.606E-09	3.915E-09	4.116E-09	1.022E-13	4.972E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	8.708E-09	6.073E-09	2.368E-10	1.921E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	6.715E-11	4.127E-10	6.219E-09	1.245E-08	1.789E-08	2.572E-08	3.697E-08	5.314E-08	6.372E-08
Th-228	äDOSE(j)		1.038E-08	1.040E-08	1.057E-08	1.245E-08	1.789E-08	2.572E-08	3.697E-08	5.314E-08	6.372E-08
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	1.069E-22	1.073E-22	1.112E-22	1.590E-22	3.520E-22	7.794E-22	1.726E-21	3.821E-21	5.685E-21
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	6.086E-15	6.102E-15	6.245E-15	7.873E-15	1.317E-14	2.204E-14	3.688E-14	6.172E-14	7.985E-14
U-238	äDOSE(j)		6.086E-15	6.102E-15	6.245E-15	7.873E-15	1.317E-14	2.204E-14	3.688E-14	6.172E-14	7.985E-14
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THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03

ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ
Ac-227	Ac-227	1.000E+00	1.600E+00	1.550E+00	1.164E+00	6.626E-02	1.136E-04	1.949E-07	3.343E-10	5.734E-13	2.374E-14
Ac-227	Pa-231	1.000E+00	0.000E+00	5.013E-02	4.362E-01	1.531E+00	1.588E+00	1.580E+00	1.572E+00	1.564E+00	1.559E+00
Ac-227	U-235	1.000E+00	0.000E+00	5.332E-07	4.859E-05	2.363E-03	9.058E-03	1.576E-02	2.243E-02	2.906E-02	3.237E-02
Ac-227	äS(j):		1.600E+00	1.600E+00	1.600E+00	1.599E+00	1.597E+00	1.596E+00	1.594E+00	1.593E+00	1.592E+00
0Pa-231	Pa-231	1.000E+00	1.600E+00	1.600E+00	1.600E+00	1.596E+00	1.587E+00	1.579E+00	1.571E+00	1.563E+00	1.559E+00
Pa-231	U-235	1.000E+00	0.000E+00	3.385E-05	3.385E-04	3.381E-03	1.012E-02	1.682E-02	2.348E-02	3.011E-02	3.341E-02
Pa-231	äS(j):		1.600E+00	1.600E+00	1.600E+00	1.599E+00	1.598E+00	1.596E+00	1.594E+00	1.593E+00	1.592E+00
0Pb-210	Pb-210	1.000E+00	6.040E+01	5.855E+01	4.426E+01	2.696E+00	5.370E-03	1.070E-05	2.131E-08	4.244E-11	1.894E-12
Pb-210	Ra-226	1.000E+00	0.000E+00	1.848E+00	1.610E+01	5.590E+01	5.376E+01	4.931E+01	4.521E+01	4.146E+01	3.970E+01
Pb-210	Th-230	1.000E+00	0.000E+00	1.512E-04	1.379E-02	6.691E-01	2.481E+00	4.152E+00	5.681E+00	7.080E+00	7.734E+00
Pb-210	U-234	1.000E+00	0.000E+00	4.550E-10	4.246E-07	2.423E-04	3.093E-03	9.082E-03	1.795E-02	2.944E-02	3.610E-02
Pb-210	U-238	9.999E-01	0.000E+00	3.230E-16	3.055E-12	1.926E-08	8.102E-07	4.120E-06	1.165E-05	2.497E-05	3.424E-05
Pb-210	äS(j):		6.040E+01	6.040E+01	6.037E+01	5.927E+01	5.625E+01	5.347E+01	5.091E+01	4.857E+01	4.747E+01
0Ra-226	Ra-226	1.000E+00	6.040E+01	6.037E+01	6.014E+01	5.784E+01	5.304E+01	4.864E+01	4.460E+01	4.090E+01	3.916E+01
Ra-226	Th-230	1.000E+00	0.000E+00	9.832E-03	9.812E-02	9.620E-01	2.763E+00	4.411E+00	5.918E+00	7.297E+00	7.942E+00
Ra-226	U-234	1.000E+00	0.000E+00	4.426E-08	4.420E-06	4.361E-04	3.812E-03	1.029E-02	1.960E-02	3.150E-02	3.835E-02
Ra-226	U-238	9.999E-01	0.000E+00	4.182E-14	4.178E-11	4.136E-08	1.093E-06	4.949E-06	1.329E-05	2.766E-05	3.754E-05
Ra-226	äS(j):		6.040E+01	6.038E+01	6.024E+01	5.880E+01	5.580E+01	5.306E+01	5.054E+01	4.823E+01	4.714E+01
0Ra-228	Ra-228	1.000E+00	5.040E+01	4.468E+01	1.510E+01	2.932E-04	9.920E-15	3.356E-25	1.136E-35	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	0.000E+00	5.724E+00	3.530E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01
Ra-228	äS(j):		5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01
0Th-228	Ra-228	1.000E+00	0.000E+00	1.438E+01	2.061E+01	4.393E-04	1.487E-14	5.030E-25	1.702E-35	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	5.040E+01	3.508E+01	1.346E+00	9.273E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	9.397E-01	2.845E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01
Th-228	äS(j):		5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01
0Th-230	Th-230	1.000E+00	2.270E+01	2.270E+01	2.270E+01	2.268E+01	2.264E+01	2.260E+01	2.256E+01	2.252E+01	2.250E+01
Th-230	U-234	1.000E+00	0.000E+00	2.043E-04	2.043E-03	2.042E-02	6.119E-02	1.019E-01	1.424E-01	1.829E-01	2.031E-01
Th-230	U-238	9.999E-01	0.000E+00	2.896E-10	2.896E-08	2.895E-06	2.604E-05	7.226E-05	1.415E-04	2.337E-04	2.885E-04
Th-230	äS(j):		2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01
0Th-232	Th-232	1.000E+00	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01
0U-234	U-234	1.000E+00	2.270E+01	2.270E+01	2.270E+01	2.269E+01	2.268E+01	2.267E+01	2.265E+01	2.264E+01	2.263E+01
U-234	U-238	9.999E-01	0.000E+00	6.435E-05	6.435E-04	6.434E-03	1.930E-02	3.215E-02	4.499E-02	5.783E-02	6.425E-02
U-234	äS(j):		2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01
0U-235	U-235	1.000E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00
0U-238	U-238	5.400E-05	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03
U-238	U-238	9.999E-01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.269E+01
U-238	äS(j):		2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ

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

0RESCALC.EXE execution time = 68.68 seconds

Pathway	Retained	Comments
Drinking Water	No	Surface water on site is unfit for consumption as drinking water and no on-site sources of ground water have been developed for drinking water.
Meat Ingestion	Yes	Recreational hunters are expected to consume meat from animals culled from the site.
Milk Ingestion	No	Milk ingestion pathway is not applicable because it is not likely that hunters would seek milk from cows even if they were grazing on the restricted area.
Aquatic Foods Ingestion	No	Recreational hunters are not expected to spend time fishing the surface water bodies surrounding the site.
Direct Ingestion	Yes	Hunters on the site may ingest relatively small amounts of radioactivity through incidental oral contact with their hands.

The potential for exposure to radon gas was eliminated from this assessment based upon regulatory guidance. The NRC documented their concurrence with this approach in the Statement of Consideration for the License Termination Rule:[420]

> *"Following the approach taken in the proposed rule, this final rule includes radiological criteria for residual radioactivity that is distinguishable from background. Because of natural transport of radon gas in outdoor areas due to diffusion and air currents, doses from exposure to radon in outside areas due to radium in the soil are negligible... Therefore, in implementing the final rule, licensees will not be expected to demonstrate that radon from licensed activities is indistinguishable from background on a site-specific basis..."*

Furthermore, measurements of radon emanation rate from the various materials that will be consolidated under the engineered barrier (see the Source Term Document in Appendix 19.2 of the DP) shows the dose potential from this pathway to be a negligible contributor.

9.4 Key Parameter Justification

A number of input parameters were selected for use for the dose modeling of this scenario. The following is a justification for those that are key to the analysis:

- Indoor Time Fraction - The total time spent indoors by the recreational hunter is assumed to be zero (0) hours. It is assumed that all of the time spent in the restricted area is out of doors, which maximizes the external radiation dose.

- Outdoor Time Fraction - It is assumed that the recreational hunter spends 80 hours per year in the restricted area.[421] The outdoor fraction, 0.009, is derived by dividing 80 hours per year by the total number of hours in a year, 8,760 hours. For purposes of the sensitivity analysis, the probabilistic distribution ranges to twice as much as two (2) times the central tendency value. Hunting on the property is not likely even

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[420] U.S. Nuclear Regulatory Commission, *Radiological Criteria for License Termination*, Federal Register, Volume 62, Number 139, July 21, 1997.

[421] In U. S. Environmental Protection Agency, "Exposure Factors Handbook Volume III - Activity Factors", Table 15-85 EPA/600/P-95/002Fc (August, 1997), the mean number of hours per year spent in active sports for the "All" category is all categories is 754. It is reasonable to assume that less than 10% of the total time is spent hunting within in the restricted area of the SMC property.

if institutional controls should fail because of the lack of shelter in which animals could hide and forage, the presence of the rock cover, and because hunting is not allowed within Newfield borough limits. Furthermore, hunters are not likely to use such a small piece of elevated land as a source of game because of the realistically-small animal population there and the unsure footing associated with its traversal. The potential radiation exposure decreases as the time decreases.

- Inhalation Rate -The inhalation rate for the recreational hunter is assumed to be equivalent to that of an adult male performing light work, which averages 8,400 cubic meters per year. This value is the RESRAD default parameter for inhalation rate based on geometric mean rate for short term exposure to adult males.[422] It is conservative because it assumes the recreational hunter is walking on the restricted area and performing tasks that are considered to be "light activity" as defined in the USEPA Exposure Factors Handbook while in direct contact with the surface soil. Moreover, at the rate of 20 liters per minute and an occupancy of 80 hours per year, the air volume would be 98 m^3/year rather than the selected value of 8,400 m^3/year. The radiation dose associated with this value decreases as the inhalation rate drops.

- Contaminated Fraction of Meat Diet - The meat ingestion pathway is unique to the recreational hunter scenario. Evaluation of the potential dose from this pathway considers both the annual consumption of meat and poultry, DIET(4) (using the RESRAD default value of 63 kilograms per year), and the fraction of that annual meat diet that is potentially impacted with residual radioactivity from the site (FMEAT). A triangular distribution was selected to represent the range and variability in the fraction of the receptor's meat diet that might have been culled from among game animals that grazed on the site. The use of the triangular distribution (i.e., 0 to 50%) results in a more conservative estimate than the RESRAD default value.[423] The mode of the distribution was selected based upon the typical dressed weight of a white-tail deer (40 pounds or 19 kilograms), which is assumed to be the most abundant game species in the area.[424] The contaminated fraction is estimated to be 0.3, with a range from 0 to 0.5.[425] The fraction modeled is conservative in that the size of the restricted area is small relative to the grazing land required to support game habitat, thus animals are not likely to be plentiful. Sensitivity analysis shows that the radiation dose potential is not sensitive to this parameter because the meat ingestion pathway is not a significant contributor to the total dose.

- Evapotranspiration Coefficient - The cover is designed to minimize the infiltration of water. RESRAD uses two parameters, evapotranspiration and the runoff coefficient, to estimate the rate of infiltration of water. Infiltration was determined to be 0.028 meters per year for the "As Designed Condition".[426] Given the infiltration rate, the evapotranspiration and the runoff coefficients were calculated

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[422] U.S. Environmental Protection Agency, *Exposure Factors Handbook, Volume I, General Factors*, EPA 600/P-95-002Fa, August, 1997.
[423] U.S. Environmental Protection Agency, *Exposure Factors Handbook, Food Ingestion Factors*, Volume II, EPA/600/P-95/002Fb, August, 1997.
[424] RESRAD, ANL/EAD-4, July, 2001.
[425] A contaminated fraction of 0 is defined as no game meat harvested while a contaminated fraction of 0.5 means that 50% of the entire annual meat diet consumed is derived from game grazing on the SMC facility,
[426] Infiltration and Evapotranspiration Model Assumptions, November 11, 2008.




as described by the NUREG 6697.[427] Additional information is provided in Section 3.2 of this report.

- Mass loading for inhalation - The value selected for the analysis was the default value for the RESRAD code.[428] The mass loading in air describes the airborne dust loading conditions on the site; it is assumed that the recreational hunter is not involved in any intrusive activities. It is not likely that the recreational hunter is exposed to the airborne dust from the surface soil because the engineered barrier eliminates direct contact with the slag. The selected value, 1E-04 grams per cubic meter is two to 10 times greater than the range of observed values summarized in NUREG-5512.[429] The radiation dose associated with this value decreases as the mass loading decreases.

- Cover Erosion Rate - It is assumed that the engineered barrier is not maintained and begins to erode after institutional controls fail. As a result, the attenuation of photon radiations from the consolidated material under cover decreases over time consistent with the erosion rate.

- Soil ingestion Rate - The recreational hunter may ingest radioactivity as a result of incidental contact with the soil. The value selected, 0.15 grams for the duration of his time on site was 10% of the RESRAD default parameter established for an agricultural farm family who is located at the site for an entire year. It is assumed that the recreational hunter is engaged in non-contact intensive activities, but may ingest soil from incidental contact. The probability of ingestion is low because the engineered barrier prevents direct contact with the consolidated materials. The radiation dose associated with this value decreases as the ingestion of impacted soil decreases.

- Drinking Water - There is sufficient justification for excluding the ground water exposure pathway from this does assessment for the reasons outlined in Chapter 3 of this report.[430] This pathway was evaluated nonetheless in response to regulatory or public input. For the hunter, consumption of 1.8 liters of ground water from the site, in spite of the water being non-potable and not readily accessible (i.e., no o-site drinking water well) was assumed, with the volume ingested being while the hunter is inside of the restricted area. It is more likely the hunter will bring his own water supply to the site rather than seeking out one within the restricted area.

Given the pathways described in Section 4.3, above, the following is a listing of the input parameters used for this exposure scenario:

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[427] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[428] Argonne National Laboratory, *User's Manual for RESRAD Version 6*, July, 2001.
[429] U.S. Nuclear Regulatory Commission, *Residual Radioactive Contamination from Decommissioning Parameter Analysis*, NUREG/CR-5512, Volume 3, October 31, 1999.
[430] Drinking water is provided by a publicly-owned water system where there is testing for compliance with drinking water standards for radionuclides, and there are no surface water sources or ground water wells inside of the restricted area.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Dose Conversion Factors	DCFX(n)	millirem/ pCi	All DCFs used are RESRAD defaults			D	S	RESRAD defaults from FGR#11 and FGR#12, derived using ICRP 30 dosimetry model.[431],[432] Short-lived (<180 days) radioactive progeny isotopes are accounted for through the use of the "parent+D" DCFs.
Area of Contaminated Zone	AREA	m2	See Section 3.1.2	Triangular	The values in Section 3.1.2 are adjusted ±20%	S	S	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated chemical and physical characteristics. The area of each section is described in Section 3.1.2.
Thickness of Contaminated Zone	THICK0	m	4.5m	Triangular	Range 3.6 to 5.4 m	S	S	The Restricted area volume was characterized as nine (9) different areas. The total volume of the Restricted area was based on existing elevations determined during aerial photography in 2005 and assumed base elevations for the restricted area. For the purpose of the radiation dose modeling, each area was modeled as a cylinder with a consistent height and the area adjusted as described above. Information about the volume of the Restricted area is described in Section 3.1.2.
Length Parallel to Aquifer Flow, Area 4	LCZPAQ	m	See Section 3.1.2	Triangular	The values in Section 3.1.3 are adjusted ±20%	S	S	The RESRAD default value is derived as the square root of the area of the contaminated zone[433]. Ground water flows at an angle from NE to SW through the Restricted area, such that the length of the total pile parallel to aquifer flow will be approximately 135.7 m. Using existing site conditions (before consolidation and cap construction), this value is greater, approximately 200 m. This value was adjusted for each area as described in Section 3.1.2.
Basic Radiation dose limit	BRDL	mrem TEDE	25			D	S	
Time since placement of material	TI	yr	0			D	S	
Calculation Times	T(n)	Yrs.	1 10 100 300 500 700 900 1000	NA		--	--	Evaluation at these time segments allows for consideration of the potential for conditions at the Site to evolve from the initial conditions specified (e.g., soil erosion impacts the cover thickness) and projects the changing Site conditions to the required 1000-year outlook.[434],[435]

[431] U.S. Environmental Protection Agency, *Limiting Values of Radionuclide Intake and Air Concentrations and Dose Conversion Factors for Inhalation, Submersion, and Ingestion*, Federal Guidance Report Number 11, EPA 520/1-88-020, September, 1988.
[432] U.S. Environmental Protection Agency, *External Exposure to Radionuclides in Air, Water and Soil*, Federal Guidance Report Number 12, EPA 402 R-93-081, September, 1993.
[433] Argonne National Laboratory, *Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil*, April, 1993.
[434] U.S. Nuclear Regulatory Commission, *Radiological Criteria for License Termination*, Volume 62, Federal Register, page 39058, July 21, 1997.
[435] U.S. Nuclear Regulatory Commission, *NMSS Decommissioning Standard Review Plan*, NUREG-1727, September, 2000.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Actinium-227	S(1)	pCi/g	See Section 3.1.2	Point Estimate		--	--	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated levels of radioactivity.[436] The activity for each isotope in each section of the Restricted area is described in Section 3.1.2. The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.
Protactiniu m-231	S(2)	pCi/g		Point Estimate		--	--	
Lead-210	S1(3)	pCi/g		Point Estimate		--	--	
Radium-226	S1(4)	pCi/g		Point Estimate		--	--	
Radium-228	S1(5)	pCi/g		Point Estimate		--	--	
Thorium-228	S1 (6)	pCi/g		Point Estimate		--	--	
Thorium-230	S1(7)	pCi/g		Point Estimate		--	--	
Thorium-232	S1(8)	pCi/g		Point Estimate		--	--	
Uranium-234	S1(9)	pCi/g		Point Estimate		--	--	
Uranium-235	S1(10)	pCi/g		Point Estimate		--	--	
Uranium-238	S1(11)	pCi/g	See Section 3.1.2	Point Estimate		--	--	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated levels of radioactivity. The activity for each isotope in each section of the Restricted area is described in Section 3.1.2. The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.
Concentrati on in ground water	W1(n)	pCi/L	0					
Cover Depth (thickness)	COVER0	m	1.83	Triangular	Range: 1.3 to 3.7	S	S	The engineered barrier will be installed over the slag in the Restricted area with a thickness of 1.85 meters(72 inches) as shown in the preliminary design.[437] The minimum thickness was estimated as if the cover soil was completely removed, ignoring the protection provided by the stone on top of the cover soil. Two layers of stone covers the clay barrier.
Cover Density	DENSCV	g/cm3	1.92	Truncated Normal	μNormal 1.92 σNormal: 0.23 Quantile, min;0.05 Quantile, max:0.95	S	S	Density for clay-bearing materials was estimated to range from 130 to 140 pounds per cubic foot (pcf) or 2.08 to 2.24 g/cm3. It is estimated that the other materials proposed for the engineered barrier have densities ranging from 100 to 110 pcf or 1.60 to 1.76 gm/cm3. Since the clay makes up half of the total cover thickness, a conservative estimate for the effective density estimated to be 1.92.

[436] Shieldalloy Metallurgical Corporation, *Source Term Document for the Newfield Restricted Area*, Report No. 94005/G-29359.
[437] Shieldalloy Metallurgical Corporation, *Decommissioning Plan*, Appendix B, Draft, July 25, 2008.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Cover Erosion Rate	VCV	m/yr	1.5x10-4	Triangular	Min 0.0 Max 3.0x10-4	S	S	The erosion of the cover is designed in order to be minimal over the 1,000 year time frame. The elements of the engineered cover are described in Section 3.1.2. For the purposes of conservatism, a value of 1.5x10-4 m/yr was assigned as a function of the erosion of the slag, as defined by the NRC for other slag materials.[438]
Contaminated Zone Density	DENSCZ	g/cm3	2..24	Triangular	Min 1.6 Max 2.32	S	S	The density of the slag and baghouse dust was measured by the analytical laboratory.[439]
Contaminated Zone Erosion Rate	VCZ	m/yr	1.5x10-5	Triangular	Min 8x10-6 Max 3x10-4	S	I	The erosion of the slag was assumed to be 10x less than that of the cover. The boulders located in the Restricted area are not likely to erode over the 1,000 year period of time.
Contaminated Zone Total Porosity	TPCZ	Unitless 0 to 1	0.36	Bounded Normal	Std Dev 0.07 Min 0.144 Max 0.576	D	I	The total porosity was selected from NUREG 6697 for silty clayey, Appendix C.[440] Additional information about the chemical and physical properties of the slag is provided in the Environmental Report.[441]
Contaminated Zone Field Capacity	FCCZ	Unitless, 0 to 1	0.2	Point Estimate		D	I	Field capacity is defined as the residual water content and is a ratio of the volume of water retained in the soil sample to the total volume of the sample. The field capacity was not measured previously. The RESRAD default was selected.
Contaminated Zone Hydraulic Conductivity	HCCZ	m/yr	0.01	Lognormal-B	Lower Quantile, 0.00506 Upper Quantile, 16.6	S	I	The RESRAD default for silty clayey was selected from NUREG 6697, Appendix C.[442] Additional information about the chemical and physical properties of the slag is provided in the Environmental Report.
Contaminated Zone B-Parameter	BCZ	Unitless	4.43	Bounded Lognormal-N	μNormal: 1.06 σNormal 0.66 min: 0.5 Max: 30	D	I	The value for silty clayey was determined to be representative of the contaminated zone.[443]
Average Annual Wind Speed	WIND	m/sec	4.25	Bounded Lognormal-N	μNormal: 1.445 σNormal: 0.2419 Min: 1.4 Max: 13.0	D	I	RESRAD Default. The thirty year (1961-1990) site- specific annual average value (4.3 m/s) is nearly equal to the RESRAD default value.[444]
Humidity in air	HUMID	g/m3						Not used

[438] US Nuclear Regulatory Commission, *Characterization of Radioactive Slags*, NUREG 1703, October, 2004.
[439] Berger, C. (IEM), written communication to D. R. Smith (SMC), *Radionuclide Leachability from Newfield Slag*, September 16, 2005.
[440] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[441] SMC, Environmental Report, 2009
[442] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[443] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[444] National Climate Data Center, *Local Climatological Data, Annual Summary with Comparative Data for Philadelphia, Pennsylvania*, 2000.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Evapo transpiration Coefficient	EVAPTR	Unitless, 0 to 1	0.73	Triangular	Range: 0.37 to 1.0	S	I	Evapotranspiration coefficient was calculated according to the construction of the engineered cover and multiple layers.[445] The infiltration rate was calculated as described by the NUREG 6697 and the evapotranspiration coefficient was derived in order to match the infiltration rate.[446]
Precipitation Rate	PRECIP	m/year	1.05	Point Estimate		S	S	The nearest climatological stations are located in Atlantic City and Philadelphia. The annual average precipitation for Atlantic City is 41.3 inches per year while the average annual precipitation for Philadelphia is 41.42 inches.[447, 448] 1.05 m/yr corresponds to these values.
Irrigation Rate	RI	m/year	0	Point Estimate		S	S	As the site will be rock-covered, a grass cover is not required and no irrigation waters will be applied.
Irrigation mode	IDITCH	unitless	Overhead					Not used. As the site will be rock-covered, a grass cover is not required and no irrigation waters will be applied.
Runoff Coefficient	RUNOFF	Unitless, 0 to 1	0.9	Uniform	Range: 0.75 to 1.0	S	S	The runoff coefficient was calculated according to the construction of the engineered cover and multiple layers.[449] The infiltration rate was calculated as described by the NUREG 6697. The runoff coefficient and evapotranspiration coefficient were derived in order to match the infiltration rate.[450]
Watershed Area for Nearby Stream or Pond	WAREA	m2	2.77x106	Point Estimate		S	I	Assumed to be 690 acres and represents the low lying areas adjacent to the Restricted area[451]. The watershed area is used to calculate dilution factors for contaminant concentrations in surface water bodies in the vicinity of the site. The larger the watershed area, the greater volume through which dilution is possible. While there is no pathway for humans to drink surface water, animals may use the pond for their water supply. The greater the dilution, the lower the radiation dose.
Accuracy for water/soil computations	EPS	unitless	0.001			D	I	

[445] Infiltration and Evapotranspiration Model Assumptions, November 11, 2008.
[446] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[447] National Climate Data Center, *Local Climatological Data, Annual Summary with Comparative Data for Atlantic City, New Jersey*, 2006.
[448] National Climate Data Center, *Local Climatological Data, Annual Summary with Comparative Data for Philadelphia, Pennsylvania*, 2006.
[449] Infiltration and Evapotranspiration Model Assumptions, November 11, 2008.
[450] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[451] Shieldalloy Metallurgical Corporation, *Decommissioning Plan for the SMC facility*, Appendix E, Report Number 94005/G-28247, Rev 1b.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Density, Saturated Zone	DENSAQ	g/cm3	1.51	Bounded Normal	Std Dev 0.159 Min 1.019 Max 2.002	S	I	Saturated soils beneath pile are characterized as fine to medium sand and fine to coarse sand (based on boring logs for wells MW-12D and MW-13D) and silty sand with gravel and gravel (based on boring log for well MW-11S).[452],[453] Applicable bulk densities range from 1.60 for dry sand to 1.73 for dry sand and gravel.[454]
Total Porosity Saturated Zone	TPSZ	Unitless, 0 to 1	0.43	Bounded Normal	Std Dev 0.06 Min 0.244 Max 0.615	D	I	Based on the saturated soils descriptions above, applicable total porosity values cited in Kresic are 0.25-0.40 for non-uniform sand and 0.25-0.35 for gravelly sand. RESRAD value for coarse sand was selected as it is the sand type defined in RESRAD Table E.8 with total porosity values closest to those cited above.[455]
Effective Porosity, Saturated Zone	EPSZ	Unitless, 0 to 1	0.383	Bounded Normal	Std Dev 0.06 Min 0.195 Max 0.572	D	I	Effective porosity of non-uniform sands and gravels, and their mixtures, is up to 10% less than total porosity.[456] For range of total porosity above (0.25-0.40), effective porosity range is 0.225-0.36. RESRAD default value for coarse sand was selected as it is the sand type defined in RESRAD Table E.8 with effective porosity values closest to those cited above and its selection is consistent with the material used to represent total porosity.
Field Capacity, Saturated Zone	FCSZ	Unitless, 0 to 1	Not used			D	I	The value "field capacity" does not apply to saturated soils.
Hydraulic Conductivity, Saturated Zone	HCSZ	m/yr	9,500	Triangular	Min 8,600 Max 10,400	S	I	During previous hydrogeological studies at the site, a pumping test of the Layne well indicated a T of 82,000 gpd/ft (Weston, 1972), and a recovery test of P4 (IWC4) indicated T of 90,400 gpd/ft (Woodward-Moorehouse, 1974), or K of 78 to 93 ft/day for the Cohansey sand, depending on formation thickness assumed (130 to 140 feet).[457],[458] The average of 85.5 ft/day (9,500 m/yr) is used as the central tendancy value.

[452] TRC Environmental Consultants, Inc., *Final Focused Feasibility Study Report, Ground Water Remediation*, Project Number 13248-N51, Windsor, Connecticut, Revision 2, February 1994.
[453] TRC Environmental Consultants, Inc., *Remedial Investigation Technical Report*, Project Number 7650-N51, Windsor, Connecticut, April, 1992.
[454] T. Glover, *Pocket Reference, 2nd Edition*, Sequoia Publishing, Inc Littleton, Colorado, page 542, 1995.
[455] Kresic, N., *Quantitative Solutions in Hydrogeology and Groundwater Modeling*, New York: Lewis Publishers, page 461, 1997.
[456] Kresic, N., *Quantitative Solutions in Hydrogeology and Groundwater Modeling*, New York: Lewis Publishers, page 461, 1997.
[457] Roy F. Weston, Inc., 1972. *Hydrogeologic Investigation of Ground Water Contamination, Interim Report.* Prepared for Shieldalloy Corporation, Newfield, New Jersey.
[458] Woodward-Moorehouse and Associates, Inc. and Woodward-Envicon, Inc., *Preliminary Report, Groundwater Contamination Study, Phase II*, Prepared for Shieldalloy Corporation, Newfield, New Jersey, 1974.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Hydraulic Gradient	HGWT	Unitless	0.004	Bounded Lognormal-N	μNormal: -5.11 σNormal: 1.77 min: 0 .00007 max: 0.5	S	I	The RI references a hydraulic gradient of 0.004 ft/ft based on Figure 15 (pg 48-49) as measured between wells SC-12D and A. If measured from the far eastern well to the far southwestern well, a gradient of 0.002 ft/ft is calculated.[459] The 0.004 gradient measured between wells A and SC-12D is more representative of the gradient in the immediate vicinity of the Restricted area. The value is also representative of the gradient towards a potable well, should one be located close to the Restricted area.
Saturated Zone B-Parameter	BSZ	Unitless	4.05	Bounded Lognormal-N	μNormal: 1.06 σNormal: 0.66 Min: 0.5 Max: 30	D	I	RESRAD default value for generic soil was selected. The value and distribution represents a weighted average of the distributions for the individual soil classes.[460]
Water table drop rate	VWT	m/yr	0					
Well pump intake depth	DWIBWT	m (below the water table)	10			D	I	RESRAD default value was used.
Model: Nondispersion (ND) or Mass balance (MB)	MODEL	unitless	Mass Balance			D	I	
Well pumping rate	UW	m3/yr	453			D	I	RESRAD default value was used for estimate of water source. The default is typical for a Agricultural Farm Family and expected to be much lower for the exposure scenarios at Newfield.
Number of unsaturated zone strata	NS	unitless	2					Two unsaturated zones are present underneath the Restricted area and the restricted area. One layer, directly underneath the Restricted area contains some slag and impacted soils. A second layer, contains only non impacted soil.
Thickness Unsaturated Layer 1	H(1)	m	1.5	Triangular	Min 0.8 Max 2.2	S	S	The average thickness of the unsaturated zone underneath the Restricted area contains slag, impacted soil and non imp-acted soil. The thickness of this layer, or fill, was estimated from borings reported by TRC in 2008.[461]
Thickness Unsaturated Layer 2	H(2)	m	1.9	Triangular	Min 0.9 Max 3.7	S	S	The average thickness of the unsaturated zone was estimated from well locations in the vicinity of the restricted area based on wells 11S, 12S, and 13S. Measurements were made by SMC for six years (from January 2001 through April 2007, measured each quarter). A total of 26 data points were summarized for each well.

[459] TRC Environmental Consultants, Inc., *Remedial Investigation Technical Report*, Project Number 7650-N51, Windsor, Connecticut, April, 1992.
[460] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[461] Geotechnical Investigation information.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Density, Unsaturated Layer 1	DENSUZ (1)	g/cm3	1.696	Bounded Normal	Std Dev 0.185 Min 1.123 Max 2.269	S	S	The density selected is typical of siltey clay. The unsaturated soils beneath pile contain impacted soil, slag and other solids, non native to the unsaturated zone. The density of this layer is greater than the density found in the native unsaturated layer.
Density, Unsaturated Layer 2	DENSUZ (2)	g/cm3	1.51	Bounded Normal	Std Dev 0.159 Min 1.019 Max 2.002	D,S	S	The density selected is typical of native sand (RESRAD default). Unsaturated soils beneath pile are characterized as fine to medium sand and fine to coarse sand (based on boring logs for wells MW-12D and MW-13D) and silty sand with gravel (based on boring log for well MW-11S). Applicable bulk densities range from 1.60 for dry sand to 1.73 for dry sand and gravel.[462]
Total Porosity Unsaturated Layer 1	TPUZ(1)	Unitless 0 to 1	0.36	Bounded Normal	Std Dev 0.07 Min 0.144 Max 0.576	D	I	The porosity of this fill layer is lower than the values reported for the native soil because of the presence of impacted soil, slag and other non native solids. The values selected for this layer are the lower end of the range provided for the type of soil.
Total Porosity Unsaturated Layer 2	TPUZ(2)	Unitless 0 to 1	0.43	Bounded Normal	Std Dev 0.06 Min 0.245 Max 0.615	D	I	Values for total porosity are reported to be 0.25-0.40 for non-uniform sand and 0.25-0.35 for gravelly sand.[463] RESRAD value for coarse sand was selected as it is the sand type defined in NUREG 6697, Appendix C, Table 3.2-1 with total porosity values closest to those cited above.[464]
Effective Porosity of Unsaturated Layer 1	EPUZ(1)	Unitless, 0 to 1	0.289	Bounded Normal	Std Dev 0.074 Min 0.062 Max 0.517	D	I	The porosity of this fill layer is lower than the values reported for the native soil. Also according to Kresic (1997), the presence of fines, i.e., silts and clays, significantly reduces effective porosity. The values selected for this layer are the lower end of the range provided for the type of soil.

[462] T. Glover, *Pocket Reference, 2nd Edition*, Sequoia Publishing, Inc Littleton, Colorado, page 542, 1995.
[463] Kresic, N., *Quantitative Solutions in Hydrogeology and Groundwater Modeling*, New York: Lewis Publishers, page 461, 1997.
[464] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Effective Porosity of Unsaturated Layer 2	EPUZ(2)	Unitless, 0 to 1	0.383	Bounded Normal	Std Dev 0.06 Min 0.195 Max 0.572	D	I	Effective porosity of non-uniform sands and gravels, and their mixtures, is up to 10% less than total porosity; for range of total porosity above (0.25-0.40), effective porosity range is 0.225-0.36.[465,466] Also according to Kresic (1997), the presence of fines, i.e., silts and clays, significantly reduces effective porosity. However, limited amounts of silt and clay are expected in the sands and gravels of the Bridgeton Formation. Value for sand was selected from NUREG 6697, Appendix C, Table 3.3-1 as it is the sand type with effective porosity values closest to those cited above and its selection is consistent with the material used to represent total porosity.[467]
Field Capacity Unsaturated Layer 1	FCUZ (1)	Unitless, 0 to 1	0.2	Point Estimate		D	I	The field capacity is used to calculate the volumetric water capacity of the contaminated zone and unsaturated zone. The value, FCUZ, is used when the calculated capacity is lower than the set value.[468] The reported field capacity for sand is about 0.10 and ranges up to about 0.18 for fine sand (Fetter, 1994). Consequently, a value of 0.2 is much higher than expected for the site. Field capacity is not a single value, but is time-dependent (Fetter, 1994; Delleur, 1999).[469,470]
Field Capacity Unsaturated Layer 2	FCUZ (2)	Unitless, 0 to 1	0.2	Point Estimate		D	I	The reported field capacity for sand is about 0.10 and ranges up to about 0.18 for fine sand (Fetter, 1994). Consequently, a value of 0.2 is much higher than expected for the site. Field capacity is not a single value, but is time-dependent (Fetter, 1994; Delleur, 1999).[471,472]
Unsaturated Layer 1, B-Parameter	BUZ(1)	Unitless	1.06	Bounded Lognormal-N	μNormal: 1.06 σNormal: 0.66 Min: 0.5 Max: 30	D	I	The unsaturated soils beneath pile contain impacted soil, slag and other solids, non native to the unsaturated zone. The b parameter is different than the parameter expected for the native unsaturated layer. The value for generic soil was selected. The value and distribution represents a weighted average of the distributions for the individual soil classes.[473]

[465] Kresic, N., 1997. Quantitative Solutions in Hydrogeology and Groundwater Modeling, New York: Lewis Publishers, 461 p.
[466] Kresic, N., 1997. Quantitative Solutions in Hydrogeology and Groundwater Modeling, New York: Lewis Publishers, 461 p.
[467] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[468] Argonne National Laboratory, *User's Manual for RESRAD Version 6*, Appendix E, July, 2001
[469] Delleur, J.W., The Handbook of Groundwater Engineering, New York: CRC Press, 1999.
[470] Fetter, C.W., 1994. Applied Hydrogeology. New York: Macmillan College Publishing Company, 691 p.
[471] Delleur, J.W., The Handbook of Groundwater Engineering, New York: CRC Press, 1999.
[472] Fetter, C.W., 1994. Applied Hydrogeology. New York: Macmillan College Publishing Company, 691 p.
[473] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Unsaturated Layer 2, B-Parameter	BUZ(2)	Unitless	4.05	Bounded Lognormal-N	μNormal: 1.06 σNormal: 0.66 Min: 0.5 Max: 30	D	I	The RESRAD default value for generic soil was selected. The value and distribution represents a weighted average of the distributions for the individual soil classes.[474]
Hydraulic Conductivity Unsaturated Layer 1	HCUZ (1)	m/yr	4,750	Triangular	Min 200 Max 9,500	S	I	The Bridgeton Formation overlies the Cohansey Sand beneath the Restricted area.[475] The Bridgeton Formation is the unsaturated layer directly beneath the slag, generally consisting of fine sand with variable percentages of silt and clay and traces of fine gravel. This layer also contains fine slag, impacted soil, and other non native solids such as concrete. The soil containing slag and other non native materials may be reworked from heavy equipment operation. The average hydraulic conductivity of Layer 1 is probably lower than the Layer 2 hydraulic conductivity due to the finer grain size of Layer 1 and compaction by the heavy equipment. The range of values is typical of a range of soil types evaluated in NUREG 6697, Appendix C, Table 3.4-1.[476]
Hydraulic Conductivity Unsaturated Layer 2	HCUZ (2)	m/yr	9,500	Triangular	Min 8,600 Max 10,400	S	I	The unsaturated, upper part of the Cohansey Sand consists of fine sand, fine-medium sand, medium-coarse sand, and coarse sand with variable percentages of silt and fine gravel. Aquifer testing of wells completed in the upper Cohansey Sand provides data for the hydraulic conductivity. A pumping test of the Layne well indicated a transmissivity of 82,000 gpd/ft (Weston, 1972), and a recovery test of P4 (also referred to as IWC4) indicated a transmissivity of 90,400 gpd/ft (Woodward-Moorehouse, 1974).[477],[478],[479] The equivalent hydraulic conductivity is 78 to 93 ft/day, depending on the assumed formation thickness (130 to 140 feet). The average hydraulic conductivity of 85.5 ft/day (9,500 m/yr) is used as the central tendency value.
Distribution coefficients for Thorium								

[474] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[475] Newell, W. L., et al, *Surficial Geologic Map of Central and Southern New Jersey*, U.S. Geological Survey, Miscellaneous Geologic Investigations Series, Map I 2540 D, 2000.
[476] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000.
[477] TRC Environmental Consultants, Inc., *Remedial Investigation Technical Report*, Project Number 7650-N51, Windsor, Connecticut, April, 1992.
[478] Roy F. Weston, Inc., *Hydrogeologic Investigation of Ground Water Contamination, Interim Report*, Prepared for Shieldalloy Corporation, Newfield, New Jersey, 1972.
[479] Woodward-Moorehouse and Associates, Inc. and Woodward-Envicon, Inc., *Preliminary Report, Groundwater Contamination Study, Phase II.* Prepared for Shieldalloy Corporation, Newfield, New Jersey, 1974.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Thorium Kd contaminated zone	DCACT(n)	cm3/g	See Section 3.1.3			S	S	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated partition coefficients.[480] The partition coefficient, Kd, for each element in each section of the Restricted area is described in Section 3.1.3. The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.
Thorium Kd unsaturated zone, Layer 1	DCACT U(1)	cm3/g	5,884	Triangular	Min 207 Max 150,000	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[481] No allowances were made for the presence of fill in the first layer of the unsaturated zone (Layer 1).
Thorium Kd unsaturated zone, Layer 2	DCACT U(1) (2)	cm3/g	5,884	Triangular	Min 207 Max 150,000	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[482].
Thorium Kd saturated zone	DCACTS	cm3/g	5,884	Triangular	Min 207 Max 150,000	D	S	Literature values were selected for the saturated zones, using the lower range of values.[483]
Leach rate	ALEACH (1)	/yr						Not used
Solubility constant	SOLUBK (1)	unitless						Not used
Distribution coefficients for Uranium								
Uranium Kd contaminated zone	DCACTC (n)	cm3/g	See Section 3.1.3			S	S	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated partition coefficients.[484] The partition coefficient, Kd, for each element in each section of the Restricted area is described in Section 3.1.3. The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.
Uranium Kd unsaturated zone, Layer 1	DCACT U(1)	cm3/g	126	Triangular	Min 0.03 Max 2,200	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[485] No allowances were made for the presence of fill in the first layer of the unsaturated zone (Layer 1).
Uranium Kd unsaturated zone, Layer 2	DCACT U(2)	cm3/g	126	Triangular	Min 0.03 Max 2,200	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[486]

[480] Shieldalloy Metallurgical Corporation, *Source Term Document for the Newfield Restricted Area*, Report No. 94005/G-29359.
[481] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000
[482] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000
[483] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000
[484] Shieldalloy Metallurgical Corporation, *Source Term Document for the Newfield Restricted Area*, Report No. 94005/G-29359.
[485] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000
[486] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000

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Description	Code	Unit		Distribution	Range & Fit			
Uranium Kd saturated zone	DCACTS	cm3/g	126	Triangular	Min 0.03 Max 2,200	D	S	Literature values were selected for the saturated zones, using the lower range of values.[487]
Leach rate	ALEACH (2)	/yr						Not used
Solubility constant	SOLUBK (2)	unitless						Not used
Distribution coefficients for Radium								
Radium Kd contaminated zone	DCACT(n)	cm3/g	See Section 3.1.3			S	S	The Restricted area was characterized as nine (9) different areas, each with different slag and impacted solids and the associated partition coefficients.[488] The partition coefficient, Kd, for each element in each section of the Restricted area is described in Section 3.1.3. The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.
Radium Kd unsaturated zone, Layer 1	DCACT U(1)	cm3/g	3,533	Triangular	Min 57 Max 21,000	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[489] No allowances were made for the presence of fill in the first layer of the unsaturated zone (Layer 1).
Radium Kd unsaturated zone, Layer 2	DCACT(2)	cm3/g	3,533	Triangular	Min 57 Max 21,000	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[490]
Radium Kd saturated zone	DCACTS	cm3/g	3,533	Triangular	Min 57 Max 21,000	D	S	Literature values were selected for the saturated zones, using the lower range of values.[491]
Leach rate	ALEACH (3)	/yr						Not used
Solubility constant	SOLUBK (3)	unitless						Not used
Distribution coefficients for Lead								
Lead Kd contaminated zone	DCACTC (n)	cm3/g	270	Triangular	Min 19 Max 1,405	D	S	Literature values were selected for the leaching of lead from the slag.[492] The corresponding radiation dose for each area is added to calculate the total dose likely to be encountered from the Restricted area.

[487] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000

[488] Shieldalloy Metallurgical Corporation, *Source Term Document for the Newfield Restricted Area*, Report No. 94005/G-29359.

[489] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000

[490] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000

[491] U.S. Nuclear Regulatory Commission, *Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes*, Appendix C, NUREG 6697, December, 2000

[492] Sheppard and Thibault, *Default Soil Solid/Liquid Partition Coefficients, K_dS, for Four Major Soil Types: A Compendium*, Health Physics Journal, Volume 59, Number 4, page 471 - 482, October, 1990.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Lead Kd unsaturated zone , Layer 1	DCACT U(1)	cm3/g	270	Triangular	Min 19 Max 1,405	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[493] No allowances were made for the presence of fill in the first layer of the unsaturated zone (Layer 1).
Lead Kd unsaturated zone , Layer 2	DCACT U(2)	cm3/g	270	Triangular	Min 19 Max 1,405	D	S	Literature values were selected for both unsaturated zones, using the lower range of values.[494]
Lead Kd saturated zone	DCACTS	cm3/g	270	Triangular	Min 19 Max 1,405	S	S	Literature values were selected for the saturated zones, using the lower range of values.[495]
Leach rate	ALEACH (4)	/yr						Not used
Solubility constant	SOLUBK (4)	unitless						Not used
Inhalation Rate	INHALR	m3/yr	8,400	Triangular	Range: 4380 to 13100	D	I	Inhalation rate based on geometric mean rate for short term exposure to adult males.[496]
Mass Loading for Inhalation	MLINH	g/m3	0.00003	Continuous Linear	0.000000 - 0.0000 0.000008 - 0.0151 0.000016 - 0.1365 0.000030 - 0.8119 0.000040 - 0.9495 0.000060 - 0.9937 0.000076 - 0.9983 0.000100 - 1.0000	D	I	Mass loading in air describes the airborne dust loading conditions on the site.[497]
Exposure duration	ED	yr	30			D	S	
Shielding factor, inhalation	SHF3	unitless	0.4			D	I	
Shielding factor, external gamma	SHF1	unitless	0.27	Bounded Lognormal-N	μNormal: -1.3 σNormal: 0.59 Min: 0.044 Max: 1	S	S	Not used. The shielding factor is a function of the shielding provided by building materials against the penetration of gamma radiation.
Exposure Frequency (Total)	EF	Days per year	3.1	EF and ET are not input parameters used by RESRAD. They are presented here to disclose the calculation used to arrive at the parameters RESRAD uses to account for exposure frequency, FIND & FOTD		--	--	It is assumed that the recreational hunter spends approximately 75 hours per year in the restricted area
Exposure Time	ET	hours per day	24			--	--	Conservatively assumes that the hunter spends 24 hours per day on the site before they are discovered and removed by the SMC staff.

[493] Sheppard and Thibault, 1990.
[494] Sheppard and Thibault, 1990.
[495] Sheppard and Thibault, 1990.
[496] U.S. Environmental Protection Agency, *Exposure Factors Handbook, Volume I, General Factors*, EPA 600/P-95-002Fa, August, 1997.
[497] Argonne National Laboratory, *User's Manual for RESRAD Version 6*, July, 2001.

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Indoor Time Fraction	FIND	Unitless, 0 to 1	0	Point Estimate		O	S	The fraction of a total year (8,760hr) that is spent indoors on site. Assumes that all exposures occur outdoors. There are no habitable structures on the site.
Outdoor Time Fraction	FOTD	Unitless, 0 to 1	0.009	Triangular	Range: 0 to 0.018	O	S	The outdoor fraction, 0.009, is derived by dividing 75 hours per year by the total number of hours in a year, 8,760 hours. For purposes of the sensitivity analysis, the probabilistic distribution ranges to twice as much as two (2) times the central tendency value.
Fruits, vegetables and grain consumption	DIET(1)	kg/yr						Not used
Leafy vegetable consumption	DIET(2)	kg/yr						Not used
Milk consumption	DIET(3)	L/yr						Not used
Meat and poultry consumption	DIET(4)	Kg/yr	63					RESRAD default
Fish consumption	DIET(5)	Kg/yr						Not used
Other seafood consumption	DIET(6)	Kg/yr						Not used
Soil Ingestion Rate	SOIL	g/y	0.15	Triangular	Min 0 Max 0.3	D	I	One assumes that soil ingestion is approximately 18 grams per year. The hunter is assumed to be inside the Restricted area for less than 10 days per year.
Drinking water intake	DWI	L/yr	1.8	Triangular	Min 0 Max 3.6	D	I	It is not likely that the hunter will ingest surface water found inside the Restricted area. It is more likely that the hunter will bring their own supply of drinking water from a different location.
Contamination fraction of drinking water	FDW	unitless	1					
Contamination fraction of household water	FHHW	unitless						Not used
Contamination fraction of livestock water	FLW	unitless						Not used
Contamination fraction of irrigation water	FIRW	unitless						Not used
Contamination fraction of aquatic food	FR9	unitless						Not used

Parameter			Central Tendency Value	Description of Parameter Distribution		Classification (D=RESRAD Default; S-Site-specific; O=Other)	Impact on Resulting Dose (I=Insignificant; S=Significant and requires justification or explanation)	Justification, Source or Other Information
Description	Code	Unit		Distribution	Range & Fit			
Contaminati on fraction of plant food	FPLANT	unitless						Not used
Contaminati on fraction of meat	FMEAT	unitless	0.3	Triangular	Min 0 Max 0.5			The value of 30% is conservative in that the size of the site is small relative to the grazing land required to support game habitat. The use of the triangular distribution (i.e., 0 to 50%) results in a more conservative estimate than the RESRAD default for this site.[498]
Contaminati on fraction of milk	FMILK	unitless						Not used
Depth of Soil Mixing Layer	DM	m	0.15	Triangular	Range: 0 to 0.6	D	I	Value based on conceptual site model for surface soil.[499] The cover includes a stone layer which maximizes drainage and minimizes intrusion by root penetration and burrowing animals. As long as the cover is maintained, there is no uptake by plants.
Depth of Roots	DROOT	m	0.9	Lognormal-N	μNormal: 1.9 σNormal: 0.6	D	I	The engineered cover includes a layer of a dense clay material at a depth of 3 feet (1 m) that is designed to shed water and is covered by a layer of stone intended to preclude roots penetration and burrowing animals. The fit of the lognormal-N distribution allows for root depths of up to approximately 1 meter. As long as the cover is maintained, there is no uptake by plants.

9.5 Results

The potential radiation dose was determined for an individual who hunts inside of the restricted area and traverses the engineered barrier after all controls fail. The driving exposure pathway is external radiation. The following is a summary of the dose modeling results:

Area	Peak of the Mean Annual Dose mrem TEDE	Annual Dose, 50th percentile mrem TEDE	Annual Dose, 90th percentile mrem TEDE	Annual Dose, 95th percentile mrem TEDE	Maximum Annual Dose mrem TEDE	Deterministic Annual Dose mrem TEDE
1	1E-08	1E-12	1E-09	1E-08	8E-07	1E-10
2	1E-08	1E-12	1E-09	1E-08	9E-07	1E-10
3	1E-06	1E-10	1E-07	1E-06	1E-4	1E-08
4	1E-06	1E-10	1E-07	1E-06	1E-04	1E-08
5	1E-07	1E-11	1E-08	1E-07	7E-06	1E-09
6	1E-06	1E-9	1E-07	1E-06	2E-04	1E-08
7	1E-07	1E-10	1E-07	1E-06	5E105	1E-08

[498] U.S. Environmental Protection Agency, *Exposure Factors Handbook, Food Ingestion Factors*, Volume II, EPA/600/P-95/002Fb, August, 1997.
[499] U.S. Nuclear Regulatory Commission, *Residual Radioactive Contamination from Decommissioning: Parameter Analysis*, NUREG/CR-5512, Vol.3, October 1999.

Area	Peak of the Mean Annual Dose mrem TEDE	Annual Dose, 50th percentile mrem TEDE	Annual Dose, 90th percentile mrem TEDE	Annual Dose, 95th percentile mrem TEDE	Maximum Annual Dose mrem TEDE	Deterministic Annual Dose mrem TEDE
8	1E-07	1E-11	1E-08	1E-07	1E-05	1E-09
9	1E-07	1E-11	1E-08	1E-07	1E-05	1E-09
Sum of all areas	3E-06	1E-09	1E-06	1E-05	4E-04	2E-07

The pages that follow this one contain the RESRAD summary reports for this scenario.

10 BARRIER EXCAVATION PACKAGE (RESTRICTED/EXCAVATED)

10.1 General Information

The consolidated material at the SMC facility will be covered with an engineered barrier that is constructed of many layers and topped with rock. The area will be posted and fenced such that both administrative and engineering controls will deter excavation of the cover for at least 1,000 years after decommissioning is complete. However, a highly scenario presented by NRC Staff is the intentional excavation of a portion of the engineered barrier such that the consolidated materials in general, and slag pieces in particular, are uncovered.[500]

Excavating into the consolidated material is highly unlikely because there is no economic value in the materials in order to reach the slag, the physical form of the majority of the residual radioactivity (i.e., large, vitrified and irregularly-shaped rocks) is unappealing, the slag pieces will be generally placed at the bottom of the consolidated material such that their retrieval would be the most difficult, and the construction of engineered barrier itself, with its severe rock cover, serves as a deterrent to anything more than very small-scale excavating. The NRC evaluated the potential for excavation for another site, located in Cambridge, Ohio, and determined that the likelihood of such an activity was remote. The following is a quote from their findings:[501]

> *"The staff believes, however, that the combined likelihood of the institutional controls failing and a member of the public obtaining slag from the stabilized piles is remote. Assuming that the access controls failed, and in order for an off-site residential use scenario to be occur, a member of the public would have to dig through the caps that will be on the piles to obtain the slag. While this might be possible if the material had some significant value and was known to be beneath the cover by a member of the public, this is or will not be the case. The slag is similar to other readily available and inexpensive sources of fill materials, such as limestone so it is unlikely that an individual would dig into the slag piles to obtain materials which are otherwise easily obtained. Also, if a member of the public knew that the slag was buried in the piles, he would also likely know that the material was radioactive and would therefore not use it".*

In spite of its marginal likelihood, the radiation dose potential for an excavation scenario within the restricted area was evaluated. In this scenario, an individual is presumed to investigate the nature of materials under the engineered barrier by entering the restricted area after all controls fail. It is presumed that the individual attempts to excavate the slag in order to determine its intrinsic value or explore its use for landscaping or fill at an off-site location.

10.2 Critical Group Description

The critical exposure group for the highly unlikely cover excavation scenario, is described as a hypothetical person who excavates the engineered barrier and exposes some of the slag that has been consolidated below the cover. The dose potential was evaluated for three separate sub-groups:

- The excavator;
- A family that builds a home next to the damaged barrier; and

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[500] Excavation to uncover slag was selected for this scenario because it presents the greatest dose potential. The radiological contents of the slag is an order of magnitude higher than any other of the consolidated materials.

[501] U.S. Nuclear Regulatory Commission, *Draft EIS for Cambridge West Piles*, NUREG 1543, Appendix G, page G-3, July, 1996.

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

1RESRAD, Version 6.4 T« Limit = 180 days 07/25/2009 18:21 Page 2
Summary : SMC Recreational Hunter Area 1 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109401.RAD

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)

A-1	Pb-212	(Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214	(Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210	(Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211	(Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214	(Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215	(Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216	(Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218	(Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223	(Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224	(Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226	(Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219	(Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220	(Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222	(Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227	(Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228	(Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230	(Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231	(Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232	(Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234	(Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207	(Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208	(Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210	(Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234	(Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235	(Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238	(Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:				
B-1	Ac-227+D		6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231		1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D		2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D		8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D		5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D		3.454E-01	3.420E-01	DCF2(6)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-238	1.180E-01	1.180E-01	DCF2(11)

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

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

Dose Library: FGR 11

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

D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

Menu	Parameter		User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)		2.550E+03	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)		4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)		5.050E+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)		1.000E+01	3.000E+00	---	T(3)
R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	3.000E-01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	3.000E-01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	1.500E+00	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	1.500E+00	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	2.800E+00	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	2.800E+00	0.000E+00	---	S1(6)

R012	Initial principal radionuclide (pCi/g):	Th-230	4.900E+00	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	2.800E+00	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	4.900E+00	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	3.000E-01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	4.900E+00	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)

R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016					
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	5.030E+04	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.591E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016					
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.099E+05	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.560E-08	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016					
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016					
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016					
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

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

R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	0.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	9.000E-03	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+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)	1.500E-01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	1.800E+00	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	not used	-1	---	FPLANT
R018	Contamination fraction of meat	3.000E-01	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)

R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	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	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area: 2550.00 square meters

Initial Soil Concentrations, pCi/g

Ac-227	3.000E-01

Thickness:	4.50 meters	Pa-231	3.000E-01
Cover Depth:	1.83 meters	Pb-210	1.500E+00
		Ra-226	1.500E+00
		Ra-228	2.800E+00
		Th-228	2.800E+00
		Th-230	4.900E+00
		Th-232	2.800E+00
		U-234	4.900E+00
		U-235	3.000E-01
		U-238	4.900E+00

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	4.632E-11	4.640E-11	4.717E-11	5.561E-11	8.015E-11	1.155E-10	1.666E-10	2.402E-10	2.885E-10
M(t):	1.853E-12	1.856E-12	1.887E-12	2.224E-12	3.206E-12	4.621E-12	6.663E-12	9.609E-12	1.154E-11

0Maximum TDOSE(t): 2.885E-10 mrem/yr at t = 1.000E+03 years

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

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.790E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.961E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.192E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.347E-13	0.0094	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	7.122E-12	0.1538	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	3.846E-11	0.8304	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.078E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.983E-13	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	9.236E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.806E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.045E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.632E-11	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.790E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.961E-20	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.192E-20	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.347E-13	0.0094
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.122E-12	0.1538
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.846E-11	0.8304
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.078E-16	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.983E-13	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.236E-22	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.806E-24	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.045E-16	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.632E-11	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
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Ac-227	1.738E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	8.592E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.159E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.355E-13	0.0094	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.732E-11	0.3732	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	2.682E-11	0.5780	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	9.248E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.828E-12	0.0394	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	6.477E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.039E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.047E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	4.640E-11	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.738E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.592E-20	0.0000
Pb-210	0.000E+00	0.0000	0.000E+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-20	0.0000

Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.355E-13	0.0094
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.732E-11	0.3732
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.682E-11	0.5780
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.248E-16	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.828E-12	0.0394
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.477E-21	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.039E-24	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.047E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.640E-11	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 1 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109401.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

0 Water Independent Pathways (Inhalation excludes radon)

0 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.
Ac-227	1.338E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.320E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	8.966E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.423E-13	0.0094	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.819E-11	0.3856	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.046E-12	0.0222	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	6.587E-15	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.749E-11	0.5828	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.118E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	6.420E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.072E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.717E-11	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 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.
Ac-227	0.000E+00	0.0000	0.000E+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-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.320E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.966E-21	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.423E-13	0.0094
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.819E-11	0.3856
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.046E-12	0.0222
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.587E-15	0.0001

Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.749E-11	0.5828
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.118E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.420E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.072E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.717E-11	1.0000

0*Sum of all water independent and dependent pathways.

1RESRAD, Version 6.4 T« Limit = 180 days 07/25/2009 18:21 Page 17

Summary : SMC Recreational Hunter Area 1 Controls Fail Restricted Area

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

0 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.
Ac-227	9.777E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.297E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	6.896E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.167E-13	0.0093	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	4.517E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	8.485E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	7.507E-14	0.0014	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.501E-11	0.9893	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.421E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.572E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.351E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.561E-11	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.777E-20	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.297E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.896E-22	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.167E-13	0.0093
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.517E-16	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.485E-27	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.507E-14	0.0014
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.501E-11	0.9893
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.421E-17	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.572E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.351E-16	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.561E-11	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 1 Controls Fail Restricted Area

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.917E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	4.145E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.307E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	7.298E-13	0.0091	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.197E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.310E-13	0.0041	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	7.909E-11	0.9868	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.575E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.369E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.262E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	8.015E-11	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.917E-22	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.145E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.307E-24	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.298E-13	0.0091
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.197E-26	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.310E-13	0.0041
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.909E-11	0.9868
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.575E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.369E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.262E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.015E-11	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 1 Controls Fail Restricted Area
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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	8.707E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	7.176E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	7.717E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.031E-12	0.0089	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	8.134E-13	0.0070	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.137E-10	0.9840	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.899E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	7.168E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.792E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.155E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years
Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.707E-25	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.176E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.717E-27	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.031E-12	0.0089
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.134E-13	0.0070
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.137E-10	0.9840
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.899E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.168E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.792E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.155E-10	1.0000

*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 1 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109401.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 = 7.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	2.599E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.242E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.581E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.456E-12	0.0087	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.681E-12	0.0101	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.634E-10	0.9811	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	5.569E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.775E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.367E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.666E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.599E-27	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.242E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.581E-29	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.456E-12	0.0087
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.681E-12	0.0101
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.634E-10	0.9811
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.569E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.775E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.367E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.666E-10	1.0000

*Sum of all water independent and dependent pathways.

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

As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground	Inhalation	Radon	Plant	Meat	Milk	Soil

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	7.756E-30	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.151E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.057E-12	0.0086	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.192E-12	0.0133	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.350E-10	0.9781	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.378E-14	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.001E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.071E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.402E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.756E-30	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.151E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.057E-12	0.0086
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.192E-12	0.0133
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.350E-10	0.9781
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.378E-14	0.0001
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.001E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.071E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.402E-10	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	4.238E-31	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.830E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.444E-12	0.0085	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.311E-12	0.0149	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.817E-10	0.9765	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.083E-14	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.878E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.391E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.885E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.238E-31	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.830E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.444E-12	0.0085
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.311E-12	0.0149
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.817E-10	0.9765
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.083E-14	0.0001
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.878E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.391E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.885E-10	1.0000

*Sum of all water independent and dependent pathways.

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

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03 (mrem/yr)/(pCi/g)
Ac-227+D	Ac-227+D	1.000E+00	5.966E-18	5.795E-18	4.461E-18	3.259E-19	9.725E-22	2.902E-24	8.662E-27	2.585E-29	1.413E-30
Pa-231	Pa-231	1.000E+00	3.182E-21	3.193E-21	3.289E-21	4.432E-21	8.601E-21	1.669E-20	3.238E-20	6.284E-20	8.753E-20
Pa-231	Ac-227+D	1.000E+00	9.551E-20	2.832E-19	1.770E-18	7.653E-18	1.381E-17	2.390E-17	4.138E-17	7.164E-17	9.426E-17
Pa-231	äDSR(j)		9.869E-20	2.864E-19	1.773E-18	7.657E-18	1.382E-17	2.392E-17	4.141E-17	7.170E-17	9.435E-17
Pb-210+D	Pb-210+D	1.000E+00	7.949E-21	7.726E-21	5.978E-21	4.597E-22	1.538E-24	5.145E-27	1.721E-29	5.757E-32	3.330E-33
Ra-226+D	Ra-226+D	1.000E+00	2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.629E-12
Ra-226+D	Pb-210+D	1.000E+00	1.242E-22	3.683E-22	2.301E-21	9.688E-21	1.564E-20	2.408E-20	3.708E-20	5.711E-20	7.087E-20
Ra-226+D	äDSR(j)		2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.629E-12

0Ra-228+D	Ra-228+D	1.000E+00	9.981E-15	8.868E-15	3.062E-15	7.373E-20	4.024E-30	2.196E-40	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	2.534E-12	6.176E-12	6.493E-12	1.612E-16	7.843E-27	3.815E-37	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		2.544E-12	6.185E-12	6.496E-12	1.613E-16	7.847E-27	3.817E-37	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.374E-11	9.579E-12	3.735E-13	3.030E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	2.747E-34	2.762E-34	2.898E-34	4.702E-34	1.378E-33	4.039E-33	1.184E-32	3.470E-32	5.940E-32
Th-230	Ra-226+D	1.000E+00	6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.513E-13	8.798E-13
Th-230	Pb-210+D	1.000E+00	1.799E-26	1.251E-25	5.527E-24	3.105E-22	1.924E-21	5.402E-21	1.241E-20	2.596E-20	3.675E-20
Th-230	äDSR(j)		6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.513E-13	8.798E-13
0Th-232	Th-232	1.000E+00	6.986E-38	7.028E-38	7.417E-38	1.272E-37	4.214E-37	1.396E-36	4.627E-36	1.533E-35	2.791E-35
Th-232	Ra-228+D	1.000E+00	6.139E-16	1.752E-15	7.789E-15	1.346E-14	2.170E-14	3.500E-14	5.646E-14	9.106E-14	1.157E-13
Th-232	Th-228+D	1.000E+00	1.059E-13	6.509E-13	9.810E-12	1.963E-11	2.822E-11	4.057E-11	5.831E-11	8.382E-11	1.005E-10
Th-232	äDSR(j)		1.065E-13	6.527E-13	9.818E-12	1.965E-11	2.824E-11	4.060E-11	5.837E-11	8.391E-11	1.006E-10
0U-234	U-234	1.000E+00	6.536E-36	6.573E-36	6.911E-36	1.142E-35	3.490E-35	1.066E-34	3.258E-34	9.953E-34	1.740E-33
U-234	Th-230	1.000E+00	1.237E-39	3.730E-39	2.740E-38	4.256E-37	3.732E-36	1.823E-35	7.481E-35	2.820E-34	5.366E-34
U-234	Ra-226+D	1.000E+00	1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.876E-16	1.137E-15	2.813E-15	4.250E-15
U-234	Pb-210+D	1.000E+00	4.055E-32	6.055E-31	1.791E-28	1.131E-25	2.402E-24	1.183E-23	3.923E-23	1.080E-22	1.716E-22
U-234	äDSR(j)		1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.876E-16	1.137E-15	2.813E-15	4.250E-15
0U-235+D	U-235+D	1.000E+00	5.309E-24	5.331E-24	5.525E-24	7.900E-24	1.749E-23	3.873E-23	8.575E-23	1.899E-22	2.825E-22
U-235+D	Pa-231	1.000E+00	3.368E-26	1.013E-25	7.309E-25	9.438E-24	5.490E-23	1.779E-22	4.844E-22	1.211E-21	1.877E-21
U-235+D	Ac-227+D	1.000E+00	6.756E-25	4.697E-24	2.077E-22	1.189E-20	7.890E-20	2.387E-19	5.909E-19	1.332E-18	1.957E-18
U-235+D	äDSR(j)		6.019E-24	1.013E-23	2.140E-22	1.191E-20	7.897E-20	2.389E-19	5.915E-19	1.334E-18	1.959E-18
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.613E-17	7.719E-17	1.292E-16	2.162E-16	2.797E-16
U-238+D	U-234	9.999E-01	9.272E-42	2.796E-41	2.057E-40	3.255E-39	2.975E-38	1.514E-37	6.476E-37	2.544E-36	4.941E-36
U-238+D	Th-230	9.999E-01	1.401E-45	8.408E-45	4.078E-43	6.063E-41	1.590E-39	1.294E-38	7.438E-38	3.606E-37	7.625E-37
U-238+D	Ra-226+D	9.999E-01	1.336E-28	2.008E-27	6.325E-25	6.655E-22	2.680E-20	1.867E-19	7.715E-19	2.472E-18	4.163E-18
U-238+D	Pb-210+D	9.999E-01	2.302E-38	7.113E-37	1.357E-33	9.036E-30	6.305E-28	5.371E-27	2.549E-26	9.166E-26	1.629E-25
U-238+D	äDSR(j)		2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.616E-17	7.738E-17	1.299E-16	2.186E-16	2.838E-16

The DSR includes contributions from associated (half-life ó 180 days) daughters.

Summary : SMC Recreational Hunter Area 1 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109401.RAD

Single Radionuclide Soil Guidelines G(i,t) in pCi/g

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	9.829E+12	4.042E+12	3.849E+12	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.820E+12	2.610E+12	6.694E+13	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	3.000E-01	0.000E+00	5.966E-18	*7.232E+13	1.413E-30	*7.232E+13
Pa-231	3.000E-01	1.000E+03	9.435E-17	*4.723E+10	9.435E-17	*4.723E+10
Pb-210	1.500E+00	0.000E+00	7.949E-21	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	1.500E+00	1.000E+03	1.629E-12	*9.885E+11	1.629E-12	*9.885E+11
Ra-228	2.800E+00	4.112 ñ 0.008	9.520E-12	2.626E+12	0.000E+00	*2.726E+14
Th-228	2.800E+00	0.000E+00	1.374E-11	1.820E+12	0.000E+00	*8.195E+14
Th-230	4.900E+00	1.000E+03	8.798E-13	*2.018E+10	8.798E-13	*2.018E+10
Th-232	2.800E+00	1.000E+03	1.006E-10	*1.097E+05	1.006E-10	*1.097E+05
U-234	4.900E+00	1.000E+03	4.250E-15	*6.247E+09	4.250E-15	*6.247E+09
U-235	3.000E-01	1.000E+03	1.959E-18	*2.161E+06	1.959E-18	*2.161E+06
U-238	4.900E+00	1.000E+03	2.838E-16	*3.361E+05	2.838E-16	*3.361E+05

*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	1.790E-18	1.738E-18	1.338E-18	9.777E-20	2.917E-22	8.707E-25	2.599E-27	7.756E-30	4.238E-31
Ac-227	Pa-231	1.000E+00	2.865E-20	8.497E-20	5.311E-19	2.296E-18	4.143E-18	7.171E-18	1.241E-17	2.149E-17	2.828E-17
Ac-227	U-235	1.000E+00	2.027E-25	1.409E-24	6.232E-23	3.567E-21	2.367E-20	7.161E-20	1.773E-19	3.997E-19	5.872E-19
Ac-227	äDOSE(j)		1.818E-18	1.823E-18	1.869E-18	2.397E-18	4.167E-18	7.243E-18	1.259E-17	2.189E-17	2.887E-17
0Pa-231	Pa-231	1.000E+00	9.546E-22	9.578E-22	9.868E-22	1.330E-21	2.580E-21	5.007E-21	9.715E-21	1.885E-20	2.626E-20
Pa-231	U-235	1.000E+00	1.010E-26	3.040E-26	2.193E-25	2.831E-24	1.647E-23	5.337E-23	1.453E-22	3.634E-22	5.632E-22
Pa-231	äDOSE(j)		9.546E-22	9.578E-22	9.870E-22	1.333E-21	2.597E-21	5.060E-21	9.861E-21	1.922E-20	2.682E-20
0Pb-210	Pb-210	1.000E+00	1.192E-20	1.159E-20	8.966E-21	6.896E-22	2.307E-24	7.717E-27	2.581E-29	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	1.863E-22	5.525E-22	3.452E-21	1.453E-20	2.345E-20	3.612E-20	5.562E-20	8.566E-20	1.063E-19
Pb-210	Th-230	1.000E+00	8.814E-26	6.128E-25	2.708E-23	1.521E-21	9.425E-21	2.647E-20	6.080E-20	1.272E-19	1.801E-19
Pb-210	U-234	1.000E+00	0.000E+00	0.000E+00	8.776E-28	5.540E-25	1.177E-23	5.796E-23	1.922E-22	5.293E-22	8.410E-22
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	4.428E-29	3.089E-27	2.632E-26	1.249E-25	4.492E-25	7.982E-25
Pb-210	äDOSE(j)		1.211E-20	1.214E-20	1.245E-20	1.674E-20	3.289E-20	6.265E-20	1.166E-19	2.134E-19	2.872E-19
0Ra-226	Ra-226	1.000E+00	4.347E-13	4.355E-13	4.423E-13	5.167E-13	7.298E-13	1.031E-12	1.456E-12	2.057E-12	2.444E-12
Ra-226	Th-230	1.000E+00	3.078E-16	9.248E-16	6.587E-15	7.507E-14	3.310E-13	8.134E-13	1.681E-12	3.192E-12	4.311E-12
Ra-226	U-234	1.000E+00	9.236E-22	6.477E-21	3.118E-19	3.421E-17	4.575E-16	1.899E-15	5.569E-15	1.378E-14	2.083E-14
Ra-226	U-238	9.999E-01	6.547E-28	9.837E-27	3.099E-24	3.261E-21	1.313E-19	9.146E-19	3.780E-18	1.211E-17	2.040E-17

Ra-226	äDOSE(j)		4.350E-13	4.364E-13	4.489E-13	5.918E-13	1.061E-12	1.846E-12	3.142E-12	5.262E-12	6.776E-12
0Ra-228	Ra-228	1.000E+00	2.795E-14	2.483E-14	8.574E-15	2.065E-19	1.127E-29	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	1.719E-15	4.904E-15	2.181E-14	3.767E-14	6.077E-14	9.801E-14	1.581E-13	2.550E-13	3.238E-13
Ra-228	äDOSE(j)		2.966E-14	2.974E-14	3.038E-14	3.767E-14	6.077E-14	9.801E-14	1.581E-13	2.550E-13	3.238E-13
0Th-228	Ra-228	1.000E+00	7.094E-12	1.729E-11	1.818E-11	4.515E-16	2.196E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	3.846E-11	2.682E-11	1.046E-12	8.485E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	2.966E-13	1.823E-12	2.747E-11	5.498E-11	7.902E-11	1.136E-10	1.633E-10	2.347E-10	2.814E-10
Th-228	äDOSE(j)		4.585E-11	4.594E-11	4.669E-11	5.498E-11	7.902E-11	1.136E-10	1.633E-10	2.347E-10	2.814E-10
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	1.593E-24	1.599E-24	1.657E-24	2.370E-24	5.248E-24	1.162E-23	2.572E-23	5.696E-23	8.475E-23
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	1.045E-16	1.047E-16	1.072E-16	1.351E-16	2.261E-16	3.782E-16	6.330E-16	1.059E-15	1.370E-15
U-238	äDOSE(j)		1.045E-16	1.047E-16	1.072E-16	1.351E-16	2.261E-16	3.782E-16	6.330E-16	1.059E-15	1.370E-15
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THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ
Ac-227	Ac-227	1.000E+00	3.000E-01	2.906E-01	2.182E-01	1.242E-02	2.131E-05	3.655E-08	6.268E-11	1.075E-13	4.452E-15
Ac-227	Pa-231	1.000E+00	0.000E+00	9.400E-03	8.178E-02	2.870E-01	2.978E-01	2.963E-01	2.947E-01	2.932E-01	2.924E-01
Ac-227	U-235	1.000E+00	0.000E+00	9.997E-08	9.111E-06	4.431E-04	1.698E-03	2.955E-03	4.206E-03	5.449E-03	6.069E-03
Ac-227	äS(j):		3.000E-01	3.000E-01	3.000E-01	2.998E-01	2.995E-01	2.992E-01	2.989E-01	2.986E-01	2.985E-01
0Pa-231	Pa-231	1.000E+00	3.000E-01	3.000E-01	2.999E-01	2.992E-01	2.976E-01	2.961E-01	2.945E-01	2.930E-01	2.922E-01
Pa-231	U-235	1.000E+00	0.000E+00	6.347E-06	6.347E-05	6.339E-04	1.897E-03	3.153E-03	4.402E-03	5.645E-03	6.264E-03
Pa-231	äS(j):		3.000E-01	3.000E-01	3.000E-01	2.998E-01	2.995E-01	2.992E-01	2.989E-01	2.986E-01	2.985E-01
0Pb-210	Pb-210	1.000E+00	1.500E+00	1.454E+00	1.099E+00	6.695E-02	1.334E-04	2.656E-07	5.291E-10	1.054E-12	4.704E-14
Pb-210	Ra-226	1.000E+00	0.000E+00	4.590E-02	3.998E-01	1.388E+00	1.335E+00	1.224E+00	1.123E+00	1.030E+00	9.860E-01
Pb-210	Th-230	1.000E+00	0.000E+00	3.265E-05	2.978E-03	1.444E-01	5.355E-01	8.962E-01	1.226E+00	1.528E+00	1.669E+00
Pb-210	U-234	1.000E+00	0.000E+00	9.822E-11	9.165E-08	5.230E-05	6.676E-04	1.960E-03	3.874E-03	6.354E-03	7.792E-03
Pb-210	U-238	9.999E-01	0.000E+00	6.972E-17	6.595E-13	4.157E-09	1.749E-07	8.892E-07	2.515E-06	5.389E-06	7.391E-06
Pb-210	äS(j):		1.500E+00	1.500E+00	1.502E+00	1.600E+00	1.872E+00	2.123E+00	2.353E+00	2.564E+00	2.663E+00
0Ra-226	Ra-226	1.000E+00	1.500E+00	1.499E+00	1.494E+00	1.436E+00	1.317E+00	1.208E+00	1.108E+00	1.016E+00	9.726E-01
Ra-226	Th-230	1.000E+00	0.000E+00	2.122E-03	2.118E-02	2.076E-01	5.963E-01	9.520E-01	1.277E+00	1.575E+00	1.714E+00
Ra-226	U-234	1.000E+00	0.000E+00	9.553E-09	9.540E-07	9.414E-05	8.228E-04	2.220E-03	4.230E-03	6.798E-03	8.277E-03
Ra-226	U-238	9.999E-01	0.000E+00	9.027E-15	9.018E-12	8.929E-09	2.358E-07	1.068E-06	2.869E-06	5.970E-06	8.104E-06
Ra-226	äS(j):		1.500E+00	1.501E+00	1.515E+00	1.644E+00	1.914E+00	2.162E+00	2.389E+00	2.598E+00	2.695E+00
0Ra-228	Ra-228	1.000E+00	2.800E+00	2.482E+00	8.387E-01	1.629E-05	5.511E-16	1.865E-26	6.310E-37	0.000E+00	0.000E+00

Ra-228	Th-232	1.000E+00	0.000E+00	3.180E-01	1.961E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00
Ra-228	äS(j):		2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00
0Th-228	Ra-228	1.000E+00	0.000E+00	7.988E-01	1.145E+00	2.441E-05	8.259E-16	2.795E-26	9.456E-37	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	2.800E+00	1.949E+00	7.475E-02	5.152E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	5.220E-02	1.580E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00
Th-228	äS(j):		2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00
0Th-230	Th-230	1.000E+00	4.900E+00	4.900E+00	4.900E+00	4.896E+00	4.887E+00	4.878E+00	4.869E+00	4.860E+00	4.855E+00
Th-230	U-234	1.000E+00	0.000E+00	4.411E-05	4.411E-04	4.408E-03	1.321E-02	2.199E-02	3.074E-02	3.948E-02	4.384E-02
Th-230	U-238	9.999E-01	0.000E+00	6.252E-11	6.252E-09	6.249E-07	5.620E-06	1.560E-05	3.055E-05	5.045E-05	6.226E-05
Th-230	äS(j):		4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.899E+00	4.899E+00	4.899E+00
0Th-232	Th-232	1.000E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00	2.800E+00
0U-234	U-234	1.000E+00	4.900E+00	4.900E+00	4.900E+00	4.899E+00	4.896E+00	4.893E+00	4.890E+00	4.887E+00	4.885E+00
U-234	U-238	9.999E-01	0.000E+00	1.389E-05	1.389E-04	1.389E-03	4.165E-03	6.940E-03	9.712E-03	1.248E-02	1.387E-02
U-234	äS(j):		4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.899E+00	4.899E+00	4.899E+00
0U-235	U-235	1.000E+00	3.000E-01	3.000E-01	3.000E-01	3.000E-01	3.000E-01	3.000E-01	3.000E-01	2.999E-01	2.999E-01
0U-238	U-238	5.400E-05	2.646E-04	2.646E-04	2.646E-04	2.646E-04	2.646E-04	2.646E-04	2.646E-04	2.646E-04	2.645E-04
U-238	U-238	9.999E-01	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.899E+00	4.899E+00	4.899E+00	4.899E+00	4.899E+00
U-238	äS(j):		4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.900E+00	4.899E+00	4.899E+00	4.899E+00
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THF(i) is the thread fraction of the parent nuclide.

0RESCALC.EXE execution time = 72.31 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)
A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)

A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)

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

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

D-34	Ac-227+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,2)
D-34	Ac-227+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,3)
D-34					
D-34	Pa-231	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pa-231	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(2,2)
D-34	Pa-231	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(2,3)
D-34					
D-34	Pb-210+D	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(3,1)
D-34	Pb-210+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(3,2)
D-34	Pb-210+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(3,3)
D-34					
D-34	Ra-226+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(4,1)
D-34	Ra-226+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,2)
D-34	Ra-226+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,3)
D-34					
D-34	Ra-228+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(5,1)
D-34	Ra-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,2)
D-34	Ra-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,3)
D-34					
D-34	Th-228+D	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Th-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Th-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(6,3)
D-34					
D-34	Th-230	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Th-230	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Th-230	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(7,3)
D-34					

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

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

D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(2,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(2,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(3,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(3,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(4,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(4,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(5,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(5,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(6,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(6,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(7,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(7,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(8,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(8,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(9,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	2.210E+03	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	4.700E+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)	1.000E+01	3.000E+00	---	T(3)

R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide	(pCi/g): Ac-227	1.100E+00	0.000E+00	---	S1(1)
R012	Initial principal radionuclide	(pCi/g): Pa-231	1.100E+00	0.000E+00	---	S1(2)
R012	Initial principal radionuclide	(pCi/g): Pb-210	2.240E+01	0.000E+00	---	S1(3)
R012	Initial principal radionuclide	(pCi/g): Ra-226	2.240E+01	0.000E+00	---	S1(4)
R012	Initial principal radionuclide	(pCi/g): Ra-228	3.840E+01	0.000E+00	---	S1(5)
R012	Initial principal radionuclide	(pCi/g): Th-228	3.840E+01	0.000E+00	---	S1(6)
R012	Initial principal radionuclide	(pCi/g): Th-230	1.580E+01	0.000E+00	---	S1(7)
R012	Initial principal radionuclide	(pCi/g): Th-232	3.840E+01	0.000E+00	---	S1(8)
R012	Initial principal radionuclide	(pCi/g): U-234	1.580E+01	0.000E+00	---	S1(9)
R012	Initial principal radionuclide	(pCi/g): U-235	1.100E+00	0.000E+00	---	S1(10)
R012	Initial principal radionuclide	(pCi/g): U-238	1.580E+01	0.000E+00	---	S1(11)
R012	Concentration in groundwater	(pCi/L): Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater	(pCi/L): Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater	(pCi/L): Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater	(pCi/L): Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater	(pCi/L): Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater	(pCi/L): Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater	(pCi/L): Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater	(pCi/L): Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater	(pCi/L): U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater	(pCi/L): U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater	(pCi/L): U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ

R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Summary : SMC REcreational Hunter Area 8 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109408.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 Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	3.480E+03	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	8.082E-07	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	6.595E+03	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.264E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)

R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	0.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	9.000E-03	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)

R018	Meat and poultry consumption (kg/yr)	6.300E+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)	1.500E-01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	1.800E+00	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	not used	-1	---	FPLANT
R018	Contamination fraction of meat	3.000E-01	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	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	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN

C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area:	2210.00 square meters
Thickness:	4.50 meters
Cover Depth:	1.83 meters

Initial Soil Concentrations, pCi/g

Ac-227	1.100E+00
Pa-231	1.100E+00
Pb-210	2.240E+01
Ra-226	2.240E+01
Ra-228	3.840E+01
Th-228	3.840E+01
Th-230	1.580E+01
Th-232	3.840E+01
U-234	1.580E+01
U-235	1.100E+00
U-238	1.580E+01

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	6.358E-10	6.369E-10	6.474E-10	7.624E-10	1.097E-09	1.577E-09	2.269E-09	3.264E-09	3.914E-09
M(t):	2.543E-11	2.548E-11	2.590E-11	3.050E-11	4.386E-11	6.309E-11	9.075E-11	1.305E-10	1.566E-10

0Maximum TDOSE(t): 3.914E-09 mrem/yr at t = 1.000E+03 years

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

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	6.562E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.086E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.781E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.492E-12	0.0102	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	9.767E-11	0.1536	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	5.275E-10	0.8297	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	9.923E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.091E-12	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.978E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	6.621E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.368E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	6.358E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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
0 Water Dependent Pathways

Radio-	Water	Fish	Radon	Plant	Meat	Milk	All Pathways*

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.562E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.086E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.781E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.492E-12	0.0102
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.767E-11	0.1536
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.275E-10	0.8297
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.923E-16	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.091E-12	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.978E-21	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.621E-24	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.368E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.358E-10	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC REcreational Hunter Area 8 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109408.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

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	6.374E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.151E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.731E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.503E-12	0.0102	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.375E-10	0.3729	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	3.678E-10	0.5775	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.982E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.506E-11	0.0394	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.088E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.114E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.377E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	6.369E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.374E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.151E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.731E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.503E-12	0.0102
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.375E-10	0.3729
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.678E-10	0.5775
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.982E-15	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.506E-11	0.0394
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.088E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.114E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.377E-16	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.369E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	4.907E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.951E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.339E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.605E-12	0.0102	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.494E-10	0.3853	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.434E-11	0.0222	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.124E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.770E-10	0.5823	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.005E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.354E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.456E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	6.474E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.907E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.951E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.339E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.605E-12	0.0102
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.494E-10	0.3853
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.434E-11	0.0222
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.124E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.770E-10	0.5823
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.005E-18	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.354E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.456E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.474E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	3.585E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	8.423E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.030E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	7.715E-12	0.0101	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	6.194E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.164E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.421E-13	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	7.545E-10	0.9896	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.103E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.310E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.357E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	7.624E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.585E-19	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.423E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.030E-20	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.715E-12	0.0101
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.194E-15	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.164E-25	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.421E-13	0.0003
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.545E-10	0.9896
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.103E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.310E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.357E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.624E-10	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC REcreational Hunter Area 8 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109408.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.070E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.520E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.445E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.090E-11	0.0099	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.013E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.067E-12	0.0010	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.085E-09	0.9891	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.475E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	8.687E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	7.293E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total	1.097E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0
Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.070E-21	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.520E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.445E-23	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.090E-11	0.0099
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.013E-25	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.067E-12	0.0010
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.085E-09	0.9891
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.475E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.687E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.293E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.097E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0
Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	3.192E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.631E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.152E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.539E-11	0.0098	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.622E-12	0.0017	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.559E-09	0.9886	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	6.123E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.628E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.223E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.577E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0
Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.192E-24	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.631E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.152E-25	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.539E-11	0.0098

Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.622E-12	0.0017
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.559E-09	0.9886
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.123E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.628E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.223E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.577E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	9.528E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	4.555E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.855E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.173E-11	0.0096	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	5.418E-12	0.0024	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.242E-09	0.9880	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.796E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	6.507E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.053E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	2.269E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.528E-27	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.555E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.855E-28	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.173E-11	0.0096
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.418E-12	0.0024
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.242E-09	0.9880
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.796E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.507E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.053E-15	0.0000
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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	2.269E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	2.844E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	7.887E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.069E-11	0.0094	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.029E-11	0.0032	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.223E-09	0.9874	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.444E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.467E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.455E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.264E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years
Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.844E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.887E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.069E-11	0.0094
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.029E-11	0.0032
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.223E-09	0.9874
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.444E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.467E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.455E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.264E-09	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	1.554E-30	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.038E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.647E-11	0.0093	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.390E-11	0.0035	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.864E-09	0.9871	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	6.714E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.155E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.485E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	3.914E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio- Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.554E-30	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.038E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.647E-11	0.0093
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.390E-11	0.0035
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.864E-09	0.9871
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.714E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.155E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.485E-15	0.0000
íííííííí	íííííííííí	íííííí	íííííííííí	íííííí	íííííííííí	íííííí	íííííííííí	íííííí	íííííííííí	íííííí	íííííííííí	íííííí	íííííííííí	íííííí
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.914E-09	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	5.966E-18	5.795E-18	4.461E-18	3.259E-19	9.725E-22	2.902E-24	8.662E-27	2.585E-29	1.413E-30
0Pa-231	Pa-231	1.000E+00	3.182E-21	3.193E-21	3.289E-21	4.432E-21	8.601E-21	1.669E-20	3.238E-20	6.284E-20	8.753E-20
Pa-231	Ac-227+D	1.000E+00	9.551E-20	2.832E-19	1.770E-18	7.653E-18	1.381E-17	2.390E-17	4.138E-17	7.164E-17	9.426E-17
Pa-231	äDSR(j)		9.869E-20	2.864E-19	1.773E-18	7.657E-18	1.382E-17	2.392E-17	4.141E-17	7.170E-17	9.435E-17
0Pb-210+D	Pb-210+D	1.000E+00	7.949E-21	7.726E-21	5.978E-21	4.597E-22	1.538E-24	5.145E-27	1.721E-29	5.757E-32	3.330E-33
0Ra-226+D	Ra-226+D	1.000E+00	2.898E-13	2.903E-13	2.949E-13	3.444E-13	4.864E-13	6.870E-13	9.702E-13	1.370E-12	1.628E-12
Ra-226+D	Pb-210+D	1.000E+00	1.242E-22	3.683E-22	2.301E-21	9.688E-21	1.563E-20	2.407E-20	3.706E-20	5.707E-20	7.081E-20
Ra-226+D	äDSR(j)		2.898E-13	2.903E-13	2.949E-13	3.444E-13	4.864E-13	6.870E-13	9.702E-13	1.370E-12	1.628E-12
0Ra-228+D	Ra-228+D	1.000E+00	9.981E-15	8.868E-15	3.062E-15	7.373E-20	4.024E-30	2.196E-40	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	2.534E-12	6.176E-12	6.493E-12	1.612E-16	7.842E-27	3.814E-37	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		2.544E-12	6.185E-12	6.496E-12	1.613E-16	7.846E-27	3.816E-37	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.374E-11	9.579E-12	3.735E-13	3.030E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	2.747E-34	2.762E-34	2.898E-34	4.702E-34	1.378E-33	4.039E-33	1.184E-32	3.470E-32	5.941E-32
Th-230	Ra-226+D	1.000E+00	6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.754E-14	1.660E-13	3.429E-13	6.512E-13	8.795E-13
Th-230	Pb-210+D	1.000E+00	1.799E-26	1.251E-25	5.527E-24	3.105E-22	1.923E-21	5.401E-21	1.241E-20	2.596E-20	3.674E-20
Th-230	äDSR(j)		6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.754E-14	1.660E-13	3.429E-13	6.512E-13	8.795E-13
0Th-232	Th-232	1.000E+00	6.986E-38	7.028E-38	7.417E-38	1.272E-37	4.214E-37	1.396E-36	4.627E-36	1.533E-35	2.791E-35
Th-232	Ra-228+D	1.000E+00	6.139E-16	1.752E-15	7.789E-15	1.346E-14	2.170E-14	3.501E-14	5.646E-14	9.107E-14	1.157E-13
Th-232	Th-228+D	1.000E+00	1.059E-13	6.509E-13	9.810E-12	1.963E-11	2.822E-11	4.057E-11	5.832E-11	8.383E-11	1.005E-10
Th-232	äDSR(j)		1.065E-13	6.527E-13	9.818E-12	1.965E-11	2.825E-11	4.061E-11	5.838E-11	8.392E-11	1.006E-10

0U-234	U-234	1.000E+00	6.536E-36	6.573E-36	6.911E-36	1.142E-35	3.490E-35	1.066E-34	3.258E-34	9.954E-34	1.740E-33
U-234	Th-230	1.000E+00	1.237E-39	3.730E-39	2.740E-38	4.256E-37	3.732E-36	1.823E-35	7.482E-35	2.821E-34	5.367E-34
U-234	Ra-226+D	1.000E+00	1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.875E-16	1.136E-15	2.812E-15	4.249E-15
U-234	Pb-210+D	1.000E+00	4.055E-32	6.055E-31	1.791E-28	1.131E-25	2.402E-24	1.183E-23	3.922E-23	1.080E-22	1.716E-22
U-234	äDSR(j)		1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.875E-16	1.136E-15	2.812E-15	4.249E-15
0U-235+D	U-235+D	1.000E+00	5.309E-24	5.331E-24	5.525E-24	7.900E-24	1.749E-23	3.873E-23	8.575E-23	1.899E-22	2.825E-22
U-235+D	Pa-231	1.000E+00	3.368E-26	1.013E-25	7.309E-25	9.438E-24	5.490E-23	1.779E-22	4.844E-22	1.211E-21	1.877E-21
U-235+D	Ac-227+D	1.000E+00	6.756E-25	4.697E-24	2.077E-22	1.189E-20	7.890E-20	2.387E-19	5.909E-19	1.332E-18	1.957E-18
U-235+D	äDSR(j)		6.019E-24	1.013E-23	2.140E-22	1.191E-20	7.897E-20	2.389E-19	5.915E-19	1.334E-18	1.960E-18
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.613E-17	7.719E-17	1.292E-16	2.162E-16	2.797E-16
U-238+D	U-234	9.999E-01	9.272E-42	2.796E-41	2.057E-40	3.255E-39	2.975E-38	1.514E-37	6.476E-37	2.544E-36	4.941E-36
U-238+D	Th-230	9.999E-01	1.401E-45	8.408E-45	4.078E-43	6.063E-41	1.590E-39	1.294E-38	7.438E-38	3.606E-37	7.625E-37
U-238+D	Ra-226+D	9.999E-01	1.336E-28	2.008E-27	6.325E-25	6.654E-22	2.680E-20	1.866E-19	7.715E-19	2.471E-18	4.163E-18
U-238+D	Pb-210+D	9.999E-01	2.302E-38	7.113E-37	1.357E-33	9.036E-30	6.304E-28	5.371E-27	2.549E-26	9.165E-26	1.629E-25
U-238+D	äDSR(j)		2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.616E-17	7.738E-17	1.299E-16	2.187E-16	2.838E-16

The DSR includes contributions from associated (half-life ó 180 days) daughters.

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	9.829E+12	4.042E+12	3.849E+12	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.820E+12	2.610E+12	6.694E+13	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	1.100E+00	0.000E+00	5.966E-18	*7.232E+13	1.413E-30	*7.232E+13
Pa-231	1.100E+00	1.000E+03	9.435E-17	*4.723E+10	9.435E-17	*4.723E+10
Pb-210	2.240E+01	0.000E+00	7.949E-21	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	2.240E+01	1.000E+03	1.628E-12	*9.885E+11	1.628E-12	*9.885E+11
Ra-228	3.840E+01	4.112 ñ 0.008	9.520E-12	2.626E+12	0.000E+00	*2.726E+14
Th-228	3.840E+01	0.000E+00	1.374E-11	1.820E+12	0.000E+00	*8.195E+14
Th-230	1.580E+01	1.000E+03	8.795E-13	*2.018E+10	8.795E-13	*2.018E+10
Th-232	3.840E+01	1.000E+03	1.006E-10	*1.097E+05	1.006E-10	*1.097E+05
U-234	1.580E+01	1.000E+03	4.249E-15	*6.247E+09	4.249E-15	*6.247E+09
U-235	1.100E+00	1.000E+03	1.960E-18	*2.161E+06	1.960E-18	*2.161E+06
U-238	1.580E+01	1.000E+03	2.838E-16	*3.361E+05	2.838E-16	*3.361E+05

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	6.562E-18	6.374E-18	4.907E-18	3.585E-19	1.070E-21	3.192E-24	9.528E-27	2.844E-29	1.554E-30
Ac-227	Pa-231	1.000E+00	1.051E-19	3.115E-19	1.947E-18	8.418E-18	1.519E-17	2.629E-17	4.552E-17	7.880E-17	1.037E-16
Ac-227	U-235	1.000E+00	7.431E-25	5.167E-24	2.285E-22	1.308E-20	8.679E-20	2.626E-19	6.500E-19	1.466E-18	2.153E-18
Ac-227	äDOSE(j)		6.668E-18	6.686E-18	6.854E-18	8.790E-18	1.528E-17	2.656E-17	4.617E-17	8.027E-17	1.058E-16
0Pa-231	Pa-231	1.000E+00	3.500E-21	3.512E-21	3.618E-21	4.876E-21	9.461E-21	1.836E-20	3.562E-20	6.912E-20	9.629E-20
Pa-231	U-235	1.000E+00	3.705E-26	1.115E-25	8.039E-25	1.038E-23	6.039E-23	1.957E-22	5.328E-22	1.333E-21	2.065E-21
Pa-231	äDOSE(j)		3.500E-21	3.512E-21	3.619E-21	4.886E-21	9.521E-21	1.855E-20	3.616E-20	7.046E-20	9.835E-20
0Pb-210	Pb-210	1.000E+00	1.781E-19	1.731E-19	1.339E-19	1.030E-20	3.445E-23	1.152E-25	3.855E-28	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	2.782E-21	8.251E-21	5.155E-20	2.170E-19	3.502E-19	5.392E-19	8.302E-19	1.278E-18	1.586E-18
Pb-210	Th-230	1.000E+00	2.842E-25	1.976E-24	8.732E-23	4.905E-21	3.039E-20	8.534E-20	1.960E-19	4.101E-19	5.805E-19
Pb-210	U-234	1.000E+00	0.000E+00	0.000E+00	2.830E-27	1.786E-24	3.795E-23	1.869E-22	6.197E-22	1.706E-21	2.711E-21
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	1.428E-28	9.961E-27	8.486E-26	4.027E-25	1.448E-24	2.573E-24
Pb-210	äDOSE(j)		1.808E-19	1.813E-19	1.855E-19	2.322E-19	3.806E-19	6.247E-19	1.027E-18	1.690E-18	2.169E-18
0Ra-226	Ra-226	1.000E+00	6.492E-12	6.503E-12	6.605E-12	7.715E-12	1.090E-11	1.539E-11	2.173E-11	3.069E-11	3.647E-11
Ra-226	Th-230	1.000E+00	9.923E-16	2.982E-15	2.124E-14	2.421E-13	1.067E-12	2.622E-12	5.418E-12	1.029E-11	1.390E-11
Ra-226	U-234	1.000E+00	2.978E-21	2.088E-20	1.005E-18	1.103E-16	1.475E-15	6.123E-15	1.796E-14	4.444E-14	6.714E-14
Ra-226	U-238	9.999E-01	2.111E-27	3.172E-26	9.994E-24	1.051E-20	4.235E-19	2.949E-18	1.219E-17	3.905E-17	6.577E-17
Ra-226	äDOSE(j)		6.493E-12	6.506E-12	6.626E-12	7.957E-12	1.196E-11	1.802E-11	2.717E-11	4.102E-11	5.044E-11
0Ra-228	Ra-228	1.000E+00	3.833E-13	3.405E-13	1.176E-13	2.831E-18	1.545E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	2.357E-14	6.726E-14	2.991E-13	5.167E-13	8.334E-13	1.344E-12	2.168E-12	3.497E-12	4.441E-12
Ra-228	äDOSE(j)		4.068E-13	4.078E-13	4.167E-13	5.167E-13	8.334E-13	1.344E-12	2.168E-12	3.497E-12	4.441E-12
0Th-228	Ra-228	1.000E+00	9.729E-11	2.372E-10	2.493E-10	6.192E-15	3.011E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	5.275E-10	3.678E-10	1.434E-11	1.164E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	4.068E-12	2.500E-11	3.767E-10	7.540E-10	1.084E-09	1.558E-09	2.239E-09	3.219E-09	3.860E-09
Th-228	äDOSE(j)		6.289E-10	6.300E-10	6.404E-10	7.540E-10	1.084E-09	1.558E-09	2.239E-09	3.219E-09	3.860E-09
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	5.840E-24	5.864E-24	6.077E-24	8.690E-24	1.924E-23	4.260E-23	9.433E-23	2.088E-22	3.108E-22
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	3.368E-16	3.377E-16	3.456E-16	4.357E-16	7.289E-16	1.220E-15	2.041E-15	3.416E-15	4.419E-15
U-238	äDOSE(j)		3.368E-16	3.377E-16	3.456E-16	4.357E-16	7.289E-16	1.220E-15	2.041E-15	3.416E-15	4.419E-15
fffffff	fffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff

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

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03

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Ac-227	Ac-227	1.000E+00	1.100E+00	1.066E+00	8.000E-01	4.556E-02	7.813E-05	1.340E-07	2.298E-10	3.942E-13	1.632E-14
Ac-227	Pa-231	1.000E+00	0.000E+00	3.447E-02	2.999E-01	1.052E+00	1.092E+00	1.086E+00	1.081E+00	1.075E+00	1.072E+00
Ac-227	U-235	1.000E+00	0.000E+00	3.666E-07	3.341E-05	1.625E-03	6.228E-03	1.084E-02	1.542E-02	1.998E-02	2.225E-02
Ac-227	äS(j):		1.100E+00	1.100E+00	1.100E+00	1.099E+00	1.098E+00	1.097E+00	1.096E+00	1.095E+00	1.094E+00
0Pa-231	Pa-231	1.000E+00	1.100E+00	1.100E+00	1.100E+00	1.097E+00	1.091E+00	1.086E+00	1.080E+00	1.074E+00	1.071E+00
Pa-231	U-235	1.000E+00	0.000E+00	2.327E-05	2.327E-04	2.324E-03	6.955E-03	1.156E-02	1.614E-02	2.070E-02	2.297E-02
Pa-231	äS(j):		1.100E+00	1.100E+00	1.100E+00	1.099E+00	1.098E+00	1.097E+00	1.096E+00	1.095E+00	1.094E+00
0Pb-210	Pb-210	1.000E+00	2.240E+01	2.171E+01	1.641E+01	9.997E-01	1.991E-03	3.967E-06	7.902E-09	1.574E-11	7.025E-13
Pb-210	Ra-226	1.000E+00	0.000E+00	6.854E-01	5.970E+00	2.073E+01	1.993E+01	1.828E+01	1.676E+01	1.537E+01	1.471E+01
Pb-210	Th-230	1.000E+00	0.000E+00	1.053E-04	9.601E-03	4.657E-01	1.727E+00	2.889E+00	3.953E+00	4.926E+00	5.381E+00
Pb-210	U-234	1.000E+00	0.000E+00	3.167E-10	2.955E-07	1.686E-04	2.152E-03	6.321E-03	1.249E-02	2.049E-02	2.512E-02
Pb-210	U-238	9.999E-01	0.000E+00	2.248E-16	2.127E-12	1.341E-08	5.639E-07	2.867E-06	8.109E-06	1.737E-05	2.383E-05
Pb-210	äS(j):		2.240E+01	2.240E+01	2.239E+01	2.220E+01	2.167E+01	2.118E+01	2.073E+01	2.031E+01	2.012E+01
0Ra-226	Ra-226	1.000E+00	2.240E+01	2.239E+01	2.230E+01	2.145E+01	1.967E+01	1.803E+01	1.653E+01	1.516E+01	1.451E+01
Ra-226	Th-230	1.000E+00	0.000E+00	6.843E-03	6.830E-02	6.695E-01	1.923E+00	3.069E+00	4.118E+00	5.078E+00	5.526E+00
Ra-226	U-234	1.000E+00	0.000E+00	3.080E-08	3.076E-06	3.036E-04	2.653E-03	7.159E-03	1.364E-02	2.192E-02	2.668E-02
Ra-226	U-238	9.999E-01	0.000E+00	2.911E-14	2.908E-11	2.879E-08	7.604E-07	3.444E-06	9.251E-06	1.925E-05	2.613E-05
Ra-226	äS(j):		2.240E+01	2.240E+01	2.237E+01	2.212E+01	2.159E+01	2.111E+01	2.066E+01	2.026E+01	2.007E+01
0Ra-228	Ra-228	1.000E+00	3.840E+01	3.404E+01	1.150E+01	2.234E-04	7.557E-15	2.557E-25	8.651E-36	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	0.000E+00	4.361E+00	2.690E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01
Ra-228	äS(j):		3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01
0Th-228	Ra-228	1.000E+00	0.000E+00	1.096E+01	1.570E+01	3.347E-04	1.133E-14	3.832E-25	1.296E-35	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	3.840E+01	2.673E+01	1.025E+00	7.065E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	7.159E-01	2.167E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01
Th-228	äS(j):		3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01
0Th-230	Th-230	1.000E+00	1.580E+01	1.580E+01	1.580E+01	1.579E+01	1.576E+01	1.573E+01	1.570E+01	1.567E+01	1.566E+01
Th-230	U-234	1.000E+00	0.000E+00	1.422E-04	1.422E-03	1.421E-02	4.259E-02	7.090E-02	9.914E-02	1.273E-01	1.414E-01
Th-230	U-238	9.999E-01	0.000E+00	2.016E-10	2.016E-08	2.015E-06	1.812E-05	5.030E-05	9.850E-05	1.627E-04	2.008E-04
Th-230	äS(j):		1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01
0Th-232	Th-232	1.000E+00	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01	3.840E+01
0U-234	U-234	1.000E+00	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.579E+01	1.578E+01	1.577E+01	1.576E+01	1.575E+01
U-234	U-238	9.999E-01	0.000E+00	4.479E-05	4.479E-04	4.478E-03	1.343E-02	2.238E-02	3.132E-02	4.025E-02	4.472E-02
U-234	äS(j):		1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01
0U-235	U-235	1.000E+00	1.100E+00	1.100E+00	1.100E+00	1.100E+00	1.100E+00	1.100E+00	1.100E+00	1.100E+00	1.100E+00
0U-238	U-238	5.400E-05	8.532E-04	8.532E-04	8.532E-04	8.532E-04	8.532E-04	8.531E-04	8.531E-04	8.531E-04	8.530E-04
U-238	U-238	9.999E-01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01
U-238	äS(j):		1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01	1.580E+01
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THF(i) is the thread fraction of the parent nuclide.

0RESCALC.EXE execution time = 72.39 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)
A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)

A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)

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

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

D-34	Ac-227+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,2)
D-34	Ac-227+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,3)
D-34					
D-34	Pa-231	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pa-231	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(2,2)
D-34	Pa-231	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(2,3)
D-34					
D-34	Pb-210+D	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(3,1)
D-34	Pb-210+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(3,2)
D-34	Pb-210+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(3,3)
D-34					
D-34	Ra-226+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(4,1)
D-34	Ra-226+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,2)
D-34	Ra-226+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,3)
D-34					
D-34	Ra-228+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(5,1)
D-34	Ra-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,2)
D-34	Ra-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,3)
D-34					
D-34	Th-228+D	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Th-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Th-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(6,3)
D-34					
D-34	Th-230	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Th-230	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Th-230	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(7,3)
D-34					

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

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

D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(2,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(2,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(3,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(3,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(4,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(4,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(5,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(5,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(6,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(6,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(7,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(7,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(8,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(8,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(9,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	1.700E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	1.300E+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)	1.000E+01	3.000E+00	---	T(3)

R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	7.100E+00	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	7.100E+00	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	1.320E+02	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	1.320E+02	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	1.854E+02	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	1.854E+02	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g):	Th-230	1.019E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	1.854E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	1.019E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	7.100E+00	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	1.019E+02	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ

R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	1.606E+05	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.751E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.956E+04	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.438E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	6.180E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.551E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	6.180E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.551E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	6.180E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.551E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	3.087E+05	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.111E-09	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	3.087E+05	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)

R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.111E-09	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	3.087E+05	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.111E-09	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	0.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	9.000E-03	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)

R018	Meat and poultry consumption (kg/yr)	6.300E+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)	1.500E-01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	1.800E+00	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	not used	-1	---	FPLANT
R018	Contamination fraction of meat	3.000E-01	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	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	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN

C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

9 -- radon ³ suppressed
Find peak pathway doses ³ active
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Contaminated Zone Dimensions

Area:	170.00 square meters
Thickness:	4.50 meters
Cover Depth:	1.83 meters

Initial Soil Concentrations, pCi/g

Ac-227	7.100E+00
Pa-231	7.100E+00
Pb-210	1.320E+02
Ra-226	1.320E+02
Ra-228	1.854E+02
Th-228	1.854E+02
Th-230	1.019E+02
Th-232	1.854E+02
U-234	1.019E+02
U-235	7.100E+00
U-238	1.019E+02

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	3.076E-09	3.082E-09	3.133E-09	3.690E-09	5.308E-09	7.636E-09	1.099E-08	1.581E-08	1.896E-08
M(t):	1.231E-10	1.233E-10	1.253E-10	1.476E-10	2.123E-10	3.054E-10	4.394E-10	6.323E-10	7.584E-10

0Maximum TDOSE(t): 1.896E-08 mrem/yr at t = 1.000E+03 years

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years
0 Water Independent Pathways (Inhalation excludes radon)
0

Radio- Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	4.236E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	7.007E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.049E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.826E-11	0.0124	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	4.716E-10	0.1533	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	2.547E-09	0.8279	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	6.400E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.975E-11	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.921E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.273E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.172E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.076E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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
0 Water Dependent Pathways
0

Radio-	Water	Fish	Radon	Plant	Meat	Milk	All Pathways*

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.236E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.007E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.049E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.826E-11	0.0124
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.716E-10	0.1533
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.547E-09	0.8279
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.400E-15	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.975E-11	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.921E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.273E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.172E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.076E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	4.114E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.034E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.020E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.832E-11	0.0124	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.147E-09	0.3721	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.776E-09	0.5762	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.923E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.210E-10	0.0393	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.347E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	7.192E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.178E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.082E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.114E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.034E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.020E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.832E-11	0.0124
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.147E-09	0.3721
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.776E-09	0.5762
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.923E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.210E-10	0.0393
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.347E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.192E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.178E-15	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.082E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
0 Water Independent Pathways (Inhalation excludes radon)

0 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.
Ac-227	3.167E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.259E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	7.890E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.892E-11	0.0124	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.204E-09	0.3844	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	6.924E-11	0.0221	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.370E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.820E-09	0.5810	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	6.484E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.519E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.229E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.133E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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
0 Water Dependent Pathways

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.167E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.259E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.890E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.892E-11	0.0124
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.204E-09	0.3844
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.924E-11	0.0221
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.370E-13	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.820E-09	0.5810
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.484E-18	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.519E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.229E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.133E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years
0 Water Independent Pathways (Inhalation excludes radon)

0 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.

Ac-227	2.314E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.437E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	6.069E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.547E-11	0.0123	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.991E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	5.618E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.561E-12	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.643E-09	0.9872	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	7.114E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	8.454E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.810E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.690E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.314E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.437E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.069E-20	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.547E-11	0.0123
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.991E-14	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.618E-25	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.561E-12	0.0004
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.643E-09	0.9872
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.114E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.454E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.810E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.690E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	6.905E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	9.811E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.030E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.422E-11	0.0121	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.455E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	6.884E-12	0.0013	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.237E-09	0.9866	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	9.514E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.607E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.704E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total	5.308E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.905E-21	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.811E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.030E-22	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.422E-11	0.0121
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.455E-24	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.884E-12	0.0013
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.237E-09	0.9866
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.514E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.607E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.704E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.308E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.061E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.698E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	6.791E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	9.071E-11	0.0119	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.692E-11	0.0022	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	7.528E-09	0.9859	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.950E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.696E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	7.886E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	7.636E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.061E-23	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.698E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.791E-25	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.071E-11	0.0119

Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.692E-11	0.0022
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.528E-09	0.9859
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.950E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.696E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.886E-15	0.0000
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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	7.636E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	6.150E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.940E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.272E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.281E-10	0.0117	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.495E-11	0.0032	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.082E-08	0.9851	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.158E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.200E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.324E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.099E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.150E-26	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.940E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.272E-27	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.281E-10	0.0117
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.495E-11	0.0032
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.082E-08	0.9851
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.158E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.200E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.324E-14	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.099E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	1.836E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.091E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.810E-10	0.0114	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	6.638E-11	0.0042	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.556E-08	0.9843	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.867E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	9.470E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.228E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.581E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years
Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.836E-28	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.091E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.810E-10	0.0114
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.638E-11	0.0042
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.556E-08	0.9843
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.867E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.470E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.228E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.581E-08	1.0000

*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 7 Controls Fail Restricted Area
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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	1.003E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.699E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.151E-10	0.0113	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	8.965E-11	0.0047	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.866E-08	0.9839	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.331E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.391E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.893E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.896E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.003E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.699E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.151E-10	0.0113
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.965E-11	0.0047
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.866E-08	0.9839
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.331E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.391E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.893E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.896E-08	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	5.966E-18	5.795E-18	4.461E-18	3.259E-19	9.725E-22	2.902E-24	8.662E-27	2.585E-29	1.413E-30
0Pa-231	Pa-231	1.000E+00	3.182E-21	3.193E-21	3.289E-21	4.432E-21	8.601E-21	1.669E-20	3.238E-20	6.284E-20	8.753E-20
Pa-231	Ac-227+D	1.000E+00	9.551E-20	2.832E-19	1.770E-18	7.653E-18	1.381E-17	2.390E-17	4.138E-17	7.164E-17	9.426E-17
Pa-231	äDSR(j)		9.869E-20	2.864E-19	1.773E-18	7.657E-18	1.382E-17	2.392E-17	4.141E-17	7.170E-17	9.435E-17
0Pb-210+D	Pb-210+D	1.000E+00	7.949E-21	7.726E-21	5.978E-21	4.597E-22	1.538E-24	5.145E-27	1.721E-29	5.757E-32	3.330E-33
0Ra-226+D	Ra-226+D	1.000E+00	2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.630E-12
Ra-226+D	Pb-210+D	1.000E+00	1.242E-22	3.683E-22	2.301E-21	9.688E-21	1.564E-20	2.408E-20	3.708E-20	5.711E-20	7.087E-20
Ra-226+D	äDSR(j)		2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.630E-12
0Ra-228+D	Ra-228+D	1.000E+00	9.981E-15	8.868E-15	3.062E-15	7.373E-20	4.024E-30	2.196E-40	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	2.534E-12	6.176E-12	6.493E-12	1.612E-16	7.843E-27	3.815E-37	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		2.544E-12	6.185E-12	6.496E-12	1.613E-16	7.847E-27	3.817E-37	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.374E-11	9.579E-12	3.735E-13	3.030E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	2.747E-34	2.762E-34	2.898E-34	4.702E-34	1.378E-33	4.039E-33	1.184E-32	3.470E-32	5.941E-32
Th-230	Ra-226+D	1.000E+00	6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.514E-13	8.798E-13
Th-230	Pb-210+D	1.000E+00	1.799E-26	1.251E-25	5.527E-24	3.105E-22	1.924E-21	5.402E-21	1.241E-20	2.597E-20	3.675E-20
Th-230	äDSR(j)		6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.514E-13	8.798E-13
0Th-232	Th-232	1.000E+00	6.986E-38	7.028E-38	7.417E-38	1.272E-37	4.214E-37	1.396E-36	4.627E-36	1.533E-35	2.791E-35
Th-232	Ra-228+D	1.000E+00	6.139E-16	1.752E-15	7.789E-15	1.346E-14	2.170E-14	3.501E-14	5.646E-14	9.107E-14	1.157E-13
Th-232	Th-228+D	1.000E+00	1.059E-13	6.510E-13	9.810E-12	1.963E-11	2.822E-11	4.057E-11	5.832E-11	8.383E-11	1.005E-10
Th-232	äDSR(j)		1.065E-13	6.527E-13	9.818E-12	1.965E-11	2.825E-11	4.061E-11	5.838E-11	8.392E-11	1.006E-10

0U-234	U-234	1.000E+00	6.536E-36	6.573E-36	6.911E-36	1.142E-35	3.491E-35	1.066E-34	3.258E-34	9.955E-34	1.740E-33
U-234	Th-230	1.000E+00	1.237E-39	3.730E-39	2.740E-38	4.256E-37	3.732E-36	1.823E-35	7.482E-35	2.821E-34	5.367E-34
U-234	Ra-226+D	1.000E+00	1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.337E-17	3.876E-16	1.137E-15	2.813E-15	4.251E-15
U-234	Pb-210+D	1.000E+00	4.055E-32	6.055E-31	1.791E-28	1.131E-25	2.402E-24	1.183E-23	3.923E-23	1.080E-22	1.717E-22
U-234	äDSR(j)		1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.337E-17	3.876E-16	1.137E-15	2.813E-15	4.251E-15
0U-235+D	U-235+D	1.000E+00	5.309E-24	5.331E-24	5.525E-24	7.901E-24	1.749E-23	3.873E-23	8.576E-23	1.899E-22	2.826E-22
U-235+D	Pa-231	1.000E+00	3.368E-26	1.013E-25	7.309E-25	9.438E-24	5.490E-23	1.779E-22	4.844E-22	1.212E-21	1.878E-21
U-235+D	Ac-227+D	1.000E+00	6.756E-25	4.697E-24	2.077E-22	1.189E-20	7.890E-20	2.387E-19	5.910E-19	1.332E-18	1.958E-18
U-235+D	äDSR(j)		6.019E-24	1.013E-23	2.140E-22	1.191E-20	7.898E-20	2.389E-19	5.915E-19	1.334E-18	1.960E-18
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.614E-17	7.720E-17	1.292E-16	2.162E-16	2.797E-16
U-238+D	U-234	9.999E-01	9.272E-42	2.796E-41	2.057E-40	3.255E-39	2.975E-38	1.514E-37	6.477E-37	2.545E-36	4.942E-36
U-238+D	Th-230	9.999E-01	1.401E-45	8.408E-45	4.078E-43	6.063E-41	1.590E-39	1.294E-38	7.439E-38	3.607E-37	7.626E-37
U-238+D	Ra-226+D	9.999E-01	1.336E-28	2.008E-27	6.325E-25	6.655E-22	2.681E-20	1.867E-19	7.716E-19	2.472E-18	4.164E-18
U-238+D	Pb-210+D	9.999E-01	2.302E-38	7.113E-37	1.357E-33	9.036E-30	6.305E-28	5.371E-27	2.549E-26	9.167E-26	1.629E-25
U-238+D	äDSR(j)		2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.616E-17	7.739E-17	1.300E-16	2.187E-16	2.839E-16

The DSR includes contributions from associated (half-life ó 180 days) daughters.

Summary : SMC Recreational Hunter Area 7 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109407.RAD

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

0Nuclide

(i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	9.829E+12	4.042E+12	3.849E+12	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.820E+12	2.610E+12	6.694E+13	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	7.100E+00	0.000E+00	5.966E-18	*7.232E+13	1.413E-30	*7.232E+13
Pa-231	7.100E+00	1.000E+03	9.435E-17	*4.723E+10	9.435E-17	*4.723E+10
Pb-210	1.320E+02	0.000E+00	7.949E-21	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	1.320E+02	1.000E+03	1.630E-12	*9.885E+11	1.630E-12	*9.885E+11
Ra-228	1.854E+02	4.112 ñ 0.008	9.520E-12	2.626E+12	0.000E+00	*2.726E+14
Th-228	1.854E+02	0.000E+00	1.374E-11	1.820E+12	0.000E+00	*8.195E+14
Th-230	1.019E+02	1.000E+03	8.798E-13	*2.018E+10	8.798E-13	*2.018E+10
Th-232	1.854E+02	1.000E+03	1.006E-10	*1.097E+05	1.006E-10	*1.097E+05
U-234	1.019E+02	1.000E+03	4.251E-15	*6.247E+09	4.251E-15	*6.247E+09
U-235	7.100E+00	1.000E+03	1.960E-18	*2.161E+06	1.960E-18	*2.161E+06
U-238	1.019E+02	1.000E+03	2.839E-16	*3.361E+05	2.839E-16	*3.361E+05

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t=	0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00		4.236E-17	4.114E-17	3.167E-17	2.314E-18	6.905E-21	2.061E-23	6.150E-26	1.836E-28	1.003E-29
Ac-227	Pa-231	1.000E+00		6.781E-19	2.011E-18	1.257E-17	5.434E-17	9.804E-17	1.697E-16	2.938E-16	5.086E-16	6.692E-16
Ac-227	U-235	1.000E+00		4.796E-24	3.335E-23	1.475E-21	8.442E-20	5.602E-19	1.695E-18	4.196E-18	9.460E-18	1.390E-17
Ac-227	äDOSE(j)			4.304E-17	4.316E-17	4.424E-17	5.673E-17	9.861E-17	1.714E-16	2.980E-16	5.181E-16	6.831E-16
0Pa-231	Pa-231	1.000E+00		2.259E-20	2.267E-20	2.335E-20	3.147E-20	6.107E-20	1.185E-19	2.299E-19	4.462E-19	6.215E-19
Pa-231	U-235	1.000E+00		2.391E-25	7.195E-25	5.189E-24	6.701E-23	3.898E-22	1.263E-21	3.439E-21	8.602E-21	1.333E-20
Pa-231	äDOSE(j)			2.259E-20	2.267E-20	2.336E-20	3.154E-20	6.146E-20	1.198E-19	2.334E-19	4.548E-19	6.348E-19
0Pb-210	Pb-210	1.000E+00		1.049E-18	1.020E-18	7.890E-19	6.069E-20	2.030E-22	6.791E-25	2.272E-27	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00		1.640E-20	4.862E-20	3.038E-19	1.279E-18	2.064E-18	3.179E-18	4.895E-18	7.538E-18	9.355E-18
Pb-210	Th-230	1.000E+00		1.833E-24	1.274E-23	5.632E-22	3.164E-20	1.960E-19	5.505E-19	1.264E-18	2.646E-18	3.745E-18
Pb-210	U-234	1.000E+00		0.000E+00	0.000E+00	1.825E-26	1.152E-23	2.448E-22	1.205E-21	3.998E-21	1.101E-20	1.749E-20
Pb-210	U-238	9.999E-01		0.000E+00	0.000E+00	0.000E+00	9.208E-28	6.425E-26	5.474E-25	2.597E-24	9.342E-24	1.660E-23
Pb-210	äDOSE(j)			1.066E-18	1.068E-18	1.093E-18	1.371E-18	2.260E-18	3.730E-18	6.164E-18	1.020E-17	1.312E-17
0Ra-226	Ra-226	1.000E+00		3.826E-11	3.832E-11	3.892E-11	4.547E-11	6.422E-11	9.071E-11	1.281E-10	1.810E-10	2.151E-10
Ra-226	Th-230	1.000E+00		6.400E-15	1.923E-14	1.370E-13	1.561E-12	6.884E-12	1.692E-11	3.495E-11	6.638E-11	8.965E-11
Ra-226	U-234	1.000E+00		1.921E-20	1.347E-19	6.484E-18	7.114E-16	9.514E-15	3.950E-14	1.158E-13	2.867E-13	4.331E-13
Ra-226	U-238	9.999E-01		1.361E-26	2.046E-25	6.446E-23	6.781E-20	2.731E-18	1.902E-17	7.863E-17	2.519E-16	4.243E-16
Ra-226	äDOSE(j)			3.826E-11	3.834E-11	3.906E-11	4.703E-11	7.112E-11	1.077E-10	1.632E-10	2.477E-10	3.052E-10
0Ra-228	Ra-228	1.000E+00		1.850E-12	1.644E-12	5.677E-13	1.367E-17	7.461E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00		1.138E-13	3.247E-13	1.444E-12	2.495E-12	4.024E-12	6.490E-12	1.047E-11	1.688E-11	2.144E-11
Ra-228	äDOSE(j)			1.964E-12	1.969E-12	2.012E-12	2.495E-12	4.024E-12	6.490E-12	1.047E-11	1.688E-11	2.144E-11
0Th-228	Ra-228	1.000E+00		4.697E-10	1.145E-09	1.204E-09	2.989E-14	1.454E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00		2.547E-09	1.776E-09	6.924E-11	5.618E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00		1.964E-11	1.207E-10	1.819E-09	3.640E-09	5.233E-09	7.522E-09	1.081E-08	1.554E-08	1.863E-08
Th-228	äDOSE(j)			3.036E-09	3.042E-09	3.092E-09	3.640E-09	5.233E-09	7.522E-09	1.081E-08	1.554E-08	1.863E-08
0Th-230	Th-230	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00		3.770E-23	3.785E-23	3.923E-23	5.609E-23	1.242E-22	2.750E-22	6.089E-22	1.348E-21	2.006E-21
0U-238	U-238	5.400E-05		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01		2.172E-15	2.178E-15	2.229E-15	2.810E-15	4.701E-15	7.867E-15	1.316E-14	2.203E-14	2.850E-14
U-238	äDOSE(j)			2.172E-15	2.178E-15	2.229E-15	2.810E-15	4.701E-15	7.867E-15	1.316E-14	2.203E-14	2.850E-14
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THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t=	0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03

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Ac-227	Ac-227	1.000E+00	7.100E+00	6.877E+00	5.164E+00	2.940E-01	5.043E-04	8.649E-07	1.483E-09	2.544E-12	1.054E-13
Ac-227	Pa-231	1.000E+00	0.000E+00	2.225E-01	1.936E+00	6.792E+00	7.048E+00	7.012E+00	6.975E+00	6.938E+00	6.920E+00
Ac-227	U-235	1.000E+00	0.000E+00	2.366E-06	2.156E-04	1.049E-02	4.020E-02	6.995E-02	9.954E-02	1.290E-01	1.436E-01
Ac-227	äS(j):		7.100E+00	7.100E+00	7.100E+00	7.096E+00	7.089E+00	7.082E+00	7.075E+00	7.067E+00	7.064E+00
0Pa-231	Pa-231	1.000E+00	7.100E+00	7.100E+00	7.098E+00	7.081E+00	7.044E+00	7.007E+00	6.971E+00	6.934E+00	6.916E+00
Pa-231	U-235	1.000E+00	0.000E+00	1.502E-04	1.502E-03	1.500E-02	4.489E-02	7.462E-02	1.042E-01	1.336E-01	1.483E-01
Pa-231	äS(j):		7.100E+00	7.100E+00	7.100E+00	7.096E+00	7.089E+00	7.082E+00	7.075E+00	7.068E+00	7.064E+00
0Pb-210	Pb-210	1.000E+00	1.320E+02	1.280E+02	9.672E+01	5.891E+00	1.174E-02	2.338E-05	4.656E-08	9.275E-11	4.140E-12
Pb-210	Ra-226	1.000E+00	0.000E+00	4.039E+00	3.518E+01	1.222E+02	1.175E+02	1.078E+02	9.881E+01	9.061E+01	8.677E+01
Pb-210	Th-230	1.000E+00	0.000E+00	6.789E-04	6.192E-02	3.004E+00	1.114E+01	1.864E+01	2.550E+01	3.178E+01	3.472E+01
Pb-210	U-234	1.000E+00	0.000E+00	2.043E-09	1.906E-06	1.088E-03	1.388E-02	4.077E-02	8.057E-02	1.322E-01	1.621E-01
Pb-210	U-238	9.999E-01	0.000E+00	1.450E-15	1.372E-11	8.646E-08	3.637E-06	1.849E-05	5.231E-05	1.121E-04	1.537E-04
Pb-210	äS(j):		1.320E+02	1.320E+02	1.320E+02	1.311E+02	1.287E+02	1.264E+02	1.244E+02	1.225E+02	1.216E+02
0Ra-226	Ra-226	1.000E+00	1.320E+02	1.319E+02	1.314E+02	1.264E+02	1.159E+02	1.063E+02	9.747E+01	8.938E+01	8.559E+01
Ra-226	Th-230	1.000E+00	0.000E+00	4.414E-02	4.405E-01	4.318E+00	1.240E+01	1.980E+01	2.657E+01	3.276E+01	3.565E+01
Ra-226	U-234	1.000E+00	0.000E+00	1.987E-07	1.984E-05	1.958E-03	1.711E-02	4.618E-02	8.797E-02	1.414E-01	1.721E-01
Ra-226	U-238	9.999E-01	0.000E+00	1.877E-13	1.875E-10	1.857E-07	4.904E-06	2.222E-05	5.967E-05	1.242E-04	1.685E-04
Ra-226	äS(j):		1.320E+02	1.320E+02	1.319E+02	1.307E+02	1.283E+02	1.261E+02	1.241E+02	1.223E+02	1.214E+02
0Ra-228	Ra-228	1.000E+00	1.854E+02	1.643E+02	5.554E+01	1.078E-03	3.649E-14	1.235E-24	4.178E-35	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	0.000E+00	2.105E+01	1.299E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02
Ra-228	äS(j):		1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02
0Th-228	Ra-228	1.000E+00	0.000E+00	5.289E+01	7.581E+01	1.616E-03	5.468E-14	1.850E-24	6.261E-35	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	1.854E+02	1.290E+02	4.950E+00	3.411E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	3.457E+00	1.046E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02
Th-228	äS(j):		1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02
0Th-230	Th-230	1.000E+00	1.019E+02	1.019E+02	1.019E+02	1.018E+02	1.016E+02	1.014E+02	1.013E+02	1.011E+02	1.010E+02
Th-230	U-234	1.000E+00	0.000E+00	9.173E-04	9.172E-03	9.167E-02	2.747E-01	4.573E-01	6.394E-01	8.212E-01	9.119E-01
Th-230	U-238	9.999E-01	0.000E+00	1.300E-09	1.300E-07	1.300E-05	1.169E-04	3.244E-04	6.353E-04	1.049E-03	1.295E-03
Th-230	äS(j):		1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02
0Th-232	Th-232	1.000E+00	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02	1.854E+02
0U-234	U-234	1.000E+00	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.018E+02	1.018E+02	1.017E+02	1.016E+02	1.016E+02
U-234	U-238	9.999E-01	0.000E+00	2.889E-04	2.889E-03	2.888E-02	8.662E-02	1.443E-01	2.020E-01	2.596E-01	2.885E-01
U-234	äS(j):		1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02
0U-235	U-235	1.000E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00	7.100E+00
0U-238	U-238	5.400E-05	5.503E-03	5.503E-03	5.503E-03	5.503E-03	5.503E-03	5.503E-03	5.503E-03	5.503E-03	5.503E-03
U-238	U-238	9.999E-01	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02
U-238	äS(j):		1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02	1.019E+02
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THF(i) is the thread fraction of the parent nuclide.

0RESCALC.EXE execution time = 72.97 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)

A-1	Pb-212	(Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214	(Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210	(Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211	(Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214	(Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215	(Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216	(Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218	(Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223	(Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224	(Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226	(Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228	(Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219	(Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220	(Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222	(Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227	(Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228	(Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230	(Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231	(Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232	(Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234	(Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207	(Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208	(Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210	(Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234	(Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235	(Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238	(Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:				
B-1	Ac-227+D		6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231		1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D		2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D		8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D		5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D		3.454E-01	3.420E-01	DCF2(6)

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-238	1.180E-01	1.180E-01	DCF2(11)

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

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

Dose Library: FGR 11

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

D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

0 Menu	Parameter		User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)		3.400E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)		4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)		1.840E+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)		1.000E+01	3.000E+00	---	T(3)
R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	1.010E+01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	1.010E+01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	1.851E+02	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	1.851E+02	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	8.365E+02	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	8.365E+02	0.000E+00	---	S1(6)

R012	Initial principal radionuclide (pCi/g):	Th-230	1.444E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	8.365E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	1.444E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	1.010E+01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	1.444E+02	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)

R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016					
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	3.028E+04	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.288E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016					
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	2.807E+05	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.002E-08	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016					
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	2.483E+05	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.133E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016					
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	2.483E+05	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.133E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016					
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	2.483E+05	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.133E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Summary : SMC Recreational Hunter Area 6 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109406.RAD

Site-Specific Parameter Summary (continued)

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

R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	4.669E+05	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.023E-09	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	4.669E+05	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.023E-09	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	4.669E+05	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.023E-09	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	0.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	9.000E-03	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+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)	1.500E-01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	1.800E+00	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	not used	-1	---	FPLANT
R018	Contamination fraction of meat	3.000E-01	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)

R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	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	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area: 340.00 square meters

Initial Soil Concentrations, pCi/g

Ac-227	1.010E+01

Thickness:	4.50 meters	Pa-231	1.010E+01
Cover Depth:	1.83 meters	Pb-210	1.851E+02
		Ra-226	1.851E+02
		Ra-228	8.365E+02
		Th-228	8.365E+02
		Th-230	1.444E+02
		Th-232	8.365E+02
		U-234	1.444E+02
		U-235	1.010E+01
		U-238	1.444E+02

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	1.376E-08	1.379E-08	1.401E-08	1.650E-08	2.373E-08	3.412E-08	4.906E-08	7.055E-08	8.461E-08
M(t):	5.505E-10	5.515E-10	5.606E-10	6.601E-10	9.491E-10	1.365E-09	1.962E-09	2.822E-09	3.384E-09

0Maximum TDOSE(t): 8.461E-08 mrem/yr at t = 1.000E+03 years

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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	6.026E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	9.968E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.471E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.365E-11	0.0039	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.128E-09	0.1546	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.149E-08	0.8350	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	9.069E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	8.913E-11	0.0065	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.722E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	6.079E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.078E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.376E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.026E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.968E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.471E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.365E-11	0.0039
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.128E-09	0.1546
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.149E-08	0.8350
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.069E-15	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.913E-11	0.0065
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.722E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.079E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.078E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.376E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 6 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109406.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	5.853E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.893E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.430E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.374E-11	0.0039	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	5.174E-09	0.3753	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	8.013E-09	0.5812	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.725E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.460E-10	0.0396	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.909E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.023E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.086E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	1.379E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.853E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.893E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.430E-18	0.0000

Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.374E-11	0.0039
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.174E-09	0.3753
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.013E-09	0.5812
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.725E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.460E-10	0.0396
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.909E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.023E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.086E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.379E-08	1.0000

0*Sum of all water independent and dependent pathways.

1RESRAD, Version 6.4 T« Limit = 180 days 07/26/2009 15:35 Page 16

Summary : SMC Recreational Hunter Area 6 Controls Fail Restricted Area

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	4.505E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.791E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.106E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.458E-11	0.0039	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	5.434E-09	0.3877	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	3.124E-10	0.0223	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.941E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	8.213E-09	0.5861	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	9.188E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.161E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.158E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.401E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.505E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.791E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.106E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.458E-11	0.0039
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.434E-09	0.3877
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.124E-10	0.0223
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.941E-13	0.0000

Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.213E-09	0.5861
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.188E-18	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.161E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.158E-15	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.401E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 6 Controls Fail Restricted Area

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	3.291E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	7.734E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	8.510E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.376E-11	0.0039	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.349E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	2.535E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.212E-12	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.644E-08	0.9960	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.008E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.203E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.982E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	1.650E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.291E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.734E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.510E-20	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.376E-11	0.0039
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.349E-13	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.535E-24	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.212E-12	0.0001
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.644E-08	0.9960
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.008E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.203E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.982E-15	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.650E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 6 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109406.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

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	9.822E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.396E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.847E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	9.006E-11	0.0038	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	6.564E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	9.755E-12	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.363E-08	0.9958	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.348E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	7.977E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.666E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.373E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.822E-21	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.396E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.847E-22	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.006E-11	0.0038
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.564E-24	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.755E-12	0.0004
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.363E-08	0.9958
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.348E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.977E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.666E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.373E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 6 Controls Fail Restricted Area
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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+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.
Ac-227	2.931E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.416E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	9.523E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.272E-10	0.0037	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.397E-11	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.397E-08	0.9956	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	5.597E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.413E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.117E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.412E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.931E-23	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.416E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.523E-25	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.272E-10	0.0037
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.397E-11	0.0007
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.397E-08	0.9956
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.597E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.413E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.117E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.412E-08	1.0000

*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 6 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109406.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 = 7.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	8.749E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	4.183E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.185E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.797E-10	0.0037	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.953E-11	0.0010	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.883E-08	0.9953	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.641E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.975E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.877E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.906E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.749E-26	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.183E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.185E-27	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.797E-10	0.0037
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.953E-11	0.0010
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.883E-08	0.9953
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.641E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.975E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.877E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.906E-08	1.0000

*Sum of all water independent and dependent pathways.

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

As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground	Inhalation	Radon	Plant	Meat	Milk	Soil

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.611E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	7.242E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.538E-10	0.0036	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	9.406E-11	0.0013	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	7.020E-08	0.9951	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.062E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.347E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.158E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	7.055E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.611E-28	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.242E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.538E-10	0.0036
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.406E-11	0.0013
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.020E-08	0.9951
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.062E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.347E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.158E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.055E-08	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.427E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	9.529E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.016E-10	0.0036	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.270E-10	0.0015	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	8.418E-08	0.9949	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	6.138E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.979E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.099E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	8.461E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.427E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.529E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.016E-10	0.0036
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.270E-10	0.0015
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.418E-08	0.9949
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.138E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.979E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.099E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.461E-08	1.0000

*Sum of all water independent and dependent pathways.

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

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	5.966E-18	5.795E-18	4.461E-18	3.259E-19	9.725E-22	2.902E-24	8.662E-27	2.585E-29	1.413E-30
Pa-231	Pa-231	1.000E+00	3.182E-21	3.193E-21	3.289E-21	4.432E-21	8.601E-21	1.669E-20	3.238E-20	6.284E-20	8.753E-20
Pa-231	Ac-227+D	1.000E+00	9.551E-20	2.832E-19	1.770E-18	7.653E-18	1.381E-17	2.390E-17	4.138E-17	7.164E-17	9.426E-17
Pa-231	äDSR(j)		9.869E-20	2.864E-19	1.773E-18	7.657E-18	1.382E-17	2.392E-17	4.141E-17	7.170E-17	9.435E-17
Pb-210+D	Pb-210+D	1.000E+00	7.949E-21	7.726E-21	5.978E-21	4.597E-22	1.538E-24	5.145E-27	1.721E-29	5.757E-32	3.330E-33
Ra-226+D	Ra-226+D	1.000E+00	2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.629E-12
Ra-226+D	Pb-210+D	1.000E+00	1.242E-22	3.683E-22	2.301E-21	9.688E-21	1.564E-20	2.408E-20	3.708E-20	5.710E-20	7.086E-20
Ra-226+D	äDSR(j)		2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.629E-12

0Ra-228+D	Ra-228+D	1.000E+00	9.981E-15	8.868E-15	3.062E-15	7.373E-20	4.024E-30	2.196E-40	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	2.534E-12	6.176E-12	6.493E-12	1.612E-16	7.843E-27	3.815E-37	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		2.544E-12	6.185E-12	6.496E-12	1.613E-16	7.847E-27	3.817E-37	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.374E-11	9.579E-12	3.735E-13	3.030E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	2.747E-34	2.762E-34	2.898E-34	4.702E-34	1.378E-33	4.040E-33	1.184E-32	3.470E-32	5.941E-32
Th-230	Ra-226+D	1.000E+00	6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.514E-13	8.798E-13
Th-230	Pb-210+D	1.000E+00	1.799E-26	1.251E-25	5.527E-24	3.105E-22	1.924E-21	5.402E-21	1.241E-20	2.596E-20	3.675E-20
Th-230	äDSR(j)		6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.514E-13	8.798E-13
0Th-232	Th-232	1.000E+00	6.986E-38	7.028E-38	7.417E-38	1.272E-37	4.214E-37	1.396E-36	4.627E-36	1.533E-35	2.791E-35
Th-232	Ra-228+D	1.000E+00	6.139E-16	1.752E-15	7.789E-15	1.346E-14	2.170E-14	3.501E-14	5.646E-14	9.108E-14	1.157E-13
Th-232	Th-228+D	1.000E+00	1.059E-13	6.510E-13	9.810E-12	1.963E-11	2.822E-11	4.057E-11	5.832E-11	8.383E-11	1.005E-10
Th-232	äDSR(j)		1.065E-13	6.527E-13	9.818E-12	1.965E-11	2.825E-11	4.061E-11	5.838E-11	8.393E-11	1.006E-10
0U-234	U-234	1.000E+00	6.536E-36	6.573E-36	6.911E-36	1.142E-35	3.491E-35	1.066E-34	3.258E-34	9.955E-34	1.740E-33
U-234	Th-230	1.000E+00	1.237E-39	3.730E-39	2.740E-38	4.256E-37	3.732E-36	1.823E-35	7.482E-35	2.821E-34	5.367E-34
U-234	Ra-226+D	1.000E+00	1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.337E-17	3.876E-16	1.137E-15	2.813E-15	4.251E-15
U-234	Pb-210+D	1.000E+00	4.055E-32	6.055E-31	1.791E-28	1.131E-25	2.402E-24	1.183E-23	3.923E-23	1.080E-22	1.717E-22
U-234	äDSR(j)		1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.337E-17	3.876E-16	1.137E-15	2.813E-15	4.251E-15
0U-235+D	U-235+D	1.000E+00	5.309E-24	5.331E-24	5.525E-24	7.901E-24	1.749E-23	3.873E-23	8.576E-23	1.899E-22	2.826E-22
U-235+D	Pa-231	1.000E+00	3.368E-26	1.013E-25	7.309E-25	9.438E-24	5.490E-23	1.779E-22	4.844E-22	1.212E-21	1.878E-21
U-235+D	Ac-227+D	1.000E+00	6.756E-25	4.697E-24	2.077E-22	1.189E-20	7.890E-20	2.387E-19	5.910E-19	1.332E-18	1.958E-18
U-235+D	äDSR(j)		6.019E-24	1.013E-23	2.140E-22	1.191E-20	7.898E-20	2.389E-19	5.915E-19	1.334E-18	1.960E-18
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.614E-17	7.720E-17	1.292E-16	2.162E-16	2.797E-16
U-238+D	U-234	9.999E-01	9.272E-42	2.796E-41	2.057E-40	3.255E-39	2.975E-38	1.514E-37	6.477E-37	2.545E-36	4.942E-36
U-238+D	Th-230	9.999E-01	1.401E-45	8.408E-45	4.078E-43	6.063E-41	1.590E-39	1.294E-38	7.439E-38	3.607E-37	7.626E-37
U-238+D	Ra-226+D	9.999E-01	1.336E-28	2.008E-27	6.325E-25	6.655E-22	2.680E-20	1.867E-19	7.716E-19	2.472E-18	4.164E-18
U-238+D	Pb-210+D	9.999E-01	2.302E-38	7.113E-37	1.357E-33	9.036E-30	6.305E-28	5.371E-27	2.549E-26	9.167E-26	1.629E-25
U-238+D	äDSR(j)		2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.616E-17	7.739E-17	1.300E-16	2.187E-16	2.839E-16

The DSR includes contributions from associated (half-life ó 180 days) daughters.

Summary : SMC Recreational Hunter Area 6 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109406.RAD

Single Radionuclide Soil Guidelines G(i,t) in pCi/g

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	9.829E+12	4.042E+12	3.849E+12	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.820E+12	2.610E+12	6.694E+13	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

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*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	1.010E+01	0.000E+00	5.966E-18	*7.232E+13	1.413E-30	*7.232E+13
Pa-231	1.010E+01	1.000E+03	9.435E-17	*4.723E+10	9.435E-17	*4.723E+10
Pb-210	1.851E+02	0.000E+00	7.949E-21	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	1.851E+02	1.000E+03	1.629E-12	*9.885E+11	1.629E-12	*9.885E+11
Ra-228	8.365E+02	4.112 ñ 0.008	9.520E-12	2.626E+12	0.000E+00	*2.726E+14
Th-228	8.365E+02	0.000E+00	1.374E-11	1.820E+12	0.000E+00	*8.195E+14
Th-230	1.444E+02	1.000E+03	8.798E-13	*2.018E+10	8.798E-13	*2.018E+10
Th-232	8.365E+02	1.000E+03	1.006E-10	*1.097E+05	1.006E-10	*1.097E+05
U-234	1.444E+02	1.000E+03	4.251E-15	*6.247E+09	4.251E-15	*6.247E+09
U-235	1.010E+01	1.000E+03	1.960E-18	*2.161E+06	1.960E-18	*2.161E+06
U-238	1.444E+02	1.000E+03	2.839E-16	*3.361E+05	2.839E-16	*3.361E+05

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*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated
DOSE(j,t), mrem/yr

0Nuclide (j)	Parent (i)	THF(i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	6.026E-17	5.853E-17	4.505E-17	3.291E-18	9.822E-21	2.931E-23	8.749E-26	2.611E-28	1.427E-29
Ac-227	Pa-231	1.000E+00	9.647E-19	2.861E-18	1.788E-17	7.730E-17	1.395E-16	2.414E-16	4.179E-16	7.235E-16	9.520E-16
Ac-227	U-235	1.000E+00	6.823E-24	4.744E-23	2.098E-21	1.201E-19	7.969E-19	2.411E-18	5.969E-18	1.346E-17	1.977E-17
Ac-227	äDOSE(j)		6.122E-17	6.139E-17	6.294E-17	8.071E-17	1.403E-16	2.438E-16	4.239E-16	7.370E-16	9.718E-16
0Pa-231	Pa-231	1.000E+00	3.214E-20	3.224E-20	3.322E-20	4.477E-20	8.687E-20	1.686E-19	3.271E-19	6.347E-19	8.841E-19
Pa-231	U-235	1.000E+00	3.402E-25	1.024E-24	7.382E-24	9.532E-23	5.545E-22	1.797E-21	4.893E-21	1.224E-20	1.896E-20
Pa-231	äDOSE(j)		3.214E-20	3.225E-20	3.323E-20	4.486E-20	8.742E-20	1.704E-19	3.320E-19	6.469E-19	9.031E-19
0Pb-210	Pb-210	1.000E+00	1.471E-18	1.430E-18	1.106E-18	8.510E-20	2.847E-22	9.523E-25	3.185E-27	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	2.299E-20	6.818E-20	4.260E-19	1.793E-18	2.894E-18	4.457E-18	6.864E-18	1.057E-17	1.312E-17
Pb-210	Th-230	1.000E+00	2.597E-24	1.806E-23	7.981E-22	4.483E-20	2.778E-19	7.800E-19	1.792E-18	3.749E-18	5.307E-18
Pb-210	U-234	1.000E+00	0.000E+00	0.000E+00	2.586E-26	1.633E-23	3.469E-22	1.708E-21	5.665E-21	1.560E-20	2.479E-20
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	1.305E-27	9.104E-26	7.756E-25	3.681E-24	1.324E-23	2.352E-23
Pb-210	äDOSE(j)		1.494E-18	1.498E-18	1.533E-18	1.923E-18	3.173E-18	5.239E-18	8.661E-18	1.433E-17	1.845E-17
0Ra-226	Ra-226	1.000E+00	5.365E-11	5.374E-11	5.458E-11	6.376E-11	9.006E-11	1.272E-10	1.797E-10	2.538E-10	3.016E-10
Ra-226	Th-230	1.000E+00	9.069E-15	2.725E-14	1.941E-13	2.212E-12	9.755E-12	2.397E-11	4.953E-11	9.406E-11	1.270E-10
Ra-226	U-234	1.000E+00	2.722E-20	1.909E-19	9.188E-18	1.008E-15	1.348E-14	5.597E-14	1.641E-13	4.062E-13	6.138E-13
Ra-226	U-238	9.999E-01	1.929E-26	2.899E-25	9.134E-23	9.609E-20	3.871E-18	2.696E-17	1.114E-16	3.569E-16	6.012E-16

Ra-226	äDOSE(j)		5.366E-11	5.377E-11	5.478E-11	6.597E-11	9.982E-11	1.512E-10	2.294E-10	3.482E-10	4.293E-10
0Ra-228	Ra-228	1.000E+00	8.349E-12	7.418E-12	2.561E-12	6.168E-17	3.366E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	5.135E-13	1.465E-12	6.515E-12	1.126E-11	1.815E-11	2.928E-11	4.723E-11	7.618E-11	9.676E-11
Ra-228	äDOSE(j)		8.862E-12	8.884E-12	9.077E-12	1.126E-11	1.815E-11	2.928E-11	4.723E-11	7.618E-11	9.676E-11
0Th-228	Ra-228	1.000E+00	2.119E-09	5.166E-09	5.431E-09	1.349E-13	6.561E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	1.149E-08	8.013E-09	3.124E-10	2.535E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	8.861E-11	5.445E-10	8.206E-09	1.642E-08	2.361E-08	3.394E-08	4.879E-08	7.013E-08	8.408E-08
Th-228	äDOSE(j)		1.370E-08	1.372E-08	1.395E-08	1.642E-08	2.361E-08	3.394E-08	4.879E-08	7.013E-08	8.408E-08
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	5.363E-23	5.384E-23	5.580E-23	7.980E-23	1.767E-22	3.912E-22	8.662E-22	1.918E-21	2.854E-21
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	3.078E-15	3.086E-15	3.158E-15	3.982E-15	6.662E-15	1.115E-14	1.866E-14	3.122E-14	4.039E-14
U-238	äDOSE(j)		3.078E-15	3.086E-15	3.158E-15	3.982E-15	6.662E-15	1.115E-14	1.866E-14	3.122E-14	4.039E-14
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ

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

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	t=	S(j,t), pCi/g 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ
Ac-227	Ac-227	1.000E+00		1.010E+01	9.783E+00	7.346E+00	4.183E-01	7.174E-04	1.230E-06	2.110E-09	3.619E-12	1.499E-13
Ac-227	Pa-231	1.000E+00		0.000E+00	3.165E-01	2.753E+00	9.661E+00	1.003E+01	9.974E+00	9.922E+00	9.870E+00	9.844E+00
Ac-227	U-235	1.000E+00		0.000E+00	3.366E-06	3.067E-04	1.492E-02	5.718E-02	9.950E-02	1.416E-01	1.835E-01	2.043E-01
Ac-227	äS(j):			1.010E+01	1.010E+01	1.010E+01	1.009E+01	1.008E+01	1.007E+01	1.006E+01	1.005E+01	1.005E+01
0Pa-231	Pa-231	1.000E+00		1.010E+01	1.010E+01	1.010E+01	1.007E+01	1.002E+01	9.968E+00	9.916E+00	9.864E+00	9.838E+00
Pa-231	U-235	1.000E+00		0.000E+00	2.137E-04	2.137E-03	2.134E-02	6.386E-02	1.062E-01	1.482E-01	1.901E-01	2.109E-01
Pa-231	äS(j):			1.010E+01	1.010E+01	1.010E+01	1.009E+01	1.008E+01	1.007E+01	1.006E+01	1.005E+01	1.005E+01
0Pb-210	Pb-210	1.000E+00		1.851E+02	1.794E+02	1.356E+02	8.261E+00	1.646E-02	3.278E-05	6.529E-08	1.301E-10	5.805E-12
Pb-210	Ra-226	1.000E+00		0.000E+00	5.664E+00	4.934E+01	1.713E+02	1.648E+02	1.511E+02	1.386E+02	1.271E+02	1.217E+02
Pb-210	Th-230	1.000E+00		0.000E+00	9.621E-04	8.775E-02	4.256E+00	1.578E+01	2.641E+01	3.614E+01	4.504E+01	4.920E+01
Pb-210	U-234	1.000E+00		0.000E+00	2.894E-09	2.701E-06	1.541E-03	1.967E-02	5.778E-02	1.142E-01	1.873E-01	2.296E-01
Pb-210	U-238	9.999E-01		0.000E+00	2.054E-15	1.944E-11	1.225E-07	5.154E-06	2.621E-05	7.412E-05	1.588E-04	2.178E-04
Pb-210	äS(j):			1.851E+02	1.851E+02	1.851E+02	1.838E+02	1.806E+02	1.776E+02	1.748E+02	1.723E+02	1.711E+02
0Ra-226	Ra-226	1.000E+00		1.851E+02	1.850E+02	1.843E+02	1.773E+02	1.625E+02	1.490E+02	1.367E+02	1.253E+02	1.200E+02
Ra-226	Th-230	1.000E+00		0.000E+00	6.254E-02	6.242E-01	6.119E+00	1.757E+01	2.806E+01	3.765E+01	4.642E+01	5.052E+01
Ra-226	U-234	1.000E+00		0.000E+00	2.815E-07	2.811E-05	2.774E-03	2.425E-02	6.544E-02	1.247E-01	2.004E-01	2.439E-01
Ra-226	U-238	9.999E-01		0.000E+00	2.660E-13	2.658E-10	2.631E-07	6.950E-06	3.148E-05	8.456E-05	1.760E-04	2.388E-04
Ra-226	äS(j):			1.851E+02	1.851E+02	1.849E+02	1.834E+02	1.801E+02	1.772E+02	1.744E+02	1.719E+02	1.708E+02
0Ra-228	Ra-228	1.000E+00		8.365E+02	7.415E+02	2.506E+02	4.866E-03	1.646E-13	5.571E-24	1.885E-34	0.000E+00	0.000E+00

Ra-228	Th-232	1.000E+00	0.000E+00	9.500E+01	5.859E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02
Ra-228	äS(j):		8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02
0Th-228	Ra-228	1.000E+00	0.000E+00	2.386E+02	3.420E+02	7.292E-03	2.467E-13	8.349E-24	2.825E-34	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	8.365E+02	5.823E+02	2.233E+01	1.539E-13	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	1.560E+01	4.721E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02
Th-228	äS(j):		8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02
0Th-230	Th-230	1.000E+00	1.444E+02	1.444E+02	1.444E+02	1.443E+02	1.440E+02	1.438E+02	1.435E+02	1.432E+02	1.431E+02
Th-230	U-234	1.000E+00	0.000E+00	1.300E-03	1.300E-02	1.299E-01	3.893E-01	6.480E-01	9.061E-01	1.164E+00	1.292E+00
Th-230	U-238	9.999E-01	0.000E+00	1.842E-09	1.842E-07	1.842E-05	1.656E-04	4.597E-04	9.003E-04	1.487E-03	1.835E-03
Th-230	äS(j):		1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02
0Th-232	Th-232	1.000E+00	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02	8.365E+02
0U-234	U-234	1.000E+00	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.443E+02	1.442E+02	1.441E+02	1.440E+02	1.440E+02
U-234	U-238	9.999E-01	0.000E+00	4.093E-04	4.093E-03	4.093E-02	1.228E-01	2.045E-01	2.863E-01	3.679E-01	4.088E-01
U-234	äS(j):		1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02
0U-235	U-235	1.000E+00	1.010E+01	1.010E+01	1.010E+01	1.010E+01	1.010E+01	1.010E+01	1.010E+01	1.010E+01	1.010E+01
0U-238	U-238	5.400E-05	7.798E-03	7.798E-03	7.798E-03	7.798E-03	7.798E-03	7.798E-03	7.798E-03	7.798E-03	7.798E-03
U-238	U-238	9.999E-01	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02
U-238	äS(j):		1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02	1.444E+02
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ

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

0RESCALC.EXE execution time = 72.12 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary 6
Summary of Pathway Selections 12
Contaminated Zone and Total Dose Summary 13
Total Dose Components
Time = 0.000E+00 14
Time = 1.000E+00 15
Time = 1.000E+01 16
Time = 1.000E+02 17
Time = 3.000E+02 18
Time = 5.000E+02 19
Time = 7.000E+02 20
Time = 9.000E+02 21
Time = 1.000E+03 22
Dose/Source Ratios Summed Over All Pathways 23
Single Radionuclide Soil Guidelines 24
Dose Per Nuclide Summed Over All Pathways 25
Soil Concentration Per Nuclide 26

Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)

A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-238	1.180E-01	1.180E-01	DCF2(11)

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

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

Dose Library: FGR 11

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

D-5	U-234 , crustacea and mollusks		6.000E+01	6.000E+01	BIOFAC(9,2)
D-5					
D-5	U-235+D , fish		1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks		6.000E+01	6.000E+01	BIOFAC(10,2)

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

Menu	Parameter		Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish		1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks		6.000E+01	6.000E+01	BIOFAC(11,2)
D-5					
D-5	U-238+D , fish		1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks		6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

Menu	Parameter		User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)		8.500E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)		4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)		2.920E+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)		1.000E+01	3.000E+00	---	T(3)
R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	7.000E-01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	7.000E-01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	2.360E+01	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	2.360E+01	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	2.700E+01	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	2.700E+01	0.000E+00	---	S1(6)

R012	Initial principal radionuclide (pCi/g):	Th-230	1.050E+01	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	2.700E+01	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	1.050E+01	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	7.000E-01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	1.050E+01	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Summary : SMC Recreational Hunter Area 5 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109405.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 Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)

R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016					
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	1.646E+05	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.709E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016					
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.093E+04	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.574E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016					
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	1.912E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.471E-07	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016					
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	1.912E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.471E-07	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016					
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	1.912E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.471E-07	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

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

R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	0.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	9.000E-03	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+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)	1.500E-01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	1.800E+00	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	not used	-1	---	FPLANT
R018	Contamination fraction of meat	3.000E-01	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)

R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	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	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area: 850.00 square meters

Initial Soil Concentrations, pCi/g

Ac-227	7.000E-01

Thickness:	4.50 meters	Pa-231	7.000E-01
Cover Depth:	1.83 meters	Pb-210	2.360E+01
		Ra-226	2.360E+01
		Ra-228	2.700E+01
		Th-228	2.700E+01
		Th-230	1.050E+01
		Th-232	2.700E+01
		U-234	1.050E+01
		U-235	7.000E-01
		U-238	1.050E+01

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	4.493E-10	4.501E-10	4.575E-10	5.388E-10	7.748E-10	1.114E-09	1.603E-09	2.305E-09	2.764E-09
M(t):	1.797E-11	1.800E-11	1.830E-11	2.155E-11	3.099E-11	4.457E-11	6.410E-11	9.220E-11	1.106E-10

0Maximum TDOSE(t): 2.764E-09 mrem/yr at t = 1.000E+03 years

Summary : SMC Recreational Hunter Area 5 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109405.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	4.176E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.908E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.876E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.840E-12	0.0152	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	6.867E-11	0.1528	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	3.709E-10	0.8255	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	6.595E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.877E-12	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.979E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.213E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.238E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.493E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.493E-10	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 5 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109405.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	4.056E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.005E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.823E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.852E-12	0.0152	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.670E-10	0.3710	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	2.586E-10	0.5746	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.982E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.762E-11	0.0392	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.388E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	7.091E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.244E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	4.501E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.056E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.005E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.823E-19	0.0000

Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.852E-12	0.0152
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.670E-10	0.3710
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.586E-10	0.5746
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.982E-15	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.762E-11	0.0392
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.388E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.091E-24	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.244E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.501E-10	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 5 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109405.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

0 Water Independent Pathways (Inhalation excludes radon)

0 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.
Ac-227	3.123E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.241E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.411E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.959E-12	0.0152	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.754E-10	0.3833	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.008E-11	0.0220	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.412E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.651E-10	0.5794	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	6.681E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.498E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.297E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.575E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.123E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.241E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.411E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.959E-12	0.0152
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.754E-10	0.3833
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.008E-11	0.0220
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.412E-14	0.0000

Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.651E-10	0.5794
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.681E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.498E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.297E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.575E-10	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 5 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109405.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.281E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.360E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.085E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.129E-12	0.0151	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	4.356E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	8.182E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.609E-13	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.305E-10	0.9846	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	7.330E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	8.335E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.895E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.388E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.281E-19	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.360E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.085E-20	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.129E-12	0.0151
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.356E-15	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.182E-26	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.609E-13	0.0003
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.305E-10	0.9846
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.330E-17	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.335E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.895E-16	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.388E-10	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 5 Controls Fail Restricted Area

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	6.807E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	9.672E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.629E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.148E-11	0.0148	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.119E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	7.093E-13	0.0009	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	7.626E-10	0.9843	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	9.803E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	5.528E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.847E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	7.748E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years
Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.807E-22	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.672E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.629E-23	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.148E-11	0.0148
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.119E-25	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.093E-13	0.0009
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.626E-10	0.9843
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.803E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.528E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.847E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.748E-10	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 5 Controls Fail Restricted Area
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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	2.032E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.674E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.214E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.622E-11	0.0146	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.743E-12	0.0016	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.096E-09	0.9839	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.070E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.672E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	8.125E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.114E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years
Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.032E-24	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.674E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.214E-25	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.622E-11	0.0146
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.743E-12	0.0016
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.096E-09	0.9839
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.070E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.672E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.125E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.114E-09	1.0000

*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 5 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109405.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 = 7.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	6.063E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.899E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	4.061E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.291E-11	0.0143	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.602E-12	0.0022	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.576E-09	0.9834	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.193E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.141E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.364E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.603E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.063E-27	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.899E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.061E-28	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.291E-11	0.0143
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.602E-12	0.0022
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.576E-09	0.9834
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.193E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.141E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.364E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.603E-09	1.0000

*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 5 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109405.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 = 9.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground	Inhalation	Radon	Plant	Meat	Milk	Soil

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.810E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.019E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.236E-11	0.0140	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	6.839E-12	0.0030	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.266E-09	0.9830	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.954E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	9.336E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.296E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.305E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.810E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.019E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.236E-11	0.0140
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.839E-12	0.0030
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.266E-09	0.9830
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.954E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.336E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.296E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.305E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	9.888E-31	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.604E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.846E-11	0.0139	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	9.238E-12	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.717E-09	0.9827	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.463E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.372E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.980E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.764E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.888E-31	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.604E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.846E-11	0.0139
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.238E-12	0.0033
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.717E-09	0.9827
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.463E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.372E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.980E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.764E-09	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	5.966E-18	5.795E-18	4.461E-18	3.259E-19	9.725E-22	2.902E-24	8.662E-27	2.585E-29	1.413E-30
0Pa-231	Pa-231	1.000E+00	3.182E-21	3.193E-21	3.289E-21	4.432E-21	8.601E-21	1.669E-20	3.238E-20	6.284E-20	8.753E-20
Pa-231	Ac-227+D	1.000E+00	9.551E-20	2.832E-19	1.770E-18	7.653E-18	1.381E-17	2.390E-17	4.138E-17	7.164E-17	9.426E-17
Pa-231	äDSR(j)		9.869E-20	2.864E-19	1.773E-18	7.657E-18	1.382E-17	2.392E-17	4.141E-17	7.170E-17	9.435E-17
0Pb-210+D	Pb-210+D	1.000E+00	7.949E-21	7.726E-21	5.978E-21	4.597E-22	1.538E-24	5.145E-27	1.721E-29	5.757E-32	3.330E-33
0Ra-226+D	Ra-226+D	1.000E+00	2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.630E-12
Ra-226+D	Pb-210+D	1.000E+00	1.242E-22	3.683E-22	2.301E-21	9.688E-21	1.564E-20	2.408E-20	3.708E-20	5.711E-20	7.087E-20
Ra-226+D	äDSR(j)		2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.630E-12

0Ra-228+D	Ra-228+D	1.000E+00	9.981E-15	8.868E-15	3.062E-15	7.373E-20	4.024E-30	2.196E-40	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	2.534E-12	6.176E-12	6.493E-12	1.612E-16	7.842E-27	3.814E-37	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		2.544E-12	6.185E-12	6.496E-12	1.613E-16	7.846E-27	3.817E-37	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.374E-11	9.579E-12	3.735E-13	3.030E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	2.747E-34	2.762E-34	2.898E-34	4.702E-34	1.378E-33	4.039E-33	1.184E-32	3.470E-32	5.940E-32
Th-230	Ra-226+D	1.000E+00	6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.514E-13	8.798E-13
Th-230	Pb-210+D	1.000E+00	1.799E-26	1.251E-25	5.527E-24	3.105E-22	1.924E-21	5.402E-21	1.241E-20	2.596E-20	3.675E-20
Th-230	äDSR(j)		6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.514E-13	8.798E-13
0Th-232	Th-232	1.000E+00	6.986E-38	7.028E-38	7.417E-38	1.272E-37	4.214E-37	1.396E-36	4.627E-36	1.533E-35	2.791E-35
Th-232	Ra-228+D	1.000E+00	6.139E-16	1.752E-15	7.789E-15	1.346E-14	2.170E-14	3.500E-14	5.646E-14	9.106E-14	1.157E-13
Th-232	Th-228+D	1.000E+00	1.059E-13	6.509E-13	9.810E-12	1.963E-11	2.822E-11	4.057E-11	5.832E-11	8.382E-11	1.005E-10
Th-232	äDSR(j)		1.065E-13	6.527E-13	9.818E-12	1.965E-11	2.825E-11	4.060E-11	5.837E-11	8.392E-11	1.006E-10
0U-234	U-234	1.000E+00	6.536E-36	6.573E-36	6.911E-36	1.142E-35	3.490E-35	1.066E-34	3.258E-34	9.953E-34	1.740E-33
U-234	Th-230	1.000E+00	1.237E-39	3.730E-39	2.740E-38	4.256E-37	3.732E-36	1.823E-35	7.481E-35	2.820E-34	5.366E-34
U-234	Ra-226+D	1.000E+00	1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.876E-16	1.137E-15	2.813E-15	4.250E-15
U-234	Pb-210+D	1.000E+00	4.055E-32	6.055E-31	1.791E-28	1.131E-25	2.402E-24	1.183E-23	3.923E-23	1.080E-22	1.716E-22
U-234	äDSR(j)		1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.876E-16	1.137E-15	2.813E-15	4.250E-15
0U-235+D	U-235+D	1.000E+00	5.309E-24	5.331E-24	5.525E-24	7.900E-24	1.749E-23	3.873E-23	8.575E-23	1.899E-22	2.825E-22
U-235+D	Pa-231	1.000E+00	3.368E-26	1.013E-25	7.309E-25	9.438E-24	5.490E-23	1.779E-22	4.844E-22	1.211E-21	1.877E-21
U-235+D	Ac-227+D	1.000E+00	6.756E-25	4.697E-24	2.077E-22	1.189E-20	7.890E-20	2.387E-19	5.909E-19	1.332E-18	1.957E-18
U-235+D	äDSR(j)		6.019E-24	1.013E-23	2.140E-22	1.191E-20	7.897E-20	2.389E-19	5.915E-19	1.334E-18	1.959E-18
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.613E-17	7.719E-17	1.292E-16	2.162E-16	2.797E-16
U-238+D	U-234	9.999E-01	9.272E-42	2.796E-41	2.057E-40	3.255E-39	2.975E-38	1.514E-37	6.476E-37	2.544E-36	4.941E-36
U-238+D	Th-230	9.999E-01	1.401E-45	8.408E-45	4.078E-43	6.063E-41	1.590E-39	1.294E-38	7.438E-38	3.606E-37	7.625E-37
U-238+D	Ra-226+D	9.999E-01	1.336E-28	2.008E-27	6.325E-25	6.655E-22	2.680E-20	1.867E-19	7.715E-19	2.472E-18	4.163E-18
U-238+D	Pb-210+D	9.999E-01	2.302E-38	7.113E-37	1.357E-33	9.036E-30	6.305E-28	5.371E-27	2.549E-26	9.166E-26	1.629E-25
U-238+D	äDSR(j)		2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.616E-17	7.738E-17	1.299E-16	2.186E-16	2.838E-16
ffffffffff	ffffffffff	ffffffffff	ffffffffff	ffffffffff	ffffffffff	ffffffffff	ffffffffff	ffffffffff	ffffffffff	ffffffffff	ffffffffff

The DSR includes contributions from associated (half-life ó 180 days) daughters.

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
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Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	9.829E+12	4.042E+12	3.849E+12	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.820E+12	2.610E+12	6.694E+13	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	7.000E-01	0.000E+00	5.966E-18	*7.232E+13	1.413E-30	*7.232E+13
Pa-231	7.000E-01	1.000E+03	9.435E-17	*4.723E+10	9.435E-17	*4.723E+10
Pb-210	2.360E+01	0.000E+00	7.949E-21	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	2.360E+01	1.000E+03	1.630E-12	*9.885E+11	1.630E-12	*9.885E+11
Ra-228	2.700E+01	4.112 ñ 0.008	9.520E-12	2.626E+12	0.000E+00	*2.726E+14
Th-228	2.700E+01	0.000E+00	1.374E-11	1.820E+12	0.000E+00	*8.195E+14
Th-230	1.050E+01	1.000E+03	8.798E-13	*2.018E+10	8.798E-13	*2.018E+10
Th-232	2.700E+01	1.000E+03	1.006E-10	*1.097E+05	1.006E-10	*1.097E+05
U-234	1.050E+01	1.000E+03	4.250E-15	*6.247E+09	4.250E-15	*6.247E+09
U-235	7.000E-01	1.000E+03	1.959E-18	*2.161E+06	1.959E-18	*2.161E+06
U-238	1.050E+01	1.000E+03	2.838E-16	*3.361E+05	2.838E-16	*3.361E+05

*At specific activity limit

1RESRAD, Version 6.4 T« Limit = 180 days 07/26/2009 15:31 Page 25
Summary : SMC Recreational Hunter Area 5 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109405.RAD

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	4.176E-18	4.056E-18	3.123E-18	2.281E-19	6.807E-22	2.032E-24	6.063E-27	1.810E-29	9.888E-31
Ac-227	Pa-231	1.000E+00	6.686E-20	1.983E-19	1.239E-18	5.357E-18	9.666E-18	1.673E-17	2.897E-17	5.015E-17	6.598E-17
Ac-227	U-235	1.000E+00	4.729E-25	3.288E-24	1.454E-22	8.323E-21	5.523E-20	1.671E-19	4.137E-19	9.326E-19	1.370E-18
Ac-227	äDOSE(j)		4.243E-18	4.255E-18	4.362E-18	5.594E-18	9.722E-18	1.690E-17	2.938E-17	5.108E-17	6.735E-17
0Pa-231	Pa-231	1.000E+00	2.227E-21	2.235E-21	2.302E-21	3.103E-21	6.021E-21	1.168E-20	2.267E-20	4.399E-20	6.127E-20
Pa-231	U-235	1.000E+00	2.358E-26	7.094E-26	5.116E-25	6.606E-24	3.843E-23	1.245E-22	3.391E-22	8.480E-22	1.314E-21
Pa-231	äDOSE(j)		2.227E-21	2.235E-21	2.303E-21	3.109E-21	6.059E-21	1.181E-20	2.301E-20	4.484E-20	6.259E-20
0Pb-210	Pb-210	1.000E+00	1.876E-19	1.823E-19	1.411E-19	1.085E-20	3.629E-23	1.214E-25	4.061E-28	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	2.931E-21	8.693E-21	5.431E-20	2.286E-19	3.690E-19	5.683E-19	8.752E-19	1.348E-18	1.673E-18
Pb-210	Th-230	1.000E+00	1.889E-25	1.313E-24	5.803E-23	3.260E-21	2.020E-20	5.672E-20	1.303E-19	2.726E-19	3.859E-19
Pb-210	U-234	1.000E+00	0.000E+00	0.000E+00	1.881E-27	1.187E-24	2.522E-23	1.242E-22	4.119E-22	1.134E-21	1.802E-21
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	9.488E-29	6.620E-27	5.640E-26	2.676E-25	9.625E-25	1.710E-24
Pb-210	äDOSE(j)		1.905E-19	1.910E-19	1.954E-19	2.428E-19	3.893E-19	6.252E-19	1.006E-18	1.622E-18	2.060E-18
0Ra-226	Ra-226	1.000E+00	6.840E-12	6.852E-12	6.959E-12	8.129E-12	1.148E-11	1.622E-11	2.291E-11	3.236E-11	3.846E-11
Ra-226	Th-230	1.000E+00	6.595E-16	1.982E-15	1.412E-14	1.609E-13	7.093E-13	1.743E-12	3.602E-12	6.839E-12	9.238E-12
Ra-226	U-234	1.000E+00	1.979E-21	1.388E-20	6.681E-19	7.330E-17	9.803E-16	4.070E-15	1.193E-14	2.954E-14	4.463E-14
Ra-226	U-238	9.999E-01	1.403E-27	2.108E-26	6.642E-24	6.987E-21	2.814E-19	1.960E-18	8.101E-18	2.595E-17	4.371E-17

Ra-226	äDOSE(j)		6.841E-12	6.854E-12	6.973E-12	8.290E-12	1.219E-11	1.797E-11	2.652E-11	3.923E-11	4.774E-11
0Ra-228	Ra-228	1.000E+00	2.695E-13	2.394E-13	8.267E-14	1.991E-18	1.086E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	1.658E-14	4.729E-14	2.103E-13	3.633E-13	5.860E-13	9.451E-13	1.524E-12	2.459E-12	3.123E-12
Ra-228	äDOSE(j)		2.861E-13	2.867E-13	2.930E-13	3.633E-13	5.860E-13	9.451E-13	1.524E-12	2.459E-12	3.123E-12
0Th-228	Ra-228	1.000E+00	6.841E-11	1.668E-10	1.753E-10	4.354E-15	2.117E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	3.709E-10	2.586E-10	1.008E-11	8.182E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	2.860E-12	1.758E-11	2.649E-10	5.301E-10	7.620E-10	1.095E-09	1.575E-09	2.263E-09	2.713E-09
Th-228	äDOSE(j)		4.422E-10	4.430E-10	4.503E-10	5.301E-10	7.620E-10	1.095E-09	1.575E-09	2.263E-09	2.713E-09
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	3.717E-24	3.731E-24	3.867E-24	5.530E-24	1.224E-23	2.711E-23	6.002E-23	1.329E-22	1.978E-22
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	2.238E-16	2.244E-16	2.297E-16	2.895E-16	4.844E-16	8.105E-16	1.356E-15	2.270E-15	2.936E-15
U-238	äDOSE(j)		2.238E-16	2.244E-16	2.297E-16	2.895E-16	4.844E-16	8.105E-16	1.356E-15	2.270E-15	2.936E-15
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THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
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Ac-227	Ac-227	1.000E+00	7.000E-01	6.781E-01	5.091E-01	2.899E-02	4.972E-05	8.528E-08	1.463E-10	2.508E-13	1.039E-14
Ac-227	Pa-231	1.000E+00	0.000E+00	2.193E-02	1.908E-01	6.696E-01	6.949E-01	6.913E-01	6.877E-01	6.841E-01	6.823E-01
Ac-227	U-235	1.000E+00	0.000E+00	2.333E-07	2.126E-05	1.034E-03	3.963E-03	6.896E-03	9.813E-03	1.272E-02	1.416E-02
Ac-227	äS(j):		7.000E-01	7.000E-01	7.000E-01	6.996E-01	6.989E-01	6.982E-01	6.975E-01	6.968E-01	6.964E-01
0Pa-231	Pa-231	1.000E+00	7.000E-01	7.000E-01	6.998E-01	6.982E-01	6.945E-01	6.909E-01	6.872E-01	6.836E-01	6.819E-01
Pa-231	U-235	1.000E+00	0.000E+00	1.481E-05	1.481E-04	1.479E-03	4.426E-03	7.357E-03	1.027E-02	1.317E-02	1.462E-02
Pa-231	äS(j):		7.000E-01	7.000E-01	7.000E-01	6.996E-01	6.989E-01	6.982E-01	6.975E-01	6.968E-01	6.965E-01
0Pb-210	Pb-210	1.000E+00	2.360E+01	2.288E+01	1.729E+01	1.053E+00	2.098E-03	4.179E-06	8.325E-09	1.658E-11	7.401E-13
Pb-210	Ra-226	1.000E+00	0.000E+00	7.221E-01	6.290E+00	2.184E+01	2.101E+01	1.927E+01	1.767E+01	1.620E+01	1.551E+01
Pb-210	Th-230	1.000E+00	0.000E+00	6.996E-05	6.381E-03	3.095E-01	1.148E+00	1.921E+00	2.628E+00	3.275E+00	3.577E+00
Pb-210	U-234	1.000E+00	0.000E+00	2.105E-10	1.964E-07	1.121E-04	1.430E-03	4.201E-03	8.301E-03	1.362E-02	1.670E-02
Pb-210	U-238	9.999E-01	0.000E+00	1.494E-16	1.413E-12	8.909E-09	3.748E-07	1.905E-06	5.389E-06	1.155E-05	1.584E-05
Pb-210	äS(j):		2.360E+01	2.360E+01	2.359E+01	2.321E+01	2.216E+01	2.119E+01	2.030E+01	1.949E+01	1.911E+01
0Ra-226	Ra-226	1.000E+00	2.360E+01	2.359E+01	2.350E+01	2.260E+01	2.072E+01	1.900E+01	1.743E+01	1.598E+01	1.530E+01
Ra-226	Th-230	1.000E+00	0.000E+00	4.548E-03	4.539E-02	4.450E-01	1.278E+00	2.040E+00	2.737E+00	3.375E+00	3.674E+00
Ra-226	U-234	1.000E+00	0.000E+00	2.047E-08	2.044E-06	2.017E-04	1.763E-03	4.758E-03	9.064E-03	1.457E-02	1.774E-02
Ra-226	U-238	9.999E-01	0.000E+00	1.934E-14	1.932E-11	1.913E-08	5.053E-07	2.289E-06	6.148E-06	1.279E-05	1.737E-05
Ra-226	äS(j):		2.360E+01	2.359E+01	2.354E+01	2.304E+01	2.200E+01	2.105E+01	2.017E+01	1.937E+01	1.899E+01
0Ra-228	Ra-228	1.000E+00	2.700E+01	2.393E+01	8.088E+00	1.571E-04	5.314E-15	1.798E-25	6.084E-36	0.000E+00	0.000E+00

Ra-228	Th-232	1.000E+00	0.000E+00	3.066E+00	1.891E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01
Ra-228	äS(j):		2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01
0Th-228	Ra-228	1.000E+00	0.000E+00	7.703E+00	1.104E+01	2.354E-04	7.964E-15	2.694E-25	9.117E-36	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	2.700E+01	1.879E+01	7.208E-01	4.968E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	5.034E-01	1.524E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01
Th-228	äS(j):		2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01
0Th-230	Th-230	1.000E+00	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.049E+01	1.047E+01	1.045E+01	1.043E+01	1.041E+01	1.040E+01
Th-230	U-234	1.000E+00	0.000E+00	9.452E-05	9.451E-04	9.446E-03	2.830E-02	4.712E-02	6.588E-02	8.460E-02	9.395E-02
Th-230	U-238	9.999E-01	0.000E+00	1.340E-10	1.340E-08	1.339E-06	1.204E-05	3.342E-05	6.546E-05	1.081E-04	1.334E-04
Th-230	äS(j):		1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01
0Th-232	Th-232	1.000E+00	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01	2.700E+01
0U-234	U-234	1.000E+00	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.049E+01	1.048E+01	1.048E+01	1.047E+01	1.047E+01	1.047E+01
U-234	U-238	9.999E-01	0.000E+00	2.977E-05	2.976E-04	2.976E-03	8.925E-03	1.487E-02	2.081E-02	2.675E-02	2.972E-02
U-234	äS(j):		1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01
0U-235	U-235	1.000E+00	7.000E-01	7.000E-01	7.000E-01	7.000E-01	7.000E-01	7.000E-01	6.999E-01	6.999E-01	6.999E-01	6.999E-01
0U-238	U-238	5.400E-05	5.670E-04	5.670E-04	5.670E-04	5.670E-04	5.670E-04	5.670E-04	5.669E-04	5.669E-04	5.669E-04	5.669E-04
U-238	U-238	9.999E-01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01
U-238	äS(j):		1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01	1.050E+01
ffffffff	ffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff

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

0RESCALC.EXE execution time = 72.64 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary 6
Summary of Pathway Selections 12
Contaminated Zone and Total Dose Summary 13
Total Dose Components
Time = 0.000E+00 14
Time = 1.000E+00 15
Time = 1.000E+01 16
Time = 1.000E+02 17
Time = 3.000E+02 18
Time = 5.000E+02 19
Time = 7.000E+02 20
Time = 9.000E+02 21
Time = 1.000E+03 22
Dose/Source Ratios Summed Over All Pathways 23
Single Radionuclide Soil Guidelines 24
Dose Per Nuclide Summed Over All Pathways 25
Soil Concentration Per Nuclide 26

1RESRAD, Version 6.4 T« Limit = 180 days 07/25/2009 18:31 Page 2
Summary : SMC Recreatioal Hunter Area 4 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109404.RAD

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)

A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-238	1.180E-01	1.180E-01	DCF2(11)

B-1	U-238+D	1.180E-01	1.180E-01	DCF2(12)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Ac-227+D	1.480E-02	1.410E-02	DCF3(1)
D-1	Pa-231	1.060E-02	1.060E-02	DCF3(2)
D-1	Pb-210+D	7.276E-03	5.370E-03	DCF3(3)
D-1	Ra-226+D	1.321E-03	1.320E-03	DCF3(4)
D-1	Ra-228+D	1.442E-03	1.440E-03	DCF3(5)
D-1	Th-228+D	8.086E-04	3.960E-04	DCF3(6)
D-1	Th-230	5.480E-04	5.480E-04	DCF3(7)
D-1	Th-232	2.730E-03	2.730E-03	DCF3(8)
D-1	U-234	2.830E-04	2.830E-04	DCF3(9)
D-1	U-235+D	2.673E-04	2.660E-04	DCF3(10)
D-1	U-238	2.550E-04	2.550E-04	DCF3(11)
D-1	U-238+D	2.687E-04	2.550E-04	DCF3(12)
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	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(2,2)
D-34	Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(2,3)
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(3,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(3,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(3,3)
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(4,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,3)
D-34	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(5,1)
D-34	Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,2)
D-34	Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,3)
D-34	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(6,3)
D-34	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(7,3)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-34	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,1)
D-34	Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(8,2)
D-34	Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(8,3)
D-34	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(9,1)

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

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

0 Menu		Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238	fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238	crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5					
D-5	U-238+D	fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D	crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	5.100E+03	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	7.140E+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)	1.000E+01	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)	5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)	1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Ac-227	1.720E+01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Pa-231	1.720E+01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Pb-210	1.778E+02	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g): Ra-226	1.778E+02	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g): Ra-228	4.505E+02	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g): Th-228	4.505E+02	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g): Th-230	1.778E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g): Th-232	4.505E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g): U-234	2.463E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g): U-235	1.720E+01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g): U-238	2.463E+02	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L): Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L): Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L): Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L): Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L): Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L): Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L): Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L): Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L): U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L): U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L): U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)	1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity	2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)	4.300E+00	2.000E+00	---	WIND

R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)

R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	7.100E+03	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.961E-07	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.051E+04	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.676E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	1.561E+05	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.802E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	1.561E+05	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.802E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	1.561E+05	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.802E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109404.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 U-234				
R016	Contaminated zone (cm**3/g)	7.672E+05	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.666E-09	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	7.672E+05	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.666E-09	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	7.672E+05	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.666E-09	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	0.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	9.000E-03	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)

Summary : SMC Recreatioal Hunter Area 4 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109404.RAD

Site-Specific Parameter Summary (continued)

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

R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+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)	1.500E-01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	1.800E+00	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	not used	-1	---	FPLANT
R018	Contamination fraction of meat	3.000E-01	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

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

R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	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	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

TITL	Maximum number of integration points for dose	17	---	---	LYMAX
TITL	Maximum number of integration points for risk	1	---	---	KYMAX

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area:	5100.00 square meters
Thickness:	4.50 meters
Cover Depth:	1.83 meters

Initial Soil Concentrations, pCi/g

Ac-227	1.720E+01
Pa-231	1.720E+01
Pb-210	1.778E+02
Ra-226	1.778E+02
Ra-228	4.505E+02
Th-228	4.505E+02
Th-230	1.778E+02
Th-232	4.505E+02
U-234	2.463E+02
U-235	1.720E+01
U-238	2.463E+02

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	7.434E-09	7.448E-09	7.570E-09	8.916E-09	1.282E-08	1.845E-08	2.653E-08	3.817E-08	4.578E-08
M(t):	2.974E-10	2.979E-10	3.028E-10	3.566E-10	5.129E-10	7.378E-10	1.061E-09	1.527E-09	1.831E-09

0Maximum TDOSE(t): 4.578E-08 mrem/yr at t = 1.000E+03 years

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years
0 Water Independent Pathways (Inhalation excludes radon)
0

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.026E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Pa-231	1.698E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.413E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.153E-11	0.0069	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.146E-09	0.1541	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	6.189E-09	0.8325	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.117E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.800E-11	0.0065	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.643E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.035E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.250E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	7.434E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.026E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.698E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.413E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.153E-11	0.0069
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.146E-09	0.1541
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.189E-09	0.8325
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.117E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.800E-11	0.0065
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.643E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.035E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.250E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.434E-09	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years
Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	9.967E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	4.926E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.374E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.162E-11	0.0069	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.786E-09	0.3741	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	4.316E-09	0.5795	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.356E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.940E-10	0.0395	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.256E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.742E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.264E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	7.448E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.967E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.926E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+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-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.162E-11	0.0069
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.786E-09	0.3741
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.316E-09	0.5795
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.356E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.940E-10	0.0395
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.256E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.742E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.264E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.448E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreatioal Hunter Area 4 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109404.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

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	7.673E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.050E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.063E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.243E-11	0.0069	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.926E-09	0.3866	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.683E-10	0.0222	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.390E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.423E-09	0.5843	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.567E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.681E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.387E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	7.570E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.673E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.050E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.063E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.243E-11	0.0069
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.926E-09	0.3866
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.683E-10	0.0222

Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.390E-13	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.423E-09	0.5843
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.567E-17	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.681E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.387E-15	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
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	7.570E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	5.605E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.317E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	8.174E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.124E-11	0.0069	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	7.267E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.365E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.724E-12	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	8.851E-09	0.9928	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.719E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.048E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.792E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	8.916E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.605E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.317E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.174E-20	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.124E-11	0.0069
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.267E-14	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.365E-24	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.724E-12	0.0003
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.851E-09	0.9928
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.719E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.048E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.792E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.916E-09	1.0000

0*Sum of all water independent and dependent pathways.

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

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

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	1.673E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.377E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.734E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.650E-11	0.0067	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.535E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.201E-11	0.0009	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.272E-08	0.9923	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.300E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.358E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.137E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.282E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

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

Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.673E-20	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.377E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.734E-22	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.650E-11	0.0067
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.535E-24	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.201E-11	0.0009
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.272E-08	0.9923
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.300E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.358E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.137E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.282E-08	1.0000

*Sum of all water independent and dependent pathways.

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

As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	4.992E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	4.114E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	9.147E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.222E-10	0.0066	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.951E-11	0.0016	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Th-232	1.829E-08	0.9918	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	9.546E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.110E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.906E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.845E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.992E-23	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.114E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.147E-25	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.222E-10	0.0066
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.951E-11	0.0016
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.829E-08	0.9918
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.546E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.110E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.906E-14	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.845E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.490E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	7.123E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.060E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.725E-10	0.0065	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	6.098E-11	0.0023	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.630E-08	0.9912	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.799E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.017E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.201E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	2.653E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.490E-25	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.123E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.060E-27	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.725E-10	0.0065
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.098E-11	0.0023
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.630E-08	0.9912
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.799E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.017E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.201E-14	0.0000
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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	2.653E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreatioal Hunter Area 4 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109404.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 = 9.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
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Ac-227	4.447E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.233E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.437E-10	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.158E-10	0.0030	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.781E-08	0.9906	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	6.928E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.294E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.386E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	3.817E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.447E-28	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.233E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.437E-10	0.0064
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.158E-10	0.0030
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.781E-08	0.9906
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.928E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.294E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.386E-14	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.817E-08	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.430E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.623E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.896E-10	0.0063	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.564E-10	0.0034	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.533E-08	0.9902	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.047E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.371E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.992E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.578E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.430E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.623E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.896E-10	0.0063
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.564E-10	0.0034
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.533E-08	0.9902
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.047E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.371E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.992E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.578E-08	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	5.966E-18	5.795E-18	4.461E-18	3.259E-19	9.725E-22	2.902E-24	8.662E-27	2.585E-29	1.413E-30
0Pa-231	Pa-231	1.000E+00	3.182E-21	3.193E-21	3.289E-21	4.432E-21	8.601E-21	1.669E-20	3.238E-20	6.284E-20	8.753E-20

Pa-231	Ac-227+D	1.000E+00	9.551E-20	2.832E-19	1.770E-18	7.653E-18	1.381E-17	2.390E-17	4.138E-17	7.164E-17	9.426E-17
Pa-231	äDSR(j)		9.869E-20	2.864E-19	1.773E-18	7.657E-18	1.382E-17	2.392E-17	4.141E-17	7.170E-17	9.435E-17
0Pb-210+D	Pb-210+D	1.000E+00	7.949E-21	7.726E-21	5.978E-21	4.597E-22	1.538E-24	5.145E-27	1.721E-29	5.757E-32	3.330E-33
0Ra-226+D	Ra-226+D	1.000E+00	2.898E-13	2.903E-13	2.949E-13	3.444E-13	4.865E-13	6.871E-13	9.704E-13	1.371E-12	1.629E-12
Ra-226+D	Pb-210+D	1.000E+00	1.242E-22	3.683E-22	2.301E-21	9.688E-21	1.563E-20	2.408E-20	3.707E-20	5.709E-20	7.084E-20
Ra-226+D	äDSR(j)		2.898E-13	2.903E-13	2.949E-13	3.444E-13	4.865E-13	6.871E-13	9.704E-13	1.371E-12	1.629E-12
0Ra-228+D	Ra-228+D	1.000E+00	9.981E-15	8.868E-15	3.062E-15	7.373E-20	4.024E-30	2.196E-40	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	2.534E-12	6.176E-12	6.493E-12	1.612E-16	7.842E-27	3.814E-37	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		2.544E-12	6.185E-12	6.496E-12	1.613E-16	7.846E-27	3.816E-37	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.374E-11	9.579E-12	3.735E-13	3.030E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	2.747E-34	2.762E-34	2.898E-34	4.702E-34	1.378E-33	4.040E-33	1.184E-32	3.470E-32	5.941E-32
Th-230	Ra-226+D	1.000E+00	6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.513E-13	8.797E-13
Th-230	Pb-210+D	1.000E+00	1.799E-26	1.251E-25	5.527E-24	3.105E-22	1.924E-21	5.402E-21	1.241E-20	2.596E-20	3.675E-20
Th-230	äDSR(j)		6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.513E-13	8.797E-13
0Th-232	Th-232	1.000E+00	6.986E-38	7.028E-38	7.417E-38	1.272E-37	4.214E-37	1.396E-36	4.627E-36	1.533E-35	2.791E-35
Th-232	Ra-228+D	1.000E+00	6.139E-16	1.752E-15	7.789E-15	1.346E-14	2.170E-14	3.501E-14	5.646E-14	9.107E-14	1.157E-13
Th-232	Th-228+D	1.000E+00	1.059E-13	6.509E-13	9.810E-12	1.963E-11	2.822E-11	4.057E-11	5.832E-11	8.383E-11	1.005E-10
Th-232	äDSR(j)		1.065E-13	6.527E-13	9.818E-12	1.965E-11	2.825E-11	4.061E-11	5.838E-11	8.393E-11	1.006E-10
0U-234	U-234	1.000E+00	6.536E-36	6.573E-36	6.911E-36	1.142E-35	3.491E-35	1.066E-34	3.258E-34	9.955E-34	1.740E-33
U-234	Th-230	1.000E+00	1.237E-39	3.730E-39	2.740E-38	4.256E-37	3.732E-36	1.823E-35	7.482E-35	2.821E-34	5.367E-34
U-234	Ra-226+D	1.000E+00	1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.876E-16	1.137E-15	2.813E-15	4.250E-15
U-234	Pb-210+D	1.000E+00	4.055E-32	6.055E-31	1.791E-28	1.131E-25	2.402E-24	1.183E-23	3.923E-23	1.080E-22	1.716E-22
U-234	äDSR(j)		1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.876E-16	1.137E-15	2.813E-15	4.250E-15
0U-235+D	U-235+D	1.000E+00	5.309E-24	5.331E-24	5.525E-24	7.901E-24	1.749E-23	3.873E-23	8.576E-23	1.899E-22	2.826E-22
U-235+D	Pa-231	1.000E+00	3.368E-26	1.013E-25	7.309E-25	9.438E-24	5.490E-23	1.779E-22	4.844E-22	1.212E-21	1.878E-21
U-235+D	Ac-227+D	1.000E+00	6.756E-25	4.697E-24	2.077E-22	1.189E-20	7.890E-20	2.387E-19	5.910E-19	1.332E-18	1.958E-18
U-235+D	äDSR(j)		6.019E-24	1.013E-23	2.140E-22	1.191E-20	7.898E-20	2.389E-19	5.915E-19	1.334E-18	1.960E-18
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.614E-17	7.720E-17	1.292E-16	2.162E-16	2.797E-16
U-238+D	U-234	9.999E-01	9.272E-42	2.796E-41	2.057E-40	3.255E-39	2.975E-38	1.514E-37	6.477E-37	2.545E-36	4.942E-36
U-238+D	Th-230	9.999E-01	1.401E-45	8.408E-45	4.078E-43	6.063E-41	1.590E-39	1.294E-38	7.439E-38	3.607E-37	7.626E-37
U-238+D	Ra-226+D	9.999E-01	1.336E-28	2.008E-27	6.325E-25	6.655E-22	2.680E-20	1.867E-19	7.716E-19	2.472E-18	4.163E-18
U-238+D	Pb-210+D	9.999E-01	2.302E-38	7.113E-37	1.357E-33	9.036E-30	6.305E-28	5.371E-27	2.549E-26	9.167E-26	1.629E-25
U-238+D	äDSR(j)		2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.616E-17	7.739E-17	1.300E-16	2.187E-16	2.839E-16

The DSR includes contributions from associated (half-life ó 180 days) daughters.

Summary : SMC Recreatioal Hunter Area 4 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109404.RAD

Single Radionuclide Soil Guidelines G(i,t) in pCi/g

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	9.829E+12	4.042E+12	3.849E+12	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.820E+12	2.610E+12	6.694E+13	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	1.720E+01	0.000E+00	5.966E-18	*7.232E+13	1.413E-30	*7.232E+13
Pa-231	1.720E+01	1.000E+03	9.435E-17	*4.723E+10	9.435E-17	*4.723E+10
Pb-210	1.778E+02	0.000E+00	7.949E-21	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	1.778E+02	1.000E+03	1.629E-12	*9.885E+11	1.629E-12	*9.885E+11
Ra-228	4.505E+02	4.112 ñ 0.008	9.520E-12	2.626E+12	0.000E+00	*2.726E+14
Th-228	4.505E+02	0.000E+00	1.374E-11	1.820E+12	0.000E+00	*8.195E+14
Th-230	1.778E+02	1.000E+03	8.797E-13	*2.018E+10	8.797E-13	*2.018E+10
Th-232	4.505E+02	1.000E+03	1.006E-10	*1.097E+05	1.006E-10	*1.097E+05
U-234	2.463E+02	1.000E+03	4.250E-15	*6.247E+09	4.250E-15	*6.247E+09
U-235	1.720E+01	1.000E+03	1.960E-18	*2.161E+06	1.960E-18	*2.161E+06
U-238	2.463E+02	1.000E+03	2.839E-16	*3.361E+05	2.839E-16	*3.361E+05

*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated
DOSE(j,t), mrem/yr

Nuclide (j)	Parent (i)	THF(i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	1.026E-16	9.967E-17	7.673E-17	5.605E-18	1.673E-20	4.992E-23	1.490E-25	4.447E-28	2.430E-29
Ac-227	Pa-231	1.000E+00	1.643E-18	4.871E-18	3.045E-17	1.316E-16	2.375E-16	4.111E-16	7.117E-16	1.232E-15	1.621E-15
Ac-227	U-235	1.000E+00	1.162E-23	8.080E-23	3.573E-21	2.045E-19	1.357E-18	4.106E-18	1.016E-17	2.292E-17	3.367E-17
Ac-227	äDOSE(j)		1.043E-16	1.045E-16	1.072E-16	1.374E-16	2.389E-16	4.153E-16	7.219E-16	1.255E-15	1.655E-15
0Pa-231	Pa-231	1.000E+00	5.473E-20	5.491E-20	5.657E-20	7.624E-20	1.479E-19	2.871E-19	5.570E-19	1.081E-18	1.506E-18
Pa-231	U-235	1.000E+00	5.793E-25	1.743E-24	1.257E-23	1.623E-22	9.443E-22	3.060E-21	8.332E-21	2.084E-20	3.229E-20
Pa-231	äDOSE(j)		5.473E-20	5.491E-20	5.659E-20	7.640E-20	1.489E-19	2.901E-19	5.653E-19	1.102E-18	1.538E-18
0Pb-210	Pb-210	1.000E+00	1.413E-18	1.374E-18	1.063E-18	8.174E-20	2.734E-22	9.147E-25	3.060E-27	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	2.209E-20	6.549E-20	4.092E-19	1.723E-18	2.780E-18	4.281E-18	6.592E-18	1.015E-17	1.260E-17
Pb-210	Th-230	1.000E+00	3.198E-24	2.224E-23	9.827E-22	5.520E-20	3.420E-19	9.604E-19	2.206E-18	4.616E-18	6.534E-18
Pb-210	U-234	1.000E+00	0.000E+00	0.000E+00	4.411E-26	2.785E-23	5.917E-22	2.914E-21	9.662E-21	2.661E-20	4.227E-20
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	2.226E-27	1.553E-25	1.323E-24	6.278E-24	2.258E-23	4.012E-23
Pb-210	äDOSE(j)		1.435E-18	1.439E-18	1.473E-18	1.859E-18	3.123E-18	5.244E-18	8.808E-18	1.479E-17	1.917E-17
0Ra-226	Ra-226	1.000E+00	5.153E-11	5.162E-11	5.243E-11	6.124E-11	8.650E-11	1.222E-10	1.725E-10	2.437E-10	2.896E-10
Ra-226	Th-230	1.000E+00	1.117E-14	3.356E-14	2.390E-13	2.724E-12	1.201E-11	2.951E-11	6.098E-11	1.158E-10	1.564E-10
Ra-226	U-234	1.000E+00	4.643E-20	3.256E-19	1.567E-17	1.719E-15	2.300E-14	9.546E-14	2.799E-13	6.928E-13	1.047E-12
Ra-226	U-238	9.999E-01	3.291E-26	4.945E-25	1.558E-22	1.639E-19	6.602E-18	4.598E-17	1.900E-16	6.088E-16	1.025E-15
Ra-226	äDOSE(j)		5.154E-11	5.165E-11	5.267E-11	6.397E-11	9.853E-11	1.518E-10	2.338E-10	3.602E-10	4.471E-10
0Ra-228	Ra-228	1.000E+00	4.496E-12	3.995E-12	1.379E-12	3.322E-17	1.813E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	2.766E-13	7.891E-13	3.509E-12	6.062E-12	9.777E-12	1.577E-11	2.544E-11	4.103E-11	5.211E-11
Ra-228	äDOSE(j)		4.773E-12	4.784E-12	4.888E-12	6.062E-12	9.777E-12	1.577E-11	2.544E-11	4.103E-11	5.211E-11
0Th-228	Ra-228	1.000E+00	1.141E-09	2.782E-09	2.925E-09	7.264E-14	3.533E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	6.189E-09	4.316E-09	1.683E-10	1.365E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	4.772E-11	2.933E-10	4.420E-09	8.845E-09	1.272E-08	1.828E-08	2.627E-08	3.777E-08	4.528E-08
Th-228	äDOSE(j)		7.378E-09	7.391E-09	7.513E-09	8.845E-09	1.272E-08	1.828E-08	2.627E-08	3.777E-08	4.528E-08
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	9.132E-23	9.169E-23	9.503E-23	1.359E-22	3.009E-22	6.662E-22	1.475E-21	3.266E-21	4.860E-21	
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	5.250E-15	5.264E-15	5.387E-15	6.791E-15	1.136E-14	1.901E-14	3.182E-14	5.325E-14	6.889E-14	
U-238	äDOSE(j)		5.250E-15	5.264E-15	5.387E-15	6.791E-15	1.136E-14	1.901E-14	3.182E-14	5.325E-14	6.889E-14	

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

Summary : SMC Recreatioal Hunter Area 4 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109404.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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00		1.720E+01	1.666E+01	1.251E+01	7.123E-01	1.222E-03	2.095E-06	3.594E-09	6.164E-12	2.553E-13
Ac-227	Pa-231	1.000E+00		0.000E+00	5.389E-01	4.689E+00	1.645E+01	1.707E+01	1.699E+01	1.690E+01	1.681E+01	1.676E+01
Ac-227	U-235	1.000E+00		0.000E+00	5.732E-06	5.223E-04	2.540E-02	9.738E-02	1.694E-01	2.411E-01	3.125E-01	3.480E-01
Ac-227	äS(j):			1.720E+01	1.720E+01	1.720E+01	1.719E+01	1.717E+01	1.716E+01	1.714E+01	1.712E+01	1.711E+01
0Pa-231	Pa-231	1.000E+00		1.720E+01	1.720E+01	1.720E+01	1.715E+01	1.706E+01	1.698E+01	1.689E+01	1.680E+01	1.675E+01
Pa-231	U-235	1.000E+00		0.000E+00	3.639E-04	3.639E-03	3.634E-02	1.087E-01	1.808E-01	2.524E-01	3.237E-01	3.592E-01
Pa-231	äS(j):			1.720E+01	1.720E+01	1.720E+01	1.719E+01	1.717E+01	1.716E+01	1.714E+01	1.712E+01	1.711E+01
0Pb-210	Pb-210	1.000E+00		1.778E+02	1.724E+02	1.303E+02	7.935E+00	1.581E-02	3.149E-05	6.272E-08	1.249E-10	5.576E-12
Pb-210	Ra-226	1.000E+00		0.000E+00	5.440E+00	4.739E+01	1.646E+02	1.583E+02	1.451E+02	1.331E+02	1.220E+02	1.168E+02
Pb-210	Th-230	1.000E+00		0.000E+00	1.185E-03	1.080E-01	5.241E+00	1.943E+01	3.252E+01	4.449E+01	5.545E+01	6.057E+01
Pb-210	U-234	1.000E+00		0.000E+00	4.937E-09	4.607E-06	2.629E-03	3.355E-02	9.854E-02	1.947E-01	3.194E-01	3.917E-01
Pb-210	U-238	9.999E-01		0.000E+00	3.504E-15	3.315E-11	2.090E-07	8.791E-06	4.470E-05	1.264E-04	2.709E-04	3.715E-04
Pb-210	äS(j):			1.778E+02	1.778E+02	1.778E+02	1.777E+02	1.777E+02	1.777E+02	1.778E+02	1.778E+02	1.778E+02
0Ra-226	Ra-226	1.000E+00		1.778E+02	1.777E+02	1.770E+02	1.703E+02	1.561E+02	1.431E+02	1.313E+02	1.204E+02	1.152E+02
Ra-226	Th-230	1.000E+00		0.000E+00	7.701E-02	7.686E-01	7.535E+00	2.164E+01	3.454E+01	4.635E+01	5.715E+01	6.220E+01
Ra-226	U-234	1.000E+00		0.000E+00	4.802E-07	4.795E-05	4.732E-03	4.136E-02	1.116E-01	2.126E-01	3.417E-01	4.161E-01
Ra-226	U-238	9.999E-01		0.000E+00	4.538E-13	4.533E-10	4.488E-07	1.185E-05	5.370E-05	1.442E-04	3.001E-04	4.074E-04
Ra-226	äS(j):			1.778E+02	1.778E+02	1.778E+02	1.778E+02	1.778E+02	1.778E+02	1.778E+02	1.778E+02	1.779E+02
0Ra-228	Ra-228	1.000E+00		4.505E+02	3.993E+02	1.349E+02	2.620E-03	8.866E-14	3.000E-24	1.015E-34	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00		0.000E+00	5.116E+01	3.156E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02
Ra-228	äS(j):			4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02
0Th-228	Ra-228	1.000E+00		0.000E+00	1.285E+02	1.842E+02	3.927E-03	1.329E-13	4.496E-24	1.521E-34	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00		4.505E+02	3.136E+02	1.203E+01	8.289E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00		0.000E+00	8.399E+00	2.543E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02
Th-228	äS(j):			4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02
0Th-230	Th-230	1.000E+00		1.778E+02	1.778E+02	1.778E+02	1.776E+02	1.773E+02	1.770E+02	1.767E+02	1.764E+02	1.762E+02
Th-230	U-234	1.000E+00		0.000E+00	2.217E-03	2.217E-02	2.216E-01	6.640E-01	1.105E+00	1.546E+00	1.985E+00	2.204E+00
Th-230	U-238	9.999E-01		0.000E+00	3.143E-09	3.142E-07	3.141E-05	2.825E-04	7.841E-04	1.536E-03	2.536E-03	3.130E-03
Th-230	äS(j):			1.778E+02	1.778E+02	1.778E+02	1.779E+02	1.780E+02	1.781E+02	1.782E+02	1.783E+02	1.784E+02
0Th-232	Th-232	1.000E+00		4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02	4.505E+02
0U-234	U-234	1.000E+00		2.463E+02	2.463E+02	2.463E+02	2.462E+02	2.461E+02	2.460E+02	2.458E+02	2.457E+02	2.456E+02
U-234	U-238	9.999E-01		0.000E+00	6.982E-04	6.982E-03	6.981E-02	2.094E-01	3.489E-01	4.883E-01	6.276E-01	6.972E-01
U-234	äS(j):			2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02
0U-235	U-235	1.000E+00		1.720E+01	1.720E+01	1.720E+01	1.720E+01	1.720E+01	1.720E+01	1.720E+01	1.720E+01	1.720E+01
0U-238	U-238	5.400E-05		1.330E-02	1.330E-02	1.330E-02	1.330E-02	1.330E-02	1.330E-02	1.330E-02	1.330E-02	1.330E-02
U-238	U-238	9.999E-01		2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02
U-238	äS(j):			2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02	2.463E+02

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

0RESCALC.EXE execution time = 72.38 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)

A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-238	1.180E-01	1.180E-01	DCF2(11)

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

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

Dose Library: FGR 11

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

D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

Menu	Parameter		User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)		8.710E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)		4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)		2.950E+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)		1.000E+01	3.000E+00	---	T(3)
R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	1.690E+01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	1.690E+01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	2.640E+02	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	2.640E+02	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	4.173E+02	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	4.173E+02	0.000E+00	---	S1(6)

R012	Initial principal radionuclide (pCi/g):	Th-230	2.408E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	4.173E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	2.408E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	1.690E+01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	2.408E+02	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)

R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	1.604E+03	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.753E-06	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.257E+04	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.238E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	1.391E+05	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.022E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	1.391E+05	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.022E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	1.391E+05	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.022E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

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

R016	Distribution coefficients for U-234			
R016	Contaminated zone (cm**3/g)	7.297E+05	5.000E+01	--- DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.854E-09 ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used SOLUBK(9)
R016	Distribution coefficients for U-235			
R016	Contaminated zone (cm**3/g)	7.297E+05	5.000E+01	--- DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(10,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.854E-09 ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used SOLUBK(10)
R016	Distribution coefficients for U-238			
R016	Contaminated zone (cm**3/g)	7.297E+05	5.000E+01	--- DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	--- DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.854E-09 ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	--- INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	--- MLINH
R017	Exposure duration	3.000E+01	3.000E+01	--- ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	--- SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	--- SHF1
R017	Fraction of time spent indoors	0.000E+00	5.000E-01	--- FIND
R017	Fraction of time spent outdoors (on site)	9.000E-03	2.500E-01	--- FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA. FS
R017	Radii of shape factor array (used if FS = -1):			
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	--- RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	--- RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	--- RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	--- RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	--- RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	--- RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	--- RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	--- RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	--- RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	--- RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	--- RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	--- RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+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)	1.500E-01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	1.800E+00	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	not used	-1	---	FPLANT
R018	Contamination fraction of meat	3.000E-01	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)

R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	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	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	871.00 square meters	Ac-227	1.690E+01

Thickness:	4.50 meters	Pa-231	1.690E+01
Cover Depth:	1.83 meters	Pb-210	2.640E+02
		Ra-226	2.640E+02
		Ra-228	4.173E+02
		Th-228	4.173E+02
		Th-230	2.408E+02
		Th-232	4.173E+02
		U-234	2.408E+02
		U-235	1.690E+01
		U-238	2.408E+02

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	6.915E-09	6.928E-09	7.042E-09	8.294E-09	1.193E-08	1.717E-08	2.470E-08	3.554E-08	4.263E-08
M(t):	2.766E-10	2.771E-10	2.817E-10	3.318E-10	4.773E-10	6.867E-10	9.880E-10	1.422E-09	1.705E-09

0Maximum TDOSE(t): 4.263E-08 mrem/yr at t = 1.000E+03 years

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

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.008E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.668E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.099E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	7.651E-11	0.0111	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.061E-09	0.1535	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	5.733E-09	0.8290	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.512E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.446E-11	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.539E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.017E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.133E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	6.915E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.008E-16	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.668E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.099E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.651E-11	0.0111
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.061E-09	0.1535
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.733E-09	0.8290
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.512E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.446E-11	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.539E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.017E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.133E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.915E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
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Ac-227	9.793E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	4.840E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.040E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	7.665E-11	0.0111	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.581E-09	0.3726	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	3.997E-09	0.5770	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.545E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.724E-10	0.0393	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.183E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.712E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.146E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	6.928E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.793E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.840E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.040E-18	0.0000

Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.665E-11	0.0111
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.581E-09	0.3726
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.997E-09	0.5770
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.545E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.724E-10	0.0393
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.183E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.712E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.146E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.928E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 3 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109403.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

0 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.
Ac-227	7.539E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.997E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.578E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	7.785E-11	0.0111	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.711E-09	0.3849	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.559E-10	0.0221	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.237E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.097E-09	0.5818	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.532E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.616E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.267E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	7.042E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.539E-17	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.997E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.578E-18	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.785E-11	0.0111
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.711E-09	0.3849
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.559E-10	0.0221
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.237E-13	0.0000

Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.097E-09	0.5818
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.532E-17	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.616E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.267E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.042E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 3 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109403.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	5.508E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.294E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.214E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	9.092E-11	0.0110	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	6.732E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.265E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.689E-12	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	8.199E-09	0.9886	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.681E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.012E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.640E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	8.294E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.508E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.294E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.214E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.092E-11	0.0110
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.732E-14	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.265E-24	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.689E-12	0.0004
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.199E-09	0.9886
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.681E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.012E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.640E-15	0.0000

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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.294E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 3 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109403.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
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Ac-227	1.644E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.335E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	4.060E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.284E-10	0.0108	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.274E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.626E-11	0.0014	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.179E-08	0.9879	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.248E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.335E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.112E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.193E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.644E-20	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.335E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.060E-22	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.284E-10	0.0108
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.274E-24	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.626E-11	0.0014
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.179E-08	0.9879
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.248E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.335E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.112E-14	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.193E-08	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 3 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109403.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 = 5.000E+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.
Ac-227	4.905E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	4.043E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.358E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.813E-10	0.0106	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.996E-11	0.0023	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.695E-08	0.9871	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	9.331E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.038E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.863E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.717E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.905E-23	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.043E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.358E-24	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.813E-10	0.0106
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.996E-11	0.0023
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.695E-08	0.9871
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.331E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.038E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.863E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.717E-08	1.0000

*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 3 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109403.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 = 7.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.464E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.999E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	4.543E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.560E-10	0.0104	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	8.255E-11	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.436E-08	0.9863	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.736E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	9.997E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.130E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.470E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.464E-25	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.999E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.543E-27	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.560E-10	0.0104
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.255E-11	0.0033
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.436E-08	0.9863
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.736E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.997E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.130E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.470E-08	1.0000

*Sum of all water independent and dependent pathways.

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

As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground	Inhalation	Radon	Plant	Meat	Milk	Soil

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	4.369E-28	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.212E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.614E-10	0.0102	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.567E-10	0.0044	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.502E-08	0.9854	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	6.771E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.254E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	5.266E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.554E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years
Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.369E-28	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.212E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.614E-10	0.0102
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.567E-10	0.0044
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.502E-08	0.9854
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.771E-13	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.254E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.266E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.554E-08	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years
Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	2.387E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.594E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.295E-10	0.0101	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.117E-10	0.0050	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.199E-08	0.9849	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.023E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.312E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.836E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	4.263E-08	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.387E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.594E-15	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.295E-10	0.0101
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.117E-10	0.0050
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.199E-08	0.9849
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.023E-12	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.312E-17	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.836E-14	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.263E-08	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	5.966E-18	5.795E-18	4.461E-18	3.259E-19	9.725E-22	2.902E-24	8.662E-27	2.585E-29	1.413E-30
0Pa-231	Pa-231	1.000E+00	3.182E-21	3.193E-21	3.289E-21	4.432E-21	8.601E-21	1.669E-20	3.238E-20	6.284E-20	8.753E-20
Pa-231	Ac-227+D	1.000E+00	9.551E-20	2.832E-19	1.770E-18	7.653E-18	1.381E-17	2.390E-17	4.138E-17	7.164E-17	9.426E-17
Pa-231	äDSR(j)		9.869E-20	2.864E-19	1.773E-18	7.657E-18	1.382E-17	2.392E-17	4.141E-17	7.170E-17	9.435E-17
0Pb-210+D	Pb-210+D	1.000E+00	7.949E-21	7.726E-21	5.978E-21	4.597E-22	1.538E-24	5.145E-27	1.721E-29	5.757E-32	3.330E-33
0Ra-226+D	Ra-226+D	1.000E+00	2.898E-13	2.903E-13	2.949E-13	3.444E-13	4.863E-13	6.866E-13	9.695E-13	1.369E-12	1.627E-12
Ra-226+D	Pb-210+D	1.000E+00	1.242E-22	3.683E-22	2.301E-21	9.687E-21	1.563E-20	2.406E-20	3.704E-20	5.702E-20	7.075E-20
Ra-226+D	äDSR(j)		2.898E-13	2.903E-13	2.949E-13	3.444E-13	4.863E-13	6.866E-13	9.695E-13	1.369E-12	1.627E-12

0Ra-228+D	Ra-228+D	1.000E+00	9.981E-15	8.868E-15	3.062E-15	7.373E-20	4.024E-30	2.196E-40	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	2.534E-12	6.176E-12	6.493E-12	1.612E-16	7.842E-27	3.814E-37	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		2.544E-12	6.185E-12	6.496E-12	1.613E-16	7.846E-27	3.817E-37	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.374E-11	9.579E-12	3.735E-13	3.030E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	2.747E-34	2.762E-34	2.898E-34	4.702E-34	1.378E-33	4.040E-33	1.184E-32	3.470E-32	5.941E-32
Th-230	Ra-226+D	1.000E+00	6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.754E-14	1.659E-13	3.428E-13	6.509E-13	8.791E-13
Th-230	Pb-210+D	1.000E+00	1.799E-26	1.251E-25	5.527E-24	3.105E-22	1.923E-21	5.400E-21	1.240E-20	2.595E-20	3.673E-20
Th-230	äDSR(j)		6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.754E-14	1.659E-13	3.428E-13	6.509E-13	8.791E-13
0Th-232	Th-232	1.000E+00	6.986E-38	7.028E-38	7.417E-38	1.272E-37	4.214E-37	1.396E-36	4.627E-36	1.533E-35	2.791E-35
Th-232	Ra-228+D	1.000E+00	6.139E-16	1.752E-15	7.789E-15	1.346E-14	2.170E-14	3.501E-14	5.646E-14	9.107E-14	1.157E-13
Th-232	Th-228+D	1.000E+00	1.059E-13	6.509E-13	9.810E-12	1.963E-11	2.822E-11	4.057E-11	5.832E-11	8.383E-11	1.005E-10
Th-232	äDSR(j)		1.065E-13	6.527E-13	9.818E-12	1.965E-11	2.825E-11	4.061E-11	5.838E-11	8.393E-11	1.006E-10
0U-234	U-234	1.000E+00	6.536E-36	6.573E-36	6.911E-36	1.142E-35	3.491E-35	1.066E-34	3.258E-34	9.955E-34	1.740E-33
U-234	Th-230	1.000E+00	1.237E-39	3.730E-39	2.740E-38	4.256E-37	3.732E-36	1.823E-35	7.482E-35	2.821E-34	5.367E-34
U-234	Ra-226+D	1.000E+00	1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.335E-17	3.875E-16	1.136E-15	2.812E-15	4.248E-15
U-234	Pb-210+D	1.000E+00	4.055E-32	6.055E-31	1.791E-28	1.131E-25	2.402E-24	1.183E-23	3.922E-23	1.080E-22	1.716E-22
U-234	äDSR(j)		1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.335E-17	3.875E-16	1.136E-15	2.812E-15	4.248E-15
0U-235+D	U-235+D	1.000E+00	5.309E-24	5.331E-24	5.525E-24	7.901E-24	1.749E-23	3.873E-23	8.576E-23	1.899E-22	2.826E-22
U-235+D	Pa-231	1.000E+00	3.368E-26	1.013E-25	7.309E-25	9.438E-24	5.490E-23	1.779E-22	4.844E-22	1.212E-21	1.878E-21
U-235+D	Ac-227+D	1.000E+00	6.756E-25	4.697E-24	2.077E-22	1.189E-20	7.890E-20	2.387E-19	5.910E-19	1.332E-18	1.958E-18
U-235+D	äDSR(j)		6.019E-24	1.013E-23	2.140E-22	1.191E-20	7.898E-20	2.389E-19	5.915E-19	1.334E-18	1.960E-18
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.614E-17	7.720E-17	1.292E-16	2.162E-16	2.797E-16
U-238+D	U-234	9.999E-01	9.272E-42	2.796E-41	2.057E-40	3.255E-39	2.975E-38	1.514E-37	6.477E-37	2.545E-36	4.942E-36
U-238+D	Th-230	9.999E-01	1.401E-45	8.408E-45	4.078E-43	6.063E-41	1.590E-39	1.294E-38	7.439E-38	3.607E-37	7.626E-37
U-238+D	Ra-226+D	9.999E-01	1.336E-28	2.008E-27	6.325E-25	6.654E-22	2.680E-20	1.866E-19	7.714E-19	2.471E-18	4.162E-18
U-238+D	Pb-210+D	9.999E-01	2.302E-38	7.113E-37	1.357E-33	9.036E-30	6.304E-28	5.370E-27	2.548E-26	9.164E-26	1.628E-25
U-238+D	äDSR(j)		2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.616E-17	7.739E-17	1.300E-16	2.187E-16	2.839E-16

The DSR includes contributions from associated (half-life ó 180 days) daughters.

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	9.829E+12	4.042E+12	3.849E+12	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.820E+12	2.610E+12	6.694E+13	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

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*At specific activity limit
0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	1.690E+01	0.000E+00	5.966E-18	*7.232E+13	1.413E-30	*7.232E+13
Pa-231	1.690E+01	1.000E+03	9.435E-17	*4.723E+10	9.435E-17	*4.723E+10
Pb-210	2.640E+02	0.000E+00	7.949E-21	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	2.640E+02	1.000E+03	1.627E-12	*9.885E+11	1.627E-12	*9.885E+11
Ra-228	4.173E+02	4.112 ñ 0.008	9.520E-12	2.626E+12	0.000E+00	*2.726E+14
Th-228	4.173E+02	0.000E+00	1.374E-11	1.820E+12	0.000E+00	*8.195E+14
Th-230	2.408E+02	1.000E+03	8.791E-13	*2.018E+10	8.791E-13	*2.018E+10
Th-232	4.173E+02	1.000E+03	1.006E-10	*1.097E+05	1.006E-10	*1.097E+05
U-234	2.408E+02	1.000E+03	4.248E-15	*6.247E+09	4.248E-15	*6.247E+09
U-235	1.690E+01	1.000E+03	1.960E-18	*2.161E+06	1.960E-18	*2.161E+06
U-238	2.408E+02	1.000E+03	2.839E-16	*3.361E+05	2.839E-16	*3.361E+05

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*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	1.008E-16	9.793E-17	7.539E-17	5.508E-18	1.644E-20	4.905E-23	1.464E-25	4.369E-28	2.387E-29
Ac-227	Pa-231	1.000E+00	1.614E-18	4.786E-18	2.992E-17	1.293E-16	2.334E-16	4.040E-16	6.993E-16	1.211E-15	1.593E-15
Ac-227	U-235	1.000E+00	1.142E-23	7.939E-23	3.511E-21	2.009E-19	1.333E-18	4.034E-18	9.987E-18	2.252E-17	3.308E-17
Ac-227	äDOSE(j)		1.024E-16	1.027E-16	1.053E-16	1.350E-16	2.347E-16	4.080E-16	7.093E-16	1.233E-15	1.626E-15
0Pa-231	Pa-231	1.000E+00	5.378E-20	5.395E-20	5.559E-20	7.491E-20	1.454E-19	2.820E-19	5.473E-19	1.062E-18	1.479E-18
Pa-231	U-235	1.000E+00	5.692E-25	1.713E-24	1.235E-23	1.595E-22	9.278E-22	3.007E-21	8.187E-21	2.048E-20	3.173E-20
Pa-231	äDOSE(j)		5.378E-20	5.396E-20	5.560E-20	7.507E-20	1.463E-19	2.851E-19	5.555E-19	1.082E-18	1.511E-18
0Pb-210	Pb-210	1.000E+00	2.099E-18	2.040E-18	1.578E-18	1.214E-19	4.060E-22	1.358E-24	4.543E-27	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	3.279E-20	9.724E-20	6.075E-19	2.557E-18	4.126E-18	6.352E-18	9.779E-18	1.505E-17	1.868E-17
Pb-210	Th-230	1.000E+00	4.332E-24	3.012E-23	1.331E-21	7.476E-20	4.631E-19	1.300E-18	2.986E-18	6.248E-18	8.844E-18
Pb-210	U-234	1.000E+00	0.000E+00	0.000E+00	4.313E-26	2.722E-23	5.784E-22	2.848E-21	9.443E-21	2.600E-20	4.131E-20
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	2.176E-27	1.518E-25	1.293E-24	6.136E-24	2.207E-23	3.921E-23
Pb-210	äDOSE(j)		2.131E-18	2.137E-18	2.187E-18	2.754E-18	4.590E-18	7.655E-18	1.277E-17	2.133E-17	2.756E-17
0Ra-226	Ra-226	1.000E+00	7.651E-11	7.665E-11	7.785E-11	9.092E-11	1.284E-10	1.813E-10	2.560E-10	3.614E-10	4.295E-10
Ra-226	Th-230	1.000E+00	1.512E-14	4.545E-14	3.237E-13	3.689E-12	1.626E-11	3.996E-11	8.255E-11	1.567E-10	2.117E-10
Ra-226	U-234	1.000E+00	4.539E-20	3.183E-19	1.532E-17	1.681E-15	2.248E-14	9.331E-14	2.736E-13	6.771E-13	1.023E-12
Ra-226	U-238	9.999E-01	3.217E-26	4.834E-25	1.523E-22	1.602E-19	6.454E-18	4.494E-17	1.857E-16	5.950E-16	1.002E-15

Ra-226	äDOSE(j)		7.653E-11	7.669E-11	7.817E-11	9.461E-11	1.447E-10	2.213E-10	3.388E-10	5.188E-10	6.422E-10
0Ra-228	Ra-228	1.000E+00	4.165E-12	3.701E-12	1.278E-12	3.077E-17	1.679E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	2.562E-13	7.309E-13	3.250E-12	5.615E-12	9.057E-12	1.461E-11	2.356E-11	3.801E-11	4.827E-11
Ra-228	äDOSE(j)		4.421E-12	4.432E-12	4.528E-12	5.615E-12	9.057E-12	1.461E-11	2.356E-11	3.801E-11	4.827E-11
0Th-228	Ra-228	1.000E+00	1.057E-09	2.577E-09	2.709E-09	6.729E-14	3.273E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	5.733E-09	3.997E-09	1.559E-10	1.265E-24	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	4.421E-11	2.716E-10	4.094E-09	8.194E-09	1.178E-08	1.693E-08	2.434E-08	3.498E-08	4.194E-08
Th-228	äDOSE(j)		6.834E-09	6.846E-09	6.959E-09	8.194E-09	1.178E-08	1.693E-08	2.434E-08	3.498E-08	4.194E-08
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	8.973E-23	9.009E-23	9.337E-23	1.335E-22	2.956E-22	6.546E-22	1.449E-21	3.209E-21	4.775E-21
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	5.133E-15	5.146E-15	5.267E-15	6.640E-15	1.111E-14	1.859E-14	3.111E-14	5.206E-14	6.736E-14
U-238	äDOSE(j)		5.133E-15	5.146E-15	5.267E-15	6.640E-15	1.111E-14	1.859E-14	3.111E-14	5.206E-14	6.736E-14
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ

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

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ
Ac-227	Ac-227	1.000E+00	1.690E+01	1.637E+01	1.229E+01	6.999E-01	1.200E-03	2.059E-06	3.531E-09	6.056E-12	2.508E-13
Ac-227	Pa-231	1.000E+00	0.000E+00	5.295E-01	4.607E+00	1.617E+01	1.678E+01	1.669E+01	1.660E+01	1.652E+01	1.647E+01
Ac-227	U-235	1.000E+00	0.000E+00	5.632E-06	5.132E-04	2.496E-02	9.568E-02	1.665E-01	2.369E-01	3.070E-01	3.419E-01
Ac-227	äS(j):		1.690E+01	1.690E+01	1.690E+01	1.689E+01	1.687E+01	1.686E+01	1.684E+01	1.682E+01	1.681E+01
0Pa-231	Pa-231	1.000E+00	1.690E+01	1.690E+01	1.690E+01	1.686E+01	1.677E+01	1.668E+01	1.659E+01	1.651E+01	1.646E+01
Pa-231	U-235	1.000E+00	0.000E+00	3.576E-04	3.575E-03	3.571E-02	1.069E-01	1.776E-01	2.480E-01	3.180E-01	3.529E-01
Pa-231	äS(j):		1.690E+01	1.690E+01	1.690E+01	1.689E+01	1.687E+01	1.686E+01	1.684E+01	1.682E+01	1.681E+01
0Pb-210	Pb-210	1.000E+00	2.640E+02	2.559E+02	1.934E+02	1.178E+01	2.347E-02	4.675E-05	9.313E-08	1.855E-10	8.279E-12
Pb-210	Ra-226	1.000E+00	0.000E+00	8.078E+00	7.037E+01	2.443E+02	2.349E+02	2.153E+02	1.974E+02	1.810E+02	1.732E+02
Pb-210	Th-230	1.000E+00	0.000E+00	1.604E-03	1.463E-01	7.097E+00	2.631E+01	4.403E+01	6.023E+01	7.505E+01	8.198E+01
Pb-210	U-234	1.000E+00	0.000E+00	4.827E-09	4.504E-06	2.570E-03	3.280E-02	9.632E-02	1.903E-01	3.122E-01	3.828E-01
Pb-210	U-238	9.999E-01	0.000E+00	3.426E-15	3.241E-11	2.043E-07	8.594E-06	4.369E-05	1.236E-04	2.648E-04	3.631E-04
Pb-210	äS(j):		2.640E+02	2.640E+02	2.640E+02	2.632E+02	2.613E+02	2.595E+02	2.578E+02	2.563E+02	2.556E+02
0Ra-226	Ra-226	1.000E+00	2.640E+02	2.639E+02	2.629E+02	2.528E+02	2.317E+02	2.124E+02	1.947E+02	1.785E+02	1.709E+02
Ra-226	Th-230	1.000E+00	0.000E+00	1.043E-01	1.041E+00	1.020E+01	2.930E+01	4.677E+01	6.275E+01	7.736E+01	8.418E+01
Ra-226	U-234	1.000E+00	0.000E+00	4.695E-07	4.688E-05	4.626E-03	4.043E-02	1.091E-01	2.078E-01	3.340E-01	4.066E-01
Ra-226	U-238	9.999E-01	0.000E+00	4.436E-13	4.432E-10	4.388E-07	1.159E-05	5.249E-05	1.410E-04	2.933E-04	3.981E-04
Ra-226	äS(j):		2.640E+02	2.640E+02	2.639E+02	2.630E+02	2.610E+02	2.593E+02	2.577E+02	2.562E+02	2.555E+02
0Ra-228	Ra-228	1.000E+00	4.173E+02	3.699E+02	1.250E+02	2.427E-03	8.213E-14	2.779E-24	9.403E-35	0.000E+00	0.000E+00

Ra-228	Th-232	1.000E+00	0.000E+00	4.739E+01	2.923E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02
Ra-228	äS(j):		4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02
0Th-228	Ra-228	1.000E+00	0.000E+00	1.191E+02	1.706E+02	3.638E-03	1.231E-13	4.165E-24	1.409E-34	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	4.173E+02	2.905E+02	1.114E+01	7.678E-14	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	7.780E+00	2.355E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02
Th-228	äS(j):		4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02
0Th-230	Th-230	1.000E+00	2.408E+02	2.408E+02	2.408E+02	2.406E+02	2.401E+02	2.397E+02	2.393E+02	2.389E+02	2.386E+02
Th-230	U-234	1.000E+00	0.000E+00	2.168E-03	2.168E-02	2.166E-01	6.491E-01	1.081E+00	1.511E+00	1.941E+00	2.155E+00
Th-230	U-238	9.999E-01	0.000E+00	3.072E-09	3.072E-07	3.071E-05	2.762E-04	7.666E-04	1.501E-03	2.480E-03	3.060E-03
Th-230	äS(j):		2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02
0Th-232	Th-232	1.000E+00	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02	4.173E+02
0U-234	U-234	1.000E+00	2.408E+02	2.408E+02	2.408E+02	2.407E+02	2.406E+02	2.405E+02	2.403E+02	2.402E+02	2.401E+02
U-234	U-238	9.999E-01	0.000E+00	6.826E-04	6.826E-03	6.825E-02	2.047E-01	3.411E-01	4.774E-01	6.136E-01	6.817E-01
U-234	äS(j):		2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02
0U-235	U-235	1.000E+00	1.690E+01	1.690E+01	1.690E+01	1.690E+01	1.690E+01	1.690E+01	1.690E+01	1.690E+01	1.690E+01
0U-238	U-238	5.400E-05	1.300E-02	1.300E-02	1.300E-02	1.300E-02	1.300E-02	1.300E-02	1.300E-02	1.300E-02	1.300E-02
U-238	U-238	9.999E-01	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02
U-238	äS(j):		2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02	2.408E+02
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THF(i) is the thread fraction of the parent nuclide.

0RESCALC.EXE execution time = 73.49 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary 6
Summary of Pathway Selections 12
Contaminated Zone and Total Dose Summary 13
Total Dose Components
Time = 0.000E+00 14
Time = 1.000E+00 15
Time = 1.000E+01 16
Time = 1.000E+02 17
Time = 3.000E+02 18
Time = 5.000E+02 19
Time = 7.000E+02 20
Time = 9.000E+02 21
Time = 1.000E+03 22
Dose/Source Ratios Summed Over All Pathways 23
Single Radionuclide Soil Guidelines 24
Dose Per Nuclide Summed Over All Pathways 25
Soil Concentration Per Nuclide 26

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)
A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)

A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)

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

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

D-34	Ac-227+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,2)
D-34	Ac-227+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,3)
D-34					
D-34	Pa-231	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pa-231	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(2,2)
D-34	Pa-231	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(2,3)
D-34					
D-34	Pb-210+D	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(3,1)
D-34	Pb-210+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(3,2)
D-34	Pb-210+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(3,3)
D-34					
D-34	Ra-226+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(4,1)
D-34	Ra-226+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,2)
D-34	Ra-226+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,3)
D-34					
D-34	Ra-228+D	, plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(5,1)
D-34	Ra-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,2)
D-34	Ra-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(5,3)
D-34					
D-34	Th-228+D	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Th-228+D	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Th-228+D	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(6,3)
D-34					
D-34	Th-230	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Th-230	, beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Th-230	, milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(7,3)
D-34					

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

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

D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(2,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(2,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(3,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(3,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(4,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(4,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(5,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(5,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(6,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(6,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(7,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(7,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(8,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(8,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(9,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(10,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(10,2)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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

Site-Specific Parameter Summary

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	2.900E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	1.700E+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)	1.000E+01	3.000E+00	---	T(3)

R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	2.000E-01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	2.000E-01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	1.900E+00	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	1.900E+00	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	3.500E+00	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	3.500E+00	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g):	Th-230	2.900E+00	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	3.500E+00	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	2.900E+00	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	2.000E-01	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	2.900E+00	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)		not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient		7.300E-01	5.000E-01	---	EVAPTR

Site-Specific Parameter Summary (continued)

Menu	Parameter		User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Precipitation (m/yr)		1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)		0.000E+00	2.000E-01	---	RI
R013	Irrigation mode		overhead	overhead	---	IDITCH
R013	Runoff coefficient		9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)		2.770E+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)		1.510E+00	1.500E+00	---	DENSAQ

R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	5.030E+04	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.591E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.099E+05	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.560E-08	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	1.680E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.674E-07	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	1.393E+04	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.019E-07	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	0.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	9.000E-03	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)

Summary : SMC Recreational Hunter Area 2 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109402.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)

R018	Meat and poultry consumption (kg/yr)	6.300E+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)	1.500E-01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	1.800E+00	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	not used	-1	---	FPLANT
R018	Contamination fraction of meat	3.000E-01	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	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	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN

C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

Summary of Pathway Selections

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

Contaminated Zone Dimensions	
Area:	290.00 square meters
Thickness:	4.50 meters
Cover Depth:	1.83 meters

Initial Soil Concentrations, pCi/g	
Ac-227	2.000E-01
Pa-231	2.000E-01
Pb-210	1.900E+00
Ra-226	1.900E+00
Ra-228	3.500E+00
Th-228	3.500E+00
Th-230	2.900E+00
Th-232	3.500E+00
U-234	2.900E+00
U-235	2.000E-01
U-238	2.900E+00

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	5.791E-11	5.801E-11	5.897E-11	6.947E-11	9.998E-11	1.439E-10	2.071E-10	2.982E-10	3.578E-10
M(t):	2.316E-12	2.320E-12	2.359E-12	2.779E-12	3.999E-12	5.756E-12	8.286E-12	1.193E-11	1.431E-11

0Maximum TDOSE(t): 3.578E-10 mrem/yr at t = 1.000E+03 years

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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.193E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.974E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.510E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.507E-13	0.0095	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	8.902E-12	0.1537	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	4.808E-11	0.8303	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.821E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.729E-13	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	5.466E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.204E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.182E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.791E-11	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water	Fish	Radon	Plant	Meat	Milk	All Pathways*
Radio-							

Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.193E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.974E-20	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.510E-20	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.507E-13	0.0095
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.902E-12	0.1537
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.808E-11	0.8303
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.821E-16	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.729E-13	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.466E-22	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.204E-24	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.182E-17	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.791E-11	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 2 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109402.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

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.159E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	5.728E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.468E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.516E-13	0.0095	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.165E-11	0.3732	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	3.353E-11	0.5779	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	5.474E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.284E-12	0.0394	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.833E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.026E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.198E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.801E-11	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+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-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.728E-20	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.468E-20	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.516E-13	0.0095
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.165E-11	0.3732
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.353E-11	0.5779
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.474E-16	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.284E-12	0.0394
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.833E-21	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.026E-24	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.198E-17	0.0000

Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.801E-11	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
0 Water Independent Pathways (Inhalation excludes radon)

0 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.
Ac-227	8.922E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.547E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.136E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.603E-13	0.0095	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.274E-11	0.3855	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.307E-12	0.0222	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.899E-15	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.436E-11	0.5827	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.845E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.280E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.343E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.897E-11	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
0 Water Dependent Pathways

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.922E-19	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.547E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+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-20	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.603E-13	0.0095
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.274E-11	0.3855
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.307E-12	0.0222
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.899E-15	0.0001
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.436E-11	0.5827
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.845E-19	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.280E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.343E-17	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.897E-11	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years
0 Water Independent Pathways (Inhalation excludes radon)

0 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.

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Ac-227	6.518E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.531E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	8.735E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	6.545E-13	0.0094	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	5.646E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.061E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.443E-14	0.0006	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	6.877E-11	0.9899	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.025E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.381E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	7.996E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	6.947E-11	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.518E-20	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.531E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.735E-22	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.545E-13	0.0094
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.646E-16	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.061E-26	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.443E-14	0.0006
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.877E-11	0.9899
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.025E-17	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.381E-21	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.996E-17	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.947E-11	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 2 Controls Fail Restricted Area
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109402.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

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	1.945E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.764E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.922E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	9.244E-13	0.0092	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	2.746E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.959E-13	0.0020	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	9.886E-11	0.9888	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.708E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.579E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.339E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ

Total	9.998E-11	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.945E-22	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.764E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.922E-24	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.244E-13	0.0092
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.746E-26	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.959E-13	0.0020
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.886E-11	0.9888
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.708E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.579E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.339E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.998E-11	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 2 Controls Fail Restricted Area
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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	5.804E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	4.784E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	9.775E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.306E-12	0.0091	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.814E-13	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.421E-10	0.9876	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.124E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	4.778E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.244E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.439E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.804E-25	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.784E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.775E-27	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.306E-12	0.0091

Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.814E-13	0.0033
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.421E-10	0.9876
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.124E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.778E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.244E-16	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.439E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.732E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	8.282E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.270E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.844E-12	0.0089	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	9.947E-13	0.0048	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.043E-10	0.9863	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.296E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.183E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	3.768E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	2.071E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years
Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.732E-27	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.282E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.270E-29	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.844E-12	0.0089
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.947E-13	0.0048
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.043E-10	0.9863
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.296E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.183E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.768E-16	0.0000
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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	2.071E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	5.171E-30	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.434E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.605E-12	0.0087	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.889E-12	0.0063	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.937E-10	0.9849	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	8.158E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.667E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.341E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	2.982E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years
Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.171E-30	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.434E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.605E-12	0.0087
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.889E-12	0.0063
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.937E-10	0.9849
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.158E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.667E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.341E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.982E-10	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years
Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	2.825E-31	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.887E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	3.096E-12	0.0087	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	2.551E-12	0.0071	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.521E-10	0.9842	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.233E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.919E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	8.231E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	3.578E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 Water Dependent Pathways

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.825E-31	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.887E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.096E-12	0.0087
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.551E-12	0.0071
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.521E-10	0.9842
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.233E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.919E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.231E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.578E-10	1.0000

0*Sum of all water independent and dependent pathways.

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

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	5.966E-18	5.795E-18	4.461E-18	3.259E-19	9.725E-22	2.902E-24	8.662E-27	2.585E-29	1.413E-30
0Pa-231	Pa-231	1.000E+00	3.182E-21	3.193E-21	3.289E-21	4.432E-21	8.601E-21	1.669E-20	3.238E-20	6.284E-20	8.753E-20
Pa-231	Ac-227+D	1.000E+00	9.551E-20	2.832E-19	1.770E-18	7.653E-18	1.381E-17	2.390E-17	4.138E-17	7.164E-17	9.426E-17
Pa-231	äDSR(j)		9.869E-20	2.864E-19	1.773E-18	7.657E-18	1.382E-17	2.392E-17	4.141E-17	7.170E-17	9.435E-17
0Pb-210+D	Pb-210+D	1.000E+00	7.949E-21	7.726E-21	5.978E-21	4.597E-22	1.538E-24	5.145E-27	1.721E-29	5.757E-32	3.330E-33
0Ra-226+D	Ra-226+D	1.000E+00	2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.629E-12
Ra-226+D	Pb-210+D	1.000E+00	1.242E-22	3.683E-22	2.301E-21	9.688E-21	1.564E-20	2.408E-20	3.708E-20	5.711E-20	7.087E-20
Ra-226+D	äDSR(j)		2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.629E-12
0Ra-228+D	Ra-228+D	1.000E+00	9.981E-15	8.868E-15	3.062E-15	7.373E-20	4.024E-30	2.196E-40	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	2.534E-12	6.176E-12	6.493E-12	1.612E-16	7.843E-27	3.815E-37	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		2.544E-12	6.185E-12	6.496E-12	1.613E-16	7.847E-27	3.817E-37	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.374E-11	9.579E-12	3.735E-13	3.030E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	2.747E-34	2.762E-34	2.898E-34	4.702E-34	1.378E-33	4.039E-33	1.184E-32	3.470E-32	5.940E-32
Th-230	Ra-226+D	1.000E+00	6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.513E-13	8.798E-13
Th-230	Pb-210+D	1.000E+00	1.799E-26	1.251E-25	5.527E-24	3.105E-22	1.924E-21	5.402E-21	1.241E-20	2.596E-20	3.675E-20
Th-230	äDSR(j)		6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.513E-13	8.798E-13
0Th-232	Th-232	1.000E+00	6.986E-38	7.028E-38	7.417E-38	1.272E-37	4.214E-37	1.396E-36	4.627E-36	1.533E-35	2.791E-35
Th-232	Ra-228+D	1.000E+00	6.139E-16	1.752E-15	7.789E-15	1.346E-14	2.170E-14	3.500E-14	5.646E-14	9.106E-14	1.157E-13
Th-232	Th-228+D	1.000E+00	1.059E-13	6.509E-13	9.810E-12	1.963E-11	2.822E-11	4.057E-11	5.831E-11	8.382E-11	1.005E-10
Th-232	äDSR(j)		1.065E-13	6.527E-13	9.818E-12	1.965E-11	2.824E-11	4.060E-11	5.837E-11	8.391E-11	1.006E-10

0U-234	U-234	1.000E+00	6.536E-36	6.573E-36	6.911E-36	1.142E-35	3.490E-35	1.066E-34	3.258E-34	9.953E-34	1.740E-33
U-234	Th-230	1.000E+00	1.237E-39	3.730E-39	2.740E-38	4.256E-37	3.732E-36	1.823E-35	7.481E-35	2.820E-34	5.366E-34
U-234	Ra-226+D	1.000E+00	1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.876E-16	1.137E-15	2.813E-15	4.250E-15
U-234	Pb-210+D	1.000E+00	4.055E-32	6.055E-31	1.791E-28	1.131E-25	2.402E-24	1.183E-23	3.923E-23	1.080E-22	1.716E-22
U-234	äDSR(j)		1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.876E-16	1.137E-15	2.813E-15	4.250E-15
0U-235+D	U-235+D	1.000E+00	5.309E-24	5.331E-24	5.525E-24	7.900E-24	1.749E-23	3.873E-23	8.575E-23	1.899E-22	2.825E-22
U-235+D	Pa-231	1.000E+00	3.368E-26	1.013E-25	7.309E-25	9.438E-24	5.490E-23	1.779E-22	4.844E-22	1.211E-21	1.877E-21
U-235+D	Ac-227+D	1.000E+00	6.756E-25	4.697E-24	2.077E-22	1.189E-20	7.890E-20	2.387E-19	5.909E-19	1.332E-18	1.957E-18
U-235+D	äDSR(j)		6.019E-24	1.013E-23	2.140E-22	1.191E-20	7.897E-20	2.389E-19	5.915E-19	1.334E-18	1.959E-18
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.613E-17	7.719E-17	1.292E-16	2.162E-16	2.797E-16
U-238+D	U-234	9.999E-01	9.272E-42	2.796E-41	2.057E-40	3.255E-39	2.975E-38	1.514E-37	6.476E-37	2.544E-36	4.941E-36
U-238+D	Th-230	9.999E-01	1.401E-45	8.408E-45	4.078E-43	6.063E-41	1.590E-39	1.294E-38	7.438E-38	3.606E-37	7.625E-37
U-238+D	Ra-226+D	9.999E-01	1.336E-28	2.008E-27	6.325E-25	6.655E-22	2.680E-20	1.867E-19	7.715E-19	2.472E-18	4.163E-18
U-238+D	Pb-210+D	9.999E-01	2.302E-38	7.113E-37	1.357E-33	9.036E-30	6.305E-28	5.371E-27	2.549E-26	9.166E-26	1.629E-25
U-238+D	äDSR(j)		2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.616E-17	7.738E-17	1.299E-16	2.186E-16	2.838E-16

The DSR includes contributions from associated (half-life ó 180 days) daughters.

Summary : SMC Recreational Hunter Area 2 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109402.RAD

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

0Nuclide

(i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	9.829E+12	4.042E+12	3.849E+12	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.820E+12	2.610E+12	6.694E+13	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin) (pCi/g)	G(i,tmin) (pCi/g)	DSR(i,tmax) (pCi/g)	G(i,tmax) (pCi/g)
Ac-227	2.000E-01	0.000E+00	5.966E-18	*7.232E+13	1.413E-30	*7.232E+13
Pa-231	2.000E-01	1.000E+03	9.435E-17	*4.723E+10	9.435E-17	*4.723E+10
Pb-210	1.900E+00	0.000E+00	7.949E-21	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	1.900E+00	1.000E+03	1.629E-12	*9.885E+11	1.629E-12	*9.885E+11
Ra-228	3.500E+00	4.112 ñ 0.008	9.520E-12	2.626E+12	0.000E+00	*2.726E+14
Th-228	3.500E+00	0.000E+00	1.374E-11	1.820E+12	0.000E+00	*8.195E+14
Th-230	2.900E+00	1.000E+03	8.798E-13	*2.018E+10	8.798E-13	*2.018E+10
Th-232	3.500E+00	1.000E+03	1.006E-10	*1.097E+05	1.006E-10	*1.097E+05
U-234	2.900E+00	1.000E+03	4.250E-15	*6.247E+09	4.250E-15	*6.247E+09
U-235	2.000E-01	1.000E+03	1.959E-18	*2.161E+06	1.959E-18	*2.161E+06
U-238	2.900E+00	1.000E+03	2.838E-16	*3.361E+05	2.838E-16	*3.361E+05

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	1.193E-18	1.159E-18	8.922E-19	6.518E-20	1.945E-22	5.804E-25	1.732E-27	5.171E-30	2.825E-31
Ac-227	Pa-231	1.000E+00	1.910E-20	5.664E-20	3.540E-19	1.531E-18	2.762E-18	4.781E-18	8.276E-18	1.433E-17	1.885E-17
Ac-227	U-235	1.000E+00	1.351E-25	9.395E-25	4.155E-23	2.378E-21	1.578E-20	4.774E-20	1.182E-19	2.665E-19	3.915E-19
Ac-227	äDOSE(j)		1.212E-18	1.216E-18	1.246E-18	1.598E-18	2.778E-18	4.829E-18	8.394E-18	1.459E-17	1.924E-17
0Pa-231	Pa-231	1.000E+00	6.364E-22	6.385E-22	6.578E-22	8.865E-22	1.720E-21	3.338E-21	6.477E-21	1.257E-20	1.751E-20
Pa-231	U-235	1.000E+00	6.736E-27	2.027E-26	1.462E-25	1.888E-24	1.098E-23	3.558E-23	9.688E-23	2.423E-22	3.755E-22
Pa-231	äDOSE(j)		6.364E-22	6.385E-22	6.580E-22	8.884E-22	1.731E-21	3.373E-21	6.574E-21	1.281E-20	1.788E-20
0Pb-210	Pb-210	1.000E+00	1.510E-20	1.468E-20	1.136E-20	8.735E-22	2.922E-24	9.775E-27	3.270E-29	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	2.360E-22	6.998E-22	4.372E-21	1.841E-20	2.971E-20	4.575E-20	7.046E-20	1.085E-19	1.346E-19
Pb-210	Th-230	1.000E+00	5.217E-26	3.627E-25	1.603E-23	9.004E-22	5.578E-21	1.567E-20	3.598E-20	7.529E-20	1.066E-19
Pb-210	U-234	1.000E+00	0.000E+00	0.000E+00	5.194E-28	3.279E-25	6.966E-24	3.430E-23	1.138E-22	3.133E-22	4.977E-22
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	2.620E-29	1.828E-27	1.558E-26	7.391E-26	2.658E-25	4.724E-25
Pb-210	äDOSE(j)		1.534E-20	1.538E-20	1.575E-20	2.018E-20	3.530E-20	6.145E-20	1.066E-19	1.841E-19	2.417E-19
0Ra-226	Ra-226	1.000E+00	5.507E-13	5.516E-13	5.603E-13	6.545E-13	9.244E-13	1.306E-12	1.844E-12	2.605E-12	3.096E-12
Ra-226	Th-230	1.000E+00	1.821E-16	5.474E-16	3.899E-15	4.443E-14	1.959E-13	4.814E-13	9.947E-13	1.889E-12	2.551E-12
Ra-226	U-234	1.000E+00	5.466E-22	3.833E-21	1.845E-19	2.025E-17	2.708E-16	1.124E-15	3.296E-15	8.158E-15	1.233E-14
Ra-226	U-238	9.999E-01	3.875E-28	5.822E-27	1.834E-24	1.930E-21	7.773E-20	5.413E-19	2.237E-18	7.168E-18	1.207E-17
Ra-226	äDOSE(j)		5.509E-13	5.522E-13	5.642E-13	6.989E-13	1.121E-12	1.788E-12	2.842E-12	4.502E-12	5.660E-12
0Ra-228	Ra-228	1.000E+00	3.493E-14	3.104E-14	1.072E-14	2.581E-19	1.408E-29	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	2.149E-15	6.130E-15	2.726E-14	4.709E-14	7.596E-14	1.225E-13	1.976E-13	3.187E-13	4.048E-13
Ra-228	äDOSE(j)		3.708E-14	3.717E-14	3.798E-14	4.709E-14	7.596E-14	1.225E-13	1.976E-13	3.187E-13	4.048E-13
0Th-228	Ra-228	1.000E+00	8.867E-12	2.162E-11	2.272E-11	5.644E-16	2.745E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	4.808E-11	3.353E-11	1.307E-12	1.061E-26	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	3.708E-13	2.278E-12	3.434E-11	6.872E-11	9.878E-11	1.420E-10	2.041E-10	2.934E-10	3.517E-10
Th-228	äDOSE(j)		5.732E-11	5.742E-11	5.837E-11	6.872E-11	9.878E-11	1.420E-10	2.041E-10	2.934E-10	3.517E-10
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	1.062E-24	1.066E-24	1.105E-24	1.580E-24	3.498E-24	7.746E-24	1.715E-23	3.797E-23	5.650E-23
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	6.182E-17	6.198E-17	6.343E-17	7.996E-17	1.338E-16	2.239E-16	3.746E-16	6.269E-16	8.110E-16
U-238	äDOSE(j)		6.182E-17	6.198E-17	6.343E-17	7.996E-17	1.338E-16	2.239E-16	3.746E-16	6.269E-16	8.110E-16
fffffff	fffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff	fffffffff

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

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03

ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ
Ac-227	Ac-227	1.000E+00	2.000E-01	1.937E-01	1.455E-01	8.283E-03	1.421E-05	2.436E-08	4.179E-11	7.167E-14	2.968E-15
Ac-227	Pa-231	1.000E+00	0.000E+00	6.267E-03	5.452E-02	1.913E-01	1.985E-01	1.975E-01	1.965E-01	1.954E-01	1.949E-01
Ac-227	U-235	1.000E+00	0.000E+00	6.665E-08	6.074E-06	2.954E-04	1.132E-03	1.970E-03	2.804E-03	3.633E-03	4.046E-03
Ac-227	äS(j):		2.000E-01	2.000E-01	2.000E-01	1.999E-01	1.997E-01	1.995E-01	1.993E-01	1.991E-01	1.990E-01
0Pa-231	Pa-231	1.000E+00	2.000E-01	2.000E-01	1.999E-01	1.995E-01	1.984E-01	1.974E-01	1.964E-01	1.953E-01	1.948E-01
Pa-231	U-235	1.000E+00	0.000E+00	4.232E-06	4.231E-05	4.226E-04	1.264E-03	2.102E-03	2.935E-03	3.763E-03	4.176E-03
Pa-231	äS(j):		2.000E-01	2.000E-01	2.000E-01	1.999E-01	1.997E-01	1.995E-01	1.993E-01	1.991E-01	1.990E-01
0Pb-210	Pb-210	1.000E+00	1.900E+00	1.842E+00	1.392E+00	8.480E-02	1.689E-04	3.365E-07	6.702E-10	1.335E-12	5.958E-14
Pb-210	Ra-226	1.000E+00	0.000E+00	5.814E-02	5.064E-01	1.759E+00	1.691E+00	1.551E+00	1.422E+00	1.304E+00	1.249E+00
Pb-210	Th-230	1.000E+00	0.000E+00	1.932E-05	1.762E-03	8.548E-02	3.169E-01	5.304E-01	7.258E-01	9.044E-01	9.880E-01
Pb-210	U-234	1.000E+00	0.000E+00	5.813E-11	5.424E-08	3.095E-05	3.951E-04	1.160E-03	2.293E-03	3.761E-03	4.611E-03
Pb-210	U-238	9.999E-01	0.000E+00	4.126E-17	3.903E-13	2.461E-09	1.035E-07	5.263E-07	1.488E-06	3.189E-06	4.374E-06
Pb-210	äS(j):		1.900E+00	1.900E+00	1.900E+00	1.929E+00	2.009E+00	2.083E+00	2.150E+00	2.212E+00	2.241E+00
0Ra-226	Ra-226	1.000E+00	1.900E+00	1.899E+00	1.892E+00	1.819E+00	1.668E+00	1.530E+00	1.403E+00	1.286E+00	1.232E+00
Ra-226	Th-230	1.000E+00	0.000E+00	1.256E-03	1.254E-02	1.229E-01	3.529E-01	5.634E-01	7.560E-01	9.322E-01	1.015E+00
Ra-226	U-234	1.000E+00	0.000E+00	5.654E-09	5.646E-07	5.572E-05	4.870E-04	1.314E-03	2.503E-03	4.024E-03	4.899E-03
Ra-226	U-238	9.999E-01	0.000E+00	5.343E-15	5.337E-12	5.284E-09	1.396E-07	6.323E-07	1.698E-06	3.533E-06	4.796E-06
Ra-226	äS(j):		1.900E+00	1.900E+00	1.904E+00	1.942E+00	2.022E+00	2.095E+00	2.161E+00	2.223E+00	2.251E+00
0Ra-228	Ra-228	1.000E+00	3.500E+00	3.103E+00	1.048E+00	2.036E-05	6.889E-16	2.331E-26	7.887E-37	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	0.000E+00	3.975E-01	2.452E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.499E+00	3.499E+00
Ra-228	äS(j):		3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.499E+00	3.499E+00
0Th-228	Ra-228	1.000E+00	0.000E+00	9.985E-01	1.431E+00	3.051E-05	1.032E-15	3.493E-26	1.182E-36	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	3.500E+00	2.436E+00	9.344E-02	6.440E-16	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	6.525E-02	1.975E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.499E+00	3.499E+00
Th-228	äS(j):		3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.499E+00	3.499E+00
0Th-230	Th-230	1.000E+00	2.900E+00	2.900E+00	2.900E+00	2.897E+00	2.892E+00	2.887E+00	2.881E+00	2.876E+00	2.874E+00
Th-230	U-234	1.000E+00	0.000E+00	2.611E-05	2.610E-04	2.609E-03	7.817E-03	1.301E-02	1.820E-02	2.337E-02	2.595E-02
Th-230	U-238	9.999E-01	0.000E+00	3.700E-11	3.700E-09	3.699E-07	3.326E-06	9.231E-06	1.808E-05	2.986E-05	3.685E-05
Th-230	äS(j):		2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00
0Th-232	Th-232	1.000E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.500E+00	3.499E+00	3.499E+00
0U-234	U-234	1.000E+00	2.900E+00	2.900E+00	2.900E+00	2.899E+00	2.897E+00	2.896E+00	2.894E+00	2.892E+00	2.891E+00
U-234	U-238	9.999E-01	0.000E+00	8.221E-06	8.221E-05	8.220E-04	2.465E-03	4.107E-03	5.748E-03	7.388E-03	8.208E-03
U-234	äS(j):		2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.899E+00	2.899E+00
0U-235	U-235	1.000E+00	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01	2.000E-01
0U-238	U-238	5.400E-05	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04	1.566E-04
U-238	U-238	9.999E-01	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.899E+00	2.899E+00
U-238	äS(j):		2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.900E+00	2.899E+00	2.899E+00
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THF(i) is the thread fraction of the parent nuclide.

0RESCALC.EXE execution time = 72.71 seconds

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary ... 6
Summary of Pathway Selections ... 12
Contaminated Zone and Total Dose Summary ... 13
Total Dose Components
Time = 0.000E+00 ... 14
Time = 1.000E+00 ... 15
Time = 1.000E+01 ... 16
Time = 1.000E+02 ... 17
Time = 3.000E+02 ... 18
Time = 5.000E+02 ... 19
Time = 7.000E+02 ... 20
Time = 9.000E+02 ... 21
Time = 1.000E+03 ... 22
Dose/Source Ratios Summed Over All Pathways ... 23
Single Radionuclide Soil Guidelines ... 24
Dose Per Nuclide Summed Over All Pathways ... 25
Soil Concentration Per Nuclide ... 26

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	Ac-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(2)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(3)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(4)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(5)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(6)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(7)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(8)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(9)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(10)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(11)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(12)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(13)

A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(14)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(15)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(16)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(17)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(18)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(19)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(20)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(21)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(22)
A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(23)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(24)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(25)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(26)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(27)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(28)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(29)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(30)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(31)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(32)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(33)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(34)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(35)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(36)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(37)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(38)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(39)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(40)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(41)
B-1	*Dose conversion factors for inhalation, mrem/pCi:*			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(5)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(6)

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
B-1	Th-230	3.260E-01	3.260E-01	DCF2(7)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(8)
B-1	U-234	1.320E-01	1.320E-01	DCF2(9)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(10)
B-1	U-238	1.180E-01	1.180E-01	DCF2(11)

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

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

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-34	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,1)
D-34	Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(8,2)
D-34	Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(8,3)
D-34				
D-34	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(9,1)

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

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

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(11,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(11,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(12,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(12,2)

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)		6.800E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)		4.500E+00	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)		2.610E+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)		1.000E+01	3.000E+00	---	T(3)
R011	Times for calculations (yr)		1.000E+02	1.000E+01	---	T(4)
R011	Times for calculations (yr)		3.000E+02	3.000E+01	---	T(5)
R011	Times for calculations (yr)		5.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)		7.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)		9.000E+02	1.000E+03	---	T(8)
R011	Times for calculations (yr)		1.000E+03	0.000E+00	---	T(9)
R011	Times for calculations (yr)		not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g):	Ac-227	1.600E+00	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g):	Pa-231	1.600E+00	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g):	Pb-210	6.040E+01	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g):	Ra-226	6.040E+01	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g):	Ra-228	5.040E+01	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g):	Th-228	5.040E+01	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g):	Th-230	2.270E+01	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g):	Th-232	5.040E+01	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g):	U-234	2.270E+01	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g):	U-235	1.600E+00	0.000E+00	---	S1(10)
R012	Initial principal radionuclide (pCi/g):	U-238	2.270E+01	0.000E+00	---	S1(11)
R012	Concentration in groundwater (pCi/L):	Ac-227	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L):	Pa-231	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L):	Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L):	Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L):	Ra-228	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L):	Th-228	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L):	Th-230	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L):	Th-232	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L):	U-234	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L):	U-235	not used	0.000E+00	---	W1(10)
R012	Concentration in groundwater (pCi/L):	U-238	not used	0.000E+00	---	W1(11)
R013	Cover depth (m)		1.830E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)		1.920E+00	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)		1.500E-04	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)		2.240E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)		1.500E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity		3.600E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity		2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)		1.000E-02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter		4.430E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)		4.300E+00	2.000E+00	---	WIND

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	7.300E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	1.050E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	9.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	2.770E+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)	1.510E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.300E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	3.830E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	9.500E+03	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	4.000E-03	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)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	MB	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	not used	2.500E+02	---	UW
R015	Number of unsaturated zone strata	2	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.500E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.696E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.600E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.890E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.060E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.750E+03	1.000E+01	---	HCUZ(1)
R015	Unsat. zone 2, thickness (m)	1.900E+00	0.000E+00	---	H(2)
R015	Unsat. zone 2, soil density (g/cm**3)	1.510E+00	1.500E+00	---	DENSUZ(2)
R015	Unsat. zone 2, total porosity	4.300E-01	4.000E-01	---	TPUZ(2)
R015	Unsat. zone 2, effective porosity	3.830E-01	2.000E-01	---	EPUZ(2)
R015	Unsat. zone 2, field capacity	2.000E-01	2.000E-01	---	FCUZ(2)
R015	Unsat. zone 2, soil-specific b parameter	4.050E+00	5.300E+00	---	BUZ(2)
R015	Unsat. zone 2, hydraulic conductivity (m/yr)	9.500E+03	1.000E+01	---	HCUZ(2)
R016	Distribution coefficients for Ac-227				
R016	Contaminated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,1)
R016	Unsaturated zone 2 (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCU(1,2)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.248E-06	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Pa-231				
R016	Contaminated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,1)
R016	Unsaturated zone 2 (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCU(2,2)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS(2)

R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.112E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,1)
R016	Unsaturated zone 2 (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCU(3,2)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.041E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	1.341E+05	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(4,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.097E-08	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Ra-228				
R016	Contaminated zone (cm**3/g)	1.440E+04	7.000E+01	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,1)
R016	Unsaturated zone 2 (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCU(5,2)
R016	Saturated zone (cm**3/g)	3.533E+03	7.000E+01	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.953E-07	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(6,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(7,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	5.483E+04	6.000E+04	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,1)
R016	Unsaturated zone 2 (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCU(8,2)
R016	Saturated zone (cm**3/g)	5.884E+03	6.000E+04	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.130E-08	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109409.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 U-234				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(9,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(10)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(10,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(10)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(10)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	1.598E+04	5.000E+01	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,1)
R016	Unsaturated zone 2 (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCU(11,2)
R016	Saturated zone (cm**3/g)	1.260E+02	5.000E+01	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.759E-07	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	3.000E-05	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	2.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	0.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	9.000E-03	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

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

R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	not used	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	not used	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+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)	1.500E-01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	1.800E+00	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	not used	-1	---	FPLANT
R018	Contamination fraction of meat	3.000E-01	-1	---	FMEAT
R018	Contamination fraction of milk	not used	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	not used	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	not used	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

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

R19B	Translocation Factor for Non-Leafy	not used	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	not used	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	not used	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	not used	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	not used	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
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	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

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

```
TITL ³ Maximum number of integration points for dose    ³     17    ³    ---    ³              ---              ³ LYMAX
TITL ³ Maximum number of integration points for risk    ³      1    ³    ---    ³              ---              ³ KYMAX
```

Summary of Pathway Selections

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

Contaminated Zone Dimensions

Area:	680.00 square meters
Thickness:	4.50 meters
Cover Depth:	1.83 meters

Initial Soil Concentrations, pCi/g

Ac-227	1.600E+00
Pa-231	1.600E+00
Pb-210	6.040E+01
Ra-226	6.040E+01
Ra-228	5.040E+01
Th-228	5.040E+01
Th-230	2.270E+01
Th-232	5.040E+01
U-234	2.270E+01
U-235	1.600E+00
U-238	2.270E+01

0

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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
TDOSE(t):	8.434E-10	8.450E-10	8.589E-10	1.011E-09	1.455E-09	2.092E-09	3.009E-09	4.327E-09	5.190E-09
M(t):	3.374E-11	3.380E-11	3.436E-11	4.046E-11	5.818E-11	8.367E-11	1.203E-10	1.731E-10	2.076E-10

0Maximum TDOSE(t): 5.190E-09 mrem/yr at t = 1.000E+03 years

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

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	9.545E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Pa-231	1.579E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	4.801E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.751E-11	0.0208	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	1.282E-10	0.1520	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	6.924E-10	0.8209	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.426E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.370E-12	0.0064	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	4.279E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	9.630E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.839E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	8.434E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0
Water Dependent Pathways

0

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.545E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.579E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.801E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.751E-11	0.0208
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.282E-10	0.1520
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.924E-10	0.8209
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.426E-15	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.370E-12	0.0064
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.279E-21	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.630E-24	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.839E-16	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.434E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0
Water Independent Pathways (Inhalation excludes radon)

0

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	9.272E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	4.583E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	4.666E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.754E-11	0.0208	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.117E-10	0.3689	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	4.828E-10	0.5714	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	4.284E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.290E-11	0.0389	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	3.000E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.621E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.852E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
ÍÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ	ÍÍÍÍÍÍÍÍÍ	ÍÍÍÍÍÍ
Total	8.450E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.272E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.583E-19	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.666E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.754E-11	0.0208
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.117E-10	0.3689
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.828E-10	0.5714
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.284E-15	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.290E-11	0.0389
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.000E-20	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.621E-23	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.852E-16	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.450E-10	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 9 Controls Fail Restricted Area
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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

0 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.
Ac-227	7.137E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.838E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.610E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	1.781E-11	0.0207	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.274E-10	0.3812	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.882E-11	0.0219	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.052E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.948E-10	0.5761	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.444E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.424E-22	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.965E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	8.589E-10	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

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

0 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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.137E-18	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.838E-18	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.610E-19	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.781E-11	0.0207
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.274E-10	0.3812
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.882E-11	0.0219

Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.052E-14	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.948E-10	0.5761
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.444E-18	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.424E-22	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.965E-16	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.589E-10	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years
0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	5.214E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.225E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	2.777E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.081E-11	0.0206	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	8.130E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	1.527E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.478E-13	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	9.903E-10	0.9791	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	1.585E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.905E-20	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.259E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	1.011E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years
0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.214E-19	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.225E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.777E-20	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.081E-11	0.0206
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.130E-15	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.527E-25	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.478E-13	0.0003
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.903E-10	0.9791
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.585E-16	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.905E-20	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.259E-16	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.011E-09	1.0000

0*Sum of all water independent and dependent pathways.

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

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

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	1.556E-21	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	2.211E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	9.289E-23	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	2.939E-11	0.0202	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	3.955E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.533E-12	0.0011	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	1.424E-09	0.9787	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.119E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	1.264E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.048E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	1.455E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

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

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

Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.556E-21	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.211E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.289E-23	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.939E-11	0.0202
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.955E-25	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.533E-12	0.0011
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.424E-09	0.9787
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.119E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.264E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.048E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.455E-09	1.0000

*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 9 Controls Fail Restricted Area

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

As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Ac-227	4.644E-24	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	3.827E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	3.107E-25	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	4.151E-11	0.0198	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	3.768E-12	0.0018	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Th-232	2.047E-09	0.9784	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	8.798E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.823E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	1.757E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	2.092E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 5.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.644E-24	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.827E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.107E-25	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.151E-11	0.0198
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.768E-12	0.0018
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.047E-09	0.9784
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.798E-15	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.823E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.757E-15	0.0000
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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	2.092E-09	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ac-227	1.386E-26	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	6.626E-17	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	1.039E-27	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	5.863E-11	0.0195	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	7.787E-12	0.0026	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	2.942E-09	0.9779	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	2.580E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	9.464E-19	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	2.950E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	3.009E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 7.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.

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Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.386E-26	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.626E-17	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.039E-27	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.863E-11	0.0195
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.787E-12	0.0026
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.942E-09	0.9779
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.580E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.464E-19	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.950E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.009E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 9 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109409.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 = 9.000E+02 years
0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-	ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	4.137E-29	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.147E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	8.281E-11	0.0191	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.479E-11	0.0034	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	4.230E-09	0.9774	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	6.386E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	2.134E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	4.963E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
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Total	4.327E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 9.000E+02 years
0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-	ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ		ÄÄÄÄÄÄÄÄÄÄ	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
ÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄ
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.137E-29	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.147E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.281E-11	0.0191
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.479E-11	0.0034
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.230E-09	0.9774
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.386E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.134E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.963E-15	0.0000
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Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.327E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 9 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109409.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 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.
Ac-227	2.260E-30	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pa-231	1.510E-16	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	9.842E-11	0.0190	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	1.997E-11	0.0038	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	5.072E-09	0.9772	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	9.648E-14	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	3.135E-18	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	6.443E-15	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	5.190E-09	1.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years
Water Dependent Pathways

Radio-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.
Ac-227	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.260E-30	0.0000
Pa-231	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.510E-16	0.0000
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.842E-11	0.0190
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.997E-11	0.0038
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.072E-09	0.9772
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.648E-14	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.135E-18	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.443E-15	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.190E-09	1.0000

0*Sum of all water independent and dependent pathways.

Summary : SMC Recreational Hunter Area 9 Controls Fail Restricted Area

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\2109409.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	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227+D	Ac-227+D	1.000E+00	5.966E-18	5.795E-18	4.461E-18	3.259E-19	9.725E-22	2.902E-24	8.662E-27	2.585E-29	1.413E-30
0Pa-231	Pa-231	1.000E+00	3.182E-21	3.193E-21	3.289E-21	4.432E-21	8.601E-21	1.669E-20	3.238E-20	6.284E-20	8.753E-20

Pa-231	Ac-227+D	1.000E+00	9.551E-20	2.832E-19	1.770E-18	7.653E-18	1.381E-17	2.390E-17	4.138E-17	7.164E-17	9.426E-17
Pa-231	äDSR(j)		9.869E-20	2.864E-19	1.773E-18	7.657E-18	1.382E-17	2.392E-17	4.141E-17	7.170E-17	9.435E-17
0Pb-210+D	Pb-210+D	1.000E+00	7.949E-21	7.726E-21	5.978E-21	4.597E-22	1.538E-24	5.145E-27	1.721E-29	5.757E-32	3.330E-33
0Ra-226+D	Ra-226+D	1.000E+00	2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.630E-12
Ra-226+D	Pb-210+D	1.000E+00	1.242E-22	3.683E-22	2.301E-21	9.688E-21	1.564E-20	2.408E-20	3.708E-20	5.711E-20	7.087E-20
Ra-226+D	äDSR(j)		2.898E-13	2.903E-13	2.949E-13	3.445E-13	4.865E-13	6.872E-13	9.707E-13	1.371E-12	1.630E-12
0Ra-228+D	Ra-228+D	1.000E+00	9.981E-15	8.868E-15	3.062E-15	7.373E-20	4.024E-30	2.196E-40	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	2.534E-12	6.176E-12	6.493E-12	1.612E-16	7.843E-27	3.814E-37	0.000E+00	0.000E+00	0.000E+00
Ra-228+D	äDSR(j)		2.544E-12	6.185E-12	6.496E-12	1.613E-16	7.847E-27	3.817E-37	0.000E+00	0.000E+00	0.000E+00
0Th-228+D	Th-228+D	1.000E+00	1.374E-11	9.579E-12	3.735E-13	3.030E-27	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	2.747E-34	2.762E-34	2.898E-34	4.702E-34	1.378E-33	4.039E-33	1.184E-32	3.470E-32	5.941E-32
Th-230	Ra-226+D	1.000E+00	6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.514E-13	8.798E-13
Th-230	Pb-210+D	1.000E+00	1.799E-26	1.251E-25	5.527E-24	3.105E-22	1.924E-21	5.402E-21	1.241E-20	2.597E-20	3.675E-20
Th-230	äDSR(j)		6.281E-17	1.887E-16	1.344E-15	1.532E-14	6.755E-14	1.660E-13	3.430E-13	6.514E-13	8.798E-13
0Th-232	Th-232	1.000E+00	6.986E-38	7.028E-38	7.417E-38	1.272E-37	4.214E-37	1.396E-36	4.627E-36	1.533E-35	2.791E-35
Th-232	Ra-228+D	1.000E+00	6.139E-16	1.752E-15	7.789E-15	1.346E-14	2.170E-14	3.501E-14	5.646E-14	9.107E-14	1.157E-13
Th-232	Th-228+D	1.000E+00	1.059E-13	6.509E-13	9.810E-12	1.963E-11	2.822E-11	4.057E-11	5.832E-11	8.383E-11	1.005E-10
Th-232	äDSR(j)		1.065E-13	6.527E-13	9.818E-12	1.965E-11	2.825E-11	4.061E-11	5.838E-11	8.392E-11	1.006E-10
0U-234	U-234	1.000E+00	6.536E-36	6.573E-36	6.911E-36	1.142E-35	3.490E-35	1.066E-34	3.258E-34	9.954E-34	1.740E-33
U-234	Th-230	1.000E+00	1.237E-39	3.730E-39	2.740E-38	4.256E-37	3.732E-36	1.823E-35	7.482E-35	2.821E-34	5.367E-34
U-234	Ra-226+D	1.000E+00	1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.876E-16	1.137E-15	2.813E-15	4.250E-15
U-234	Pb-210+D	1.000E+00	4.055E-32	6.055E-31	1.791E-28	1.131E-25	2.402E-24	1.183E-23	3.923E-23	1.080E-22	1.716E-22
U-234	äDSR(j)		1.885E-22	1.322E-21	6.363E-20	6.981E-18	9.336E-17	3.876E-16	1.137E-15	2.813E-15	4.250E-15
0U-235+D	U-235+D	1.000E+00	5.309E-24	5.331E-24	5.525E-24	7.900E-24	1.749E-23	3.873E-23	8.575E-23	1.899E-22	2.825E-22
U-235+D	Pa-231	1.000E+00	3.368E-26	1.013E-25	7.309E-25	9.438E-24	5.490E-23	1.779E-22	4.844E-22	1.211E-21	1.877E-21
U-235+D	Ac-227+D	1.000E+00	6.756E-25	4.697E-24	2.077E-22	1.189E-20	7.890E-20	2.387E-19	5.909E-19	1.332E-18	1.957E-18
U-235+D	äDSR(j)		6.019E-24	1.013E-23	2.140E-22	1.191E-20	7.897E-20	2.389E-19	5.915E-19	1.334E-18	1.960E-18
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.613E-17	7.719E-17	1.292E-16	2.162E-16	2.797E-16
U-238+D	U-234	9.999E-01	9.272E-42	2.796E-41	2.057E-40	3.255E-39	2.975E-38	1.514E-37	6.476E-37	2.544E-36	4.941E-36
U-238+D	Th-230	9.999E-01	1.401E-45	8.408E-45	4.078E-43	6.063E-41	1.590E-39	1.294E-38	7.438E-38	3.606E-37	7.625E-37
U-238+D	Ra-226+D	9.999E-01	1.336E-28	2.008E-27	6.325E-25	6.655E-22	2.680E-20	1.867E-19	7.716E-19	2.472E-18	4.163E-18
U-238+D	Pb-210+D	9.999E-01	2.302E-38	7.113E-37	1.357E-33	9.036E-30	6.305E-28	5.371E-27	2.549E-26	9.167E-26	1.629E-25
U-238+D	äDSR(j)		2.132E-17	2.137E-17	2.187E-17	2.757E-17	4.616E-17	7.738E-17	1.299E-16	2.187E-16	2.838E-16

The DSR includes contributions from associated (half-life ó 180 days) daughters.

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

0Nuclide

(i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13	*7.232E+13
Pa-231	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10	*4.723E+10
Pb-210	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13	*7.634E+13
Ra-226	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11	*9.885E+11
Ra-228	9.829E+12	4.042E+12	3.849E+12	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14	*2.726E+14
Th-228	1.820E+12	2.610E+12	6.694E+13	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14
Th-230	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10	*2.018E+10
Th-232	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05	*1.097E+05
U-234	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09	*6.247E+09
U-235	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06	*2.161E+06
U-238	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05	*3.361E+05

*At specific activity limit

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 1.000E+03 years

Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Ac-227	1.600E+00	0.000E+00	5.966E-18	*7.232E+13	1.413E-30	*7.232E+13
Pa-231	1.600E+00	1.000E+03	9.435E-17	*4.723E+10	9.435E-17	*4.723E+10
Pb-210	6.040E+01	0.000E+00	7.949E-21	*7.634E+13	0.000E+00	*7.634E+13
Ra-226	6.040E+01	1.000E+03	1.630E-12	*9.885E+11	1.630E-12	*9.885E+11
Ra-228	5.040E+01	4.112 ñ 0.008	9.520E-12	2.626E+12	0.000E+00	*2.726E+14
Th-228	5.040E+01	0.000E+00	1.374E-11	1.820E+12	0.000E+00	*8.195E+14
Th-230	2.270E+01	1.000E+03	8.798E-13	*2.018E+10	8.798E-13	*2.018E+10
Th-232	5.040E+01	1.000E+03	1.006E-10	*1.097E+05	1.006E-10	*1.097E+05
U-234	2.270E+01	1.000E+03	4.250E-15	*6.247E+09	4.250E-15	*6.247E+09
U-235	1.600E+00	1.000E+03	1.960E-18	*2.161E+06	1.960E-18	*2.161E+06
U-238	2.270E+01	1.000E+03	2.838E-16	*3.361E+05	2.838E-16	*3.361E+05

*At specific activity limit

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated
DOSE(j,t), mrem/yr

Nuclide (j)	Parent (i)	THF(i)	t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	9.545E-18	9.272E-18	7.137E-18	5.214E-19	1.556E-21	4.644E-24	1.386E-26	4.137E-29	2.260E-30
Ac-227	Pa-231	1.000E+00	1.528E-19	4.532E-19	2.832E-18	1.224E-17	2.209E-17	3.825E-17	6.621E-17	1.146E-16	1.508E-16
Ac-227	U-235	1.000E+00	1.081E-24	7.516E-24	3.324E-22	1.902E-20	1.262E-19	3.819E-19	9.455E-19	2.132E-18	3.132E-18
Ac-227	äDOSE(j)		9.698E-18	9.725E-18	9.970E-18	1.279E-17	2.222E-17	3.863E-17	6.715E-17	1.168E-16	1.539E-16
0Pa-231	Pa-231	1.000E+00	5.091E-21	5.108E-21	5.263E-21	7.092E-21	1.376E-20	2.670E-20	5.182E-20	1.005E-19	1.401E-19
Pa-231	U-235	1.000E+00	5.389E-26	1.622E-25	1.169E-24	1.510E-23	8.784E-23	2.846E-22	7.750E-22	1.938E-21	3.004E-21
Pa-231	äDOSE(j)		5.091E-21	5.108E-21	5.264E-21	7.107E-21	1.385E-20	2.699E-20	5.259E-20	1.025E-19	1.431E-19
0Pb-210	Pb-210	1.000E+00	4.801E-19	4.666E-19	3.610E-19	2.777E-20	9.289E-23	3.107E-25	1.039E-27	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	7.502E-21	2.225E-20	1.390E-19	5.852E-19	9.444E-19	1.454E-18	2.240E-18	3.449E-18	4.280E-18
Pb-210	Th-230	1.000E+00	4.083E-25	2.839E-24	1.255E-22	7.048E-21	4.367E-20	1.226E-19	2.817E-19	5.894E-19	8.343E-19
Pb-210	U-234	1.000E+00	0.000E+00	0.000E+00	4.066E-27	2.566E-24	5.453E-23	2.685E-22	8.905E-22	2.452E-21	3.896E-21
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	2.051E-28	1.431E-26	1.219E-25	5.786E-25	2.081E-24	3.698E-24
Pb-210	äDOSE(j)		4.876E-19	4.889E-19	5.002E-19	6.200E-19	9.882E-19	1.577E-18	2.522E-18	4.041E-18	5.119E-18
0Ra-226	Ra-226	1.000E+00	1.751E-11	1.754E-11	1.781E-11	2.081E-11	2.939E-11	4.151E-11	5.863E-11	8.281E-11	9.842E-11
Ra-226	Th-230	1.000E+00	1.426E-15	4.284E-15	3.052E-14	3.478E-13	1.533E-12	3.768E-12	7.787E-12	1.479E-11	1.997E-11
Ra-226	U-234	1.000E+00	4.279E-21	3.000E-20	1.444E-18	1.585E-16	2.119E-15	8.798E-15	2.580E-14	6.386E-14	9.648E-14
Ra-226	U-238	9.999E-01	3.033E-27	4.557E-26	1.436E-23	1.511E-20	6.085E-19	4.237E-18	1.751E-17	5.611E-17	9.451E-17
Ra-226	äDOSE(j)		1.751E-11	1.754E-11	1.784E-11	2.115E-11	3.092E-11	4.529E-11	6.644E-11	9.767E-11	1.185E-10
0Ra-228	Ra-228	1.000E+00	5.030E-13	4.470E-13	1.543E-13	3.716E-18	2.028E-28	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	3.094E-14	8.828E-14	3.926E-13	6.781E-13	1.094E-12	1.764E-12	2.846E-12	4.590E-12	5.829E-12
Ra-228	äDOSE(j)		5.340E-13	5.352E-13	5.469E-13	6.781E-13	1.094E-12	1.764E-12	2.846E-12	4.590E-12	5.829E-12
0Th-228	Ra-228	1.000E+00	1.277E-10	3.113E-10	3.272E-10	8.127E-15	3.953E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	6.924E-10	4.828E-10	1.882E-11	1.527E-25	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	5.339E-12	3.281E-11	4.944E-10	9.896E-10	1.422E-09	2.045E-09	2.939E-09	4.225E-09	5.066E-09
Th-228	äDOSE(j)		8.254E-10	8.269E-10	8.405E-10	9.896E-10	1.422E-09	2.045E-09	2.939E-09	4.225E-09	5.066E-09
0Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

0Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	äDOSE(j)		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	8.495E-24	8.529E-24	8.840E-24	1.264E-23	2.799E-23	6.197E-23	1.372E-22	3.038E-22	4.520E-22	
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	4.839E-16	4.852E-16	4.965E-16	6.259E-16	1.047E-15	1.752E-15	2.932E-15	4.907E-15	6.348E-15	
U-238	äDOSE(j)		4.839E-16	4.852E-16	4.965E-16	6.259E-16	1.047E-15	1.752E-15	2.932E-15	4.907E-15	6.348E-15	

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

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	1.000E+01	1.000E+02	3.000E+02	5.000E+02	7.000E+02	9.000E+02	1.000E+03
Ac-227	Ac-227	1.000E+00	1.600E+00	1.550E+00	1.164E+00	6.626E-02	1.136E-04	1.949E-07	3.343E-10	5.734E-13	2.374E-14
Ac-227	Pa-231	1.000E+00	0.000E+00	5.013E-02	4.362E-01	1.531E+00	1.588E+00	1.580E+00	1.572E+00	1.564E+00	1.559E+00
Ac-227	U-235	1.000E+00	0.000E+00	5.332E-07	4.859E-05	2.363E-03	9.058E-03	1.576E-02	2.243E-02	2.906E-02	3.237E-02
Ac-227	äS(j):		1.600E+00	1.600E+00	1.600E+00	1.599E+00	1.597E+00	1.596E+00	1.594E+00	1.593E+00	1.592E+00
0Pa-231	Pa-231	1.000E+00	1.600E+00	1.600E+00	1.600E+00	1.596E+00	1.587E+00	1.579E+00	1.571E+00	1.563E+00	1.559E+00
Pa-231	U-235	1.000E+00	0.000E+00	3.385E-05	3.385E-04	3.381E-03	1.012E-02	1.682E-02	2.348E-02	3.011E-02	3.341E-02
Pa-231	äS(j):		1.600E+00	1.600E+00	1.600E+00	1.599E+00	1.598E+00	1.596E+00	1.594E+00	1.593E+00	1.592E+00
0Pb-210	Pb-210	1.000E+00	6.040E+01	5.855E+01	4.426E+01	2.696E+00	5.370E-03	1.070E-05	2.131E-08	4.244E-11	1.894E-12
Pb-210	Ra-226	1.000E+00	0.000E+00	1.848E+00	1.610E+01	5.590E+01	5.376E+01	4.931E+01	4.521E+01	4.146E+01	3.970E+01
Pb-210	Th-230	1.000E+00	0.000E+00	1.512E-04	1.379E-02	6.691E-01	2.481E+00	4.152E+00	5.681E+00	7.080E+00	7.734E+00
Pb-210	U-234	1.000E+00	0.000E+00	4.550E-10	4.246E-07	2.423E-04	3.093E-03	9.082E-03	1.795E-02	2.944E-02	3.610E-02
Pb-210	U-238	9.999E-01	0.000E+00	3.230E-16	3.055E-12	1.926E-08	8.102E-07	4.120E-06	1.165E-05	2.497E-05	3.424E-05
Pb-210	äS(j):		6.040E+01	6.040E+01	6.037E+01	5.927E+01	5.625E+01	5.347E+01	5.091E+01	4.857E+01	4.747E+01
0Ra-226	Ra-226	1.000E+00	6.040E+01	6.037E+01	6.014E+01	5.784E+01	5.304E+01	4.864E+01	4.460E+01	4.090E+01	3.916E+01
Ra-226	Th-230	1.000E+00	0.000E+00	9.832E-03	9.812E-02	9.620E-01	2.763E+00	4.411E+00	5.918E+00	7.297E+00	7.942E+00
Ra-226	U-234	1.000E+00	0.000E+00	4.426E-08	4.420E-06	4.361E-04	3.812E-03	1.029E-02	1.960E-02	3.150E-02	3.835E-02
Ra-226	U-238	9.999E-01	0.000E+00	4.182E-14	4.178E-11	4.136E-08	1.093E-06	4.949E-06	1.329E-05	2.766E-05	3.754E-05
Ra-226	äS(j):		6.040E+01	6.038E+01	6.024E+01	5.880E+01	5.580E+01	5.306E+01	5.054E+01	4.823E+01	4.714E+01
0Ra-228	Ra-228	1.000E+00	5.040E+01	4.468E+01	1.510E+01	2.932E-04	9.920E-15	3.356E-25	1.136E-35	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	0.000E+00	5.724E+00	3.530E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01
Ra-228	äS(j):		5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01
0Th-228	Ra-228	1.000E+00	0.000E+00	1.438E+01	2.061E+01	4.393E-04	1.487E-14	5.030E-25	1.702E-35	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	5.040E+01	3.508E+01	1.346E+00	9.273E-15	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	9.397E-01	2.845E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01
Th-228	äS(j):		5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01
0Th-230	Th-230	1.000E+00	2.270E+01	2.270E+01	2.270E+01	2.268E+01	2.264E+01	2.260E+01	2.256E+01	2.252E+01	2.250E+01
Th-230	U-234	1.000E+00	0.000E+00	2.043E-04	2.043E-03	2.042E-02	6.119E-02	1.019E-01	1.424E-01	1.829E-01	2.031E-01
Th-230	U-238	9.999E-01	0.000E+00	2.896E-10	2.896E-08	2.895E-06	2.604E-05	7.226E-05	1.415E-04	2.337E-04	2.885E-04
Th-230	äS(j):		2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01
0Th-232	Th-232	1.000E+00	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01	5.040E+01
0U-234	U-234	1.000E+00	2.270E+01	2.270E+01	2.270E+01	2.269E+01	2.268E+01	2.267E+01	2.265E+01	2.264E+01	2.263E+01
U-234	U-238	9.999E-01	0.000E+00	6.435E-05	6.435E-04	6.434E-03	1.930E-02	3.215E-02	4.499E-02	5.783E-02	6.425E-02
U-234	äS(j):		2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01
0U-235	U-235	1.000E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00	1.600E+00
0U-238	U-238	5.400E-05	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03	1.226E-03
U-238	U-238	9.999E-01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.269E+01
U-238	äS(j):		2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01	2.270E+01

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

0RESCALC.EXE execution time = 72.88 seconds