APPENDIX A
PARAMETER JUSTIFICATION AND RESRAD MODELING RESULTS

Introduction

This appendix explains the derivation and use of each of the parameters used as input to the RESRAD computer code in order to calculate the hypothetical residential, open space and office worker action levels. The parameters were chosen to be as site specific as possible so that the characteristics of the Rocky Flats Environmental Technology Site (RFETS) are represented within the RESRAD modeling runs. When a site specific parameter was not available, the RESRAD default parameter was used. The exposure pathways of soil ingestion, soil inhalation, direct irradiation and plant food ingestion were assessed per the requirements of the site conceptual model. Attachment I to this Appendix is a table of all the input parameters to the RESRAD code for each of the exposure scenarios. Attachment II to this appendix is a summary of the Tier I and Tier II surface soil action levels for all exposure scenarios. Attachment III to this appendix is the RESRAD summary output for the hypothetical residential Tier I (85 mrem) action levels. Attachment IV to this appendix is the RESRAD summary output for the hypothetical residential Tier II (15 mrem) action levels. Attachment V to this appendix is the RESRAD summary output for the open space Tier I (15 mrem) action levels. Attachment VI to this appendix is the RESRAD summary output for the office worker Tier I (15 mrem) action levels.

There are a number of exposure parameters outlined below that are applicable to the residential exposure scenario and not applicable to the open space and office worker exposure scenarios. This is because the homegrown produce exposure pathway is assessed in the residential exposure scenario but not in the other exposure scenarios. A number of parameters within the RESRAD code are directly related to the homegrown produce exposure pathway. Also, ground water does not directly contact an open space or an office worker receptor. Therefore, ground water is not a factor in assessing the open space and office worker exposure scenarios. These factors combine to decrease the number of parameters applicable to the open space and office worker exposure scenarios.

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Parameter Definition

The **Area of Contaminated Zone** parameter is used to identify a compact area that contains the locations of soil samples with radionuclide concentrations clearly exceeding background levels (Argonne, 1993a). Background levels of radionuclides are those levels naturally present in the environment. This parameter was set at 40,000 square meters (10 acres) for all exposure scenarios. The 10 acre value was developed and approved for use by the Department of Energy (DOE), the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and the Environment (CDPHE) during the development of the CERCLA/RCRA risk assessment process. The 10 acre area reflects the minimum area for a residential neighborhood and was chosen for use with all exposure scenarios for consistency.

The value of 0.15 meter (6 inches) was chosen for the **Thickness of Contaminated Zone** for all exposure scenarios. This parameter is the distance between the uppermost and lowermost soil samples that have radionuclide concentrations clearly above background (Argonne, 1993a). This value is consistent with the definition of surface soils in the proposed Action Level Framework and Standards for Surface Water, Ground Water and Soils (ALF). ALF is outlined in attachment 5 to the Rocky Flats Cleanup Agreement (RFCA, 1996).

The **Length Parallel to Aquifer Flow** was taken as the square root of the contaminated zone area or 200 meters for the residential exposure scenario. Since the open space and office worker exposure scenarios do not require the assessment of the ground water exposure pathway, this parameter is not applicable to them. This parameter is the maximum horizontal distance measured in the contaminated zone, from its upgradient edge to the downgradient edge, along the direction of the groundwater flow in the underlying aquifer (Argonne, 1993a). Therefore, the use of the square root of the contaminated zone area is appropriate. The magnitude of this parameter does not effect the action level since no exposure pathways assess radionuclides leaching to ground water.

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The **Radiation Dose Limit** was set at the 85 millirem level for calculation of the Tier I action level for the hypothetical residential exposure scenario and at the 15 millirem level for calculation of the Tier II action level for the hypothetical residential exposure scenario. The **Radiation Dose Limit** was set at the 15 millirem level for calculation of the Tier I action level for the open space and office worker exposure scenarios. The radiation dose used in the RESRAD code is the effective dose equivalent from external radiation plus the committed effective dose equivalent from internal radiation. The radiation dose limit is used to derive action levels (Argonne, 1993a). The Tier I and Tier II radiation dose limits above are consistent with the dose assessment methodology in EPA's preliminary proposed 40CFR196, "Radiation Site Cleanup Regulations." Definitions for radiation dose terms can be found in 40CFR196.

The **Elapsed Time of Waste Placement** term was set to the RESRAD default of 0 years for all exposure scenarios. This parameter is the duration between the placement of radioactive waste on-site and the performance of a radiological survey (Argonne, 1993a). This term is used to calculate site specific leaching properties which is not utilized to calculate action levels. Therefore, the use of the RESRAD default is appropriate.

The time period of interest was chosen as 1,000 years for all exposure scenarios to be consistent with EPA's draft 40CFR196 . The increments at which radiation dose was assessed within each RESRAD run were 1, 3, 10, 30, 100, 300 and 1000 years. These are the default time increments within the RESRAD code. The increments put into the code do not affect the derived action level since RESRAD automatically calculates and reports the lowest action level for each radionuclide over the 1,000 year period.

The **Initial Concentrations of Principal Radionuclides** term was set to 100 pCi/gram for each of Am-241, Pu-238, Pu-239, Pu-240, Pu-241, Pu-242, U-234, U-235 and U-238 for all exposure scenarios. An action level is automatically calculated for all principal radionuclides that are given an initial concentration. The action level calculated in the RESRAD code is independent of the

magnitude of the initial concentration. Therefore, the use of 100 pCi/gram flags the RESRAD code to calculate an action level for each of the above radionuclides. A principal radionuclide is a radionuclide with a half-life longer than one-half year. Radionuclides with a half-life of one-half year or less are treated as associated radionuclides. The radionuclides "associated" with a principal radionuclide consist of all decay products down to, but not including, the next principal radionuclide in the chain. It is assumed that all associated radionuclides (except radon daughters) are in secular equilibrium with their principal radionuclide in the contaminated zone and also at the location of human exposure. Only the principal radionuclides in the contaminated zone need input concentrations in the RESRAD code (Argonne, 1993a).

The **Cover Depth** was assumed to be 0 meters for all exposure scenarios. The cover depth is the distance from the ground surface to the location of the uppermost soil sample with radionuclide concentrations that are clearly above background (Argonne, 1993a). The assumption of no cover is consistent with a surface soil exposure where the contaminated soil is assumed to be in the top 0.15 meter of soil. Setting the cover depth equal to 0 is consistent with the ALF.

The **Density of Contaminated Zone, Density of Uncontaminated Zone** and **Density of Saturated Zone** parameters were given the value of 1.8 grams/cc for the residential exposure scenario. The **Density of Contaminated Zone** parameter was given the value of 1.8 grams/cc for the open space and office worker exposure scenarios. The **Density of Uncontaminated Zone** and **Density of Saturated Zone** parameters are not applicable to the open space and office worker exposure scenarios since there is no ground water exposure pathway for these exposure scenarios. The soil bulk density or dry density is the ratio of the mass of the solid phase of the soil to its total volume (Argonne, 1993a). The chosen value was the average of 21 soil density results from the Rocky Flats Alluvium (EG&G, 1995). This soil density was taken from the recently published Hydrogeologic Characterization Report for the Rocky Flats Environmental Technology Site which contains hydrogeologic data applicable to the RFETS.

The **Contaminated Zone Erosion Rate** parameter was chosen to be 0.0000749 meter/year (EG&G, 1992) for all exposure scenarios. The erosion rate is the average volume of soil material that is removed from one place to another by running water, waves and currents, wind or moving ice per unit of ground surface area and per unit time (Argonne, 1993a). Erosion rates within the Woman Creek drainage of RFETS are developed within this report using annual precipitation with the universal soil loss equation. This erosion rate is the best available site specific information available. Erosion due to wind was not taken into account in this analysis since soils lost from the plant areas during high wind events should be replaced by soils eroding upwind of the plant.

A value of 0.3 (EG&G, 1995) was chosen for the **Contaminated Zone Total Porosity, Uncontaminated Zone Total Porosity** and **Saturated Zone Total Porosity** for the residential exposure scenario. A value of 0.3 was also chosen for the **Contaminated Zone Total Porosity** for the open space and office worker exposure scenarios. The **Uncontaminated Zone Total Porosity** and **Saturated Zone Total Porosity** parameters are not applicable to the open space and office worker exposure scenarios since there is no ground water exposure pathway for these exposure scenarios. The total porosity of a porous medium is the ratio of the pore volume to the total volume of a representative sample of the medium (Argonne, 1993a). The total porosity of 0.3 is representative of the alluvium and valley fill, the arapahoe formation and the laramie/fox hills hydrostratigraphic units and was taken from the recently published Hydrogeologic Characterization Report for the Rocky Flats Environmental Technology Site which contains hydrogeologic data applicable to the RFETS.

The **Contaminated Zone Effective Porosity, Uncontaminated Zone Effective Porosity** and **Saturated Zone Effective Porosity** were given a value of 0.1 (EG&G, 1995) for the residential exposure scenario. The **Contaminated Zone Effective Porosity** was also given a value of 0.1 for the open space and office worker exposure scenarios. The **Uncontaminated Zone Effective Porosity** and **Saturated Zone Effective Porosity** parameters are not applicable to the open space and office worker exposure scenarios since there is no ground water exposure pathway for these

exposure scenarios. This effective porosity of 0.1 is applicable to the rocky flats alluvium, valley fill alluvium, colluvium and Arapahoe/Laramie bedrock and was taken from the recently published Hydrogeologic Characterization Report for the Rocky Flats Environmental Technology Site which contains hydrogeologic data applicable to the RFETS. The effective porosity of a porous medium is defined as the ratio of the part of the pore volume where the water can circulate to the total volume of a representative sample of the medium (Argonne, 1993a).

The value of 44.5 meters/year (DOE, 1995a) was given to the **Contaminated Zone Hydraulic Conductivity, the Uncontaminated Zone Hydraulic Conductivity** and the **Saturated Zone Hydraulic Conductivity** for the residential exposure scenario. The value of 44.5 meters/year was also given to the **Contaminated Zone Hydraulic Conductivity** for the open space and office worker exposure scenarios. The **Uncontaminated Zone Hydraulic Conductivity** and the **Saturated Zone Hydraulic Conductivity** parameters are not applicable to the open space and office worker exposure scenarios since there is no ground water exposure pathway for these exposure scenarios. This value is the geometric mean of the hydraulic conductivity field measurements from the colluvium in Operable Unit 1. The reason the colluvium value was chosen is that any radionuclide contamination would need to traverse the colluvium before it entered surface water. This RFETS specific hydraulic conductivity agrees well with the range of hydraulic conductivities given for the colluvium of 38 meters/year to 67 meters/year (EG&G, 1995) which was published in the Hydrogeologic Characterization Report for the Rocky Flats Environmental Technology Site. The reason the colluvium value was chosen is that any radionuclide contamination would need to traverse the colluvium before it entered surface water. The hydraulic conductivity of a soil is a measure of the soil's ability to transmit water when submitted to a hydraulic gradient. Hydraulic conductivity is defined by Darcy's Law (Argonne, 1993a).

The **Contaminated Zone b Parameter** and the **Uncontaminated Zone b Parameter** are set at a value of 10.40 (Argonne, 1993b) for the residential exposure scenario. The **Contaminated Zone b Parameter** is set at a value of 10.40 for the open space and office worker exposure scenarios. The

Uncontaminated Zone b Parameter is not applicable to the open space and office worker exposure scenarios since there is no ground water exposure pathway for these exposure scenarios. There is no **Saturated Zone b Parameter** for any exposure scenario since the water table is assumed to be stable over the modeling period. This value for the soil specific b-parameter is applicable for hydraulic conductivities between 32.6 and 68.4 meter/year and is appropriate given the magnitude of the hydraulic conductivity defined above. The soil-specific b-parameter is an empirical and dimensionless parameter that is used to evaluate the saturation ratio (or the volumetric water saturation) of the soil (Argonne, 1993a).

The **Evapotranspiration Coefficient** was given a value of 0.253 (Argonne, 1993b) for the residential exposure scenario and a value of 0.920 (Argonne, 1993b) for the open space and office worker exposure scenarios. The reason these coefficients are different is that the irrigation rate is assumed to be 1.0 meter/year (Argonne, 1993b) for the residential exposure scenario and 0 meter/year for the open space and office worker exposure scenarios. The evapotranspiration coefficient is the ratio of the total volume of water leaving the ground as the result of evapotranspiration to the total volume of water available within the root zone of the soil during a fixed period of time (Argonne, 1993a). To calculate this parameter, the annual precipitation rate, infiltration rate, runoff coefficient and evapotranspiration rate were needed. Values of 0.381 meter/year, 0.028 meter/year, 0.004 and 0.349 meter/year were assigned to these parameters, respectively. These site specific values were based on information provided in the Operable Unit 2 RFI/RI Report (DOE, 1995a) and represent an infiltration rate of about 7.3% of the annual precipitation and an evapotranspiration rate of about 91.7% of precipitation (RMRS, 1996). The precipitation rate is equal to the sum of the infiltration rate, the runoff rate and the evapotranspiration rate (Argonne, 1993b). The evapotranspiration rate is the total volume of water vapor that is transferred to the atmosphere because of the combined effect of evaporation and transpiration, per unit of the ground surface area and per unit of time at the site (Argonne, 1993a).

The **Precipitation Rate** is the average volume of water in the form of rain, snow, hail or sleet that

falls per unit of area and per unit of time at the site. The precipitation rate was set at 0.381 meter/year (RMRS, 1996) for all exposure scenarios. The precipitation rate is a long term annual average value for RFETS.

The **Irrigation Rate** is the average volume of water that is added to the soil at the site, per unit of surface area and per unit of time (Argonne, 1993a). The irrigation rate has been set at 1.0 meter/year for the residential exposure scenario which is the RESRAD default value for arid regions (Argonne, 1993b). The irrigation rate has been set at 0 meter/year for the open space and office worker exposure scenarios since the irrigation of homegrown produce exposure pathway is not assessed for these exposure scenarios.

The **Irrigation Mode** was set in the overhead configuration for the residential exposure scenario which is the RESRAD default (Argonne, 1993b). This parameter is not applicable for the open space and office worker exposure scenarios since the irrigation of homegrown produce is not assessed for these exposure scenarios. The irrigation mode is the process by which irrigation water is applied to the area of interest. It is assumed within the RESRAD code that the application of irrigation water is controlled and that none of this water is lost to runoff.

The **Runoff Coefficient** is the fraction of the average annual precipitation that does not infiltrate into the soil and is not transferred back to the atmosphere through evapotranspiration (Argonne, 1993a). A site specific value of 0.004 was applied to the runoff coefficient (RMRS, 1996) for all exposure scenarios which was again based on data found in the operable unit 2 RFI/RI Report (DOE, 1995a). The runoff coefficient is a long term annual average value. This fraction represents a runoff of approximately 0.4% of annual precipitation.

The **Watershed Area For Nearby Stream or Pond** was given a value of 8280000 meter^2 (DOE, 1996) for the residential exposure scenario. This parameter is not applicable for the open space and office worker exposure scenarios since ground water transport to surface water is not being assessed

for these exposure scenarios. The value chosen for use represents the surface area of the Woman Creek watershed. This is an appropriate value since the watershed area parameter represents the area of the region draining into the nearby stream or pond located at the vicinity of the site (Argonne, 1993a).

The **Accuracy For Water/Soil Computations** was set at the RESRAD default value of 0.001 for the residential exposure scenario. This parameter is not applicable for the open space and office worker exposure scenarios since there is no ground water exposure pathway for these exposure scenarios. This parameter is the fractional accuracy desired (convergence criterion) in the Romberg integration used to obtain water/soil concentration ratios (Argonne, 1993a).

A value of 0.15 was given to the **Saturated Zone Hydraulic Gradient** (DOE, 1995a) for the residential exposure scenario. This parameter is not applicable for the open space and office worker exposure scenarios since there is no ground water exposure pathway for these exposure scenarios. The site specific value of 0.15 was taken from the hillside of the Woman Creek drainage using the May 1992 alluvial/colluvial water table map. The hydraulic gradient is the change in hydraulic head per unit of distance of the ground water flow in a given direction (Argonne, 1993a).

The **Water Table Drop Rate** was set at a value of 0 meter/year for the residential exposure scenario. This drop rate is the annual rate at which the depth of the water table lowers (Argonne, 1993a). This parameter is not applicable for the open space and office worker exposure scenarios since there is no ground water exposure pathway for these exposure scenarios. The value of 0 meter/year was applied so that the physical ground setting would not change over the 1,000 year modelling period. This parameter value was chosen by professional judgement.

The **Well Pump Intake Depth** is the screened depth of a well within the aquifer (Argonne, 1993a). The well pump intake depth was set at the RESRAD default of 10 meters for the residential exposure scenario. This parameter is not applicable for the open space and office worker exposure scenarios

since there is no ground water exposure pathway for these exposure scenarios. This value over estimates the amount of ground water available for pumping at RFETS.

The **Nondispersion or Mass Balance** parameter selects which of two models will be used for water/soil concentration ratio calculations (Argonne, 1993b). The RESRAD default, nondispersion model was chosen for the residential exposure scenario. This parameter is not applicable for the open space and office worker exposure scenarios since there is no ground water exposure pathway for these exposure scenarios.

The **Well Pumping Rate** was chosen to be 250 m^3/year for the residential exposure scenario which is the RESRAD default (Argonne, 1993b). This parameter is not applicable for the open space and office worker exposure scenarios since there is no ground water exposure pathway for these exposure scenarios. The well pumping rate is the total volume of well water withdrawn for use per individual (Argonne, 1993a). The use of the RESRAD default is not appropriate at the RFETS since ground water will not be used for domestic purposes, but for modeling purposes, it is necessary to specify a source of water for irrigation.

The **Thickness of the Uncontaminated, Unsaturated Zone** was chosen to be 3.0 meters for the residential exposure scenario. This parameter is not applicable for the open space and office worker exposure scenarios since there is no ground water exposure pathway for these exposure scenarios. This thickness is the portion of the uncontaminated zone that lies below the bottom of the contaminated surface soils and above the water table (Argonne, 1993a). The thickness chosen for use is consistent with the depth of the T-3 and T-4 trenches (Kaiser-Hill, 1996). This 3.0 meter thickness was chosen so that the uncontaminated, unsaturated zone thickness will be equivalent to a contaminated unsaturated zone (e.g., the definition for contaminated subsurface soils). Therefore, the physical model will not change from the surface soil model to the subsurface soil model. Subsurface soil modeling will assume that a contaminated, unsaturated zone is located under surface soils to the depth of trenched material at RFETS.

The **Distribution Coefficient** is the ratio of the mass of solute species adsorbed or precipitated on the soils per unit of dry mass of the soil to the solute concentration in the liquids (Argonne, 1993a). The distribution coefficient for Plutonium was taken to be 218 cm^3/gram, and the distribution coefficient for Americium was taken to be 76 cm^3/gram (DOE, 1995a). These values represent the midpoint of the range of distribution coefficients reported in the operable unit 2 RFI/RI Report. The distribution coefficient for Uranium and for all other associated radionuclides was set at the RESRAD default value which is outlined in Attachment I. These values for the distribution coefficient were applied to the residential, open space and office worker exposure scenarios.

The **Inhalation Rate** was set at 7000 m^3/year (DOE, 1995b) for the residential exposure scenario which assumes that the resident inhales dust contaminated air at a rate of 20 m^3/day for 350 days/year. The **Inhalation Rate** was set at 175 m^3/year (DOE, 1995b) for the open space exposure scenario which assumes that the open space user inhales dust contaminated air at a rate of 1.4 m^3/hr, 5 hr/visit for 25 visits/year. The **Inhalation Rate** was set at 1660 m^3/year (DOE, 1995b) for the office worker exposure scenario which assumes that the office worker inhales dust contaminated air at a rate of 0.83 m^3/hr, 8 hr/day for 250 days/year. The inhalation rate is the annual average rate for different activity levels (Argonne, 1993a). These values are the standard EPA Reasonable Maximum Exposure (RME) parameters and were approved for use at the RFETS by DOE, EPA and CDPHE.

The **Mass Loading** parameter is the concentration of soil particles in the air (Argonne, 1993a). This parameter was set at 0.000026 grams/m^3 (Kaiser-Hill, 1995) for all exposure scenarios. Since radiation dose is calculated on an annual basis, this parameter should correspond to the annual average PM-10 (Particulate Matter < 10 micron) concentration expected at the site. The PM-10 concentrations for six air monitors at RFETS were as examined for the years 1990 through 1995. To be conservative, the PM-10 concentration was maximized by using the air monitor closest to the Standley Lake surface water project during construction activities for that project. The average PM-10 concentration from June through October, 1995 from this air monitor was used for the Mass Loading parameter.

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The **Dilution Length** was set at the RESRAD default of 3 meters (Argonne, 1993b) for all exposure scenarios. The dilution length is the average mixing height or length for airborne dust used to estimate the dilution process in which resuspended contaminated dust is mixed with uncontaminated dust blown in from off-site (Argonne, 1993b).

The **Exposure Duration** was set at a value of 30 years (DOE, 1995b) for the residential and open space exposure scenarios. The **Exposure Duration** was set at a value of 25 years (DOE, 1995b) for the office worker exposure scenario. The exposure duration is the span of time, in years, during which an individual is expected to spend time on the site (Argonne, 1993b). These values are the standard EPA RME parameters and were approved for use at the RFETS by DOE, EPA and CDPHE.

The **Inhalation Shielding Factor** was set at a value of 1.0 (DOE, 1995b) for all exposure scenarios. This factor is the ratio of the contaminated airborne dust concentrations indoors to the contaminated airborne dust concentrations outdoors (Argonne, 1993a). This factor is also the ratio of the contaminated settled dust concentrations indoors to the contaminated soil concentrations outdoors. This value was set at 1.0 so that the indoor and outdoor air concentrations and soil/dust concentrations are equal. The value of 1.0 allows an individual to be located indoors or outdoors and be exposed to the same concentration of radioactive material in air and in soil/dust.

The **External Gamma Shielding Factor** is the ratio of the external gamma radiation level indoors to the radiation level outdoors (Argonne, 1993a). Concerning external gamma radiation dose, DOE, EPA and CDPHE have approved the use of external gamma shielding factors that take into account the shielding provided by a house or building. Since external gamma radiation dose factors assume that a person is exposed to radioactive material for 24 hrs/day, 365 days/yr, DOE, EPA and CDPHE have also approved the use of a time factor for external gamma radiation dose that takes into account the fraction of time an individual is actually at the contaminated site. Both of these factors have been incorporated into the **External Gamma Shielding Factor** (DOE, 1995b). This shielding factor was

set at a value of 0.8 (DOE, 1995b) for the residential exposure scenario which accounts for building shielding only. The external gamma shielding factor was set at a value of 0.014 (DOE, 1995b) for the open space exposure scenario which only takes into account the fraction of time an open space user is actually at the contaminated site. The external gamma shielding factor was set at a value of 0.17 (DOE, 1995b) for the office worker exposure scenario which takes into account building shielding and the fraction of time an office worker is actually at the office.

The **Indoor Time Fraction** was given a value of 1.0 (DOE, 1995b) for all exposure scenarios. The fraction of time spent indoors is the average fraction of time in a year during which an individual stays inside a house or a building on the contaminated site (Argonne, 1993a). Eventhough an open space user would not be inside a building, it is necessary to assume this so that the external gamma exposure could be correctly assessed for the open space user. Due to the Inhalation Shielding Factor, the air and soil/dust concentrations inside and outside are the same for all exposure scenarios.

The **Outdoor Time Fraction** was given a value of 0 (DOE, 1995b) for all exposure scenarios. The fraction of time spent outdoors on-site is the average fraction of time in a year during which an individual stays outdoors on the contaminated site (Argonne, 1993a). The value of 0 is appropriate since it is assumed that the indoor time fraction is 1.0.

The **Shape Factor** is used to correct for a noncircular-shaped contaminated area on the basis of an ideally circular zone and was set at the RESRAD default value of 1.0 (Argonne, 1993a) for all exposure scenarios.

The **Fruits, Nonleafy Vegetables and Grain Consumption** parameter was set at a value of 40.1 kg/year (DOE, 1995b) for the residential exposure scenario. Since the open space and office worker exposure scenarios do not require the assessment of the ingestion of homegrown produce pathways, this parameter is not applicable to these exposure scenarios. This parameter is an annual dietary factor for human food consumption of fruits, nonleafy vegetables and grains (Argonne, 1993a). This

value is the standard EPA RME parameter and was approved for use at the RFETS by DOE, EPA and CDPHE.

The **Leafy Vegetable Consumption** parameter was set at a value of 2.6 kg/year (DOE, 1995b) for the residential exposure scenario. Since the open space and office worker exposure scenarios do not require the assessment of the ingestion of homegrown produce pathway, this parameter is not applicable to these exposure scenarios. This parameter is an annual dietary factor for human food consumption of leafy vegetables (Argonne, 1993a). This value is the standard EPA RME parameter and was approved for use at the RFETS by DOE, EPA and CDPHE..

The **Soil Ingestion Rate** parameter was given a value of 70 grams/year (DOE, 1995b) for the residential exposure scenario which was derived assuming that a resident ingests soil at a rate of 200 mg/day for 350 days/yr. This ingestion rate is applicable to a child and is being used since radiation dose is regulated on an annual basis. The **Soil Ingestion Rate** parameter was given a value of 2.5 grams/year (DOE, 1995b) for the open space exposure scenario which was derived assuming that the open space user ingests soil at a rate of 100 mg/visit for 25 visits/yr. The **Soil Ingestion Rate** parameter was given a value of 12.5 grams/year (DOE, 1995b) for the office worker exposure scenario which was derived assuming that the office worker ingests soil at a rate of 50 mg/day for 250 days/year. This parameter represents the incidental ingestion rate of soil material or soil dust (Argonne, 1993a). These values are the standard EPA RME parameters and were approved for use at the RFETS by DOE, EPA and CDPHE..

The **Irrigation Water, Contamination Fraction** is the fraction of irrigation water for homegrown produce that is contaminated (Argonne, 1993b) and is given a value of 0.0 for the residential exposure scenario. This is true at RFETS because ground water will not be used for domestic purposes. Since the open space and office worker exposure scenarios do not require the assessment of the ingestion of homegrown produce pathway, this parameter is not applicable to these exposure scenarios.

The **Plant Food, Contamination Fraction** is the fraction of the homegrown produce that is assumed to be contaminated (Argonne, 1993b) and is given a value of 1.0 for the residential exposure scenario. This assumption means that the total plant intake is assumed to be contaminated. Since the open space and office worker exposure scenarios do not require the assessment of the ingestion of homegrown produce pathway, this parameter is not applicable to these exposure scenarios.

The **Mass Loading For Foliar Deposition** parameter was set at the RESRAD default of 0.0001 grams/m^3 (Argonne, 1993b) for the residential exposure scenario. This foliar deposition parameter is the air/soil concentration ratio, specified as the average mass loading of airborne contaminated soil particles in a garden during the growing season (Argonne, 1993b). Since the open space and office worker exposure scenarios do not require the assessment of the ingestion of homegrown produce pathway, this parameter is not applicable to these exposure scenarios.

The **Depth of Soil Mixing Layer** parameter was set at the RESRAD default value of 0.15 meter (Argonne, 1993b) for all exposure scenarios. This mixing layer is the depth over which the surface soil is uniformly mixed and is used in calculating the depth factor for the dust inhalation, soil ingestion and foliar deposition pathways (Argonne, 1993b).

The **Depth of Roots** parameter was set at the RESRAD default value of 0.9 meter for the residential exposure scenario and is considered to be the average root depth of various plants grown in the contaminated zone (Argonne, 1993a). Since the open space and office worker exposure scenarios do not require the assessment of the ingestion of homegrown produce pathway, this parameter is not applicable to these exposure scenarios.

The RESRAD default value of 1.0 was assigned to the **Groundwater Fractional Usage, Irrigation** parameter (Argonne, 1993b) for the residential exposure scenario. Since the open space and office worker exposure scenarios do not require the assessment of the ingestion of homegrown produce pathway, this parameter is not applicable to these exposure scenarios. This irrigation parameter is

the fraction of ground water used to irrigate produce. The use of the RESRAD default is not appropriate at the RFETS since ground water will not be used for domestic purposes, but for modeling purposes, it is necessary to specify a source of water for irrigation. Therefore, ground water was selected for use. The ground water used for irrigation is not considered to be contaminated.

The **Average Storage Time for Fruits, Nonleafy Vegetables and Grain Consumption** was set at the RESRAD default value of 14 days (Argonne, 1993b) for the residential exposure scenario. Since the open space and office worker exposure scenarios do not require the assessment of the ingestion of homegrown produce pathway, this parameter is not applicable to these exposure scenarios. The storage time parameter allows the ingrowth and decay of radionuclides over the storage time specified before ingestion occurs (Argonne, 1993b). Due to the long half-lives of the radionuclides being assessed, this parameter has an insignificant effect on the action level.

The **Average Storage Time for Leafy Vegetables Consumption** was set at the RESRAD default value of 1 day (Argonne, 1993b) for the residential exposure scenario. Since the open space and office worker exposure scenarios do not require the assessment of the ingestion of homegrown produce pathway, this parameter is not applicable to these exposure scenarios. The storage time parameter allows the ingrowth and decay of radionuclides over the storage time specified before ingestion occurs (Argonne, 1993b). Due to the long half-lives of the radionuclides being assessed, this parameter has an insignificant effect on the action level.

The **Average Storage Time for Well Water and Surface Water Use** were both set at the RESRAD default value of 1 day (Argonne, 1993b) for the residential exposure scenario. Since the open space and office worker exposure scenarios do not require the assessment of the ingestion of homegrown produce pathway, this parameter is not applicable to these exposure scenarios. The storage time parameter allows the ingrowth and decay of radionuclides over the storage time specified before ingestion occurs (Argonne, 1993b). Due to the long half-lives of the radionuclides being assessed,

this parameter has an insignificant effect on the action level.

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Attachments

Attachment I - Surface Soil Exposure Parameter Definition
Attachment II - Surface Soil Action Levels
Attachment III - RESRAD Summary Output for the Residential Tier I (85 mrem) Action Levels
Attachment IV - RESRAD Summary Output for the Residential Tier II (15 mrem) Action Levels
Attachment V - RESRAD Summary Output for the Open Space Tier I (15 mrem) Action Levels
Attachment VI - RESRAD Summary Output for the Office Worker Tier I (15 mrem) Action Levels

ATTACHMENT I
SURFACE SOIL EXPOSURE PARAMETER DEFINITION

Contaminated Zone Parameters

RESRAD Parameter	Units	Residential Surface Soils Parameters	Open Space Surface Soils Parameters	Office Worker Surface Soils Parameters
Area of Contaminated Zone	square meters	40,000	40,000	40,000
Thickness of Contaminated Zone	meters	0.15	0.15	0.15
Length Parallel to Aquifer Flow	meters	200	Not Applicable	Not Applicable
Radiation Dose Limit	mrem/year	85 & 15	15	15
Elapsed Time of Waste Placement	years	0	0	0

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Initial Concentrations of Principal Radionuclides

RESRAD Parameter	Units	Residential Surface Soils Parameters	Open Space Surface Soils Parameters	Office Worker Surface Soils Parameters
Plutonium-238, 239, 240, 241, 242	pCi/gram	100	100	100
Americium-241	pCi/gram	100	100	100
Uranium-234, 235, 238	pCi/gram	100	100	100

Cover and Contaminated Zone Hydrological Data

RESRAD Parameter	Units	Residential Surface Soils Parameters	Open Space Surface Soils Parameters	Office Worker Surface Soils Parameters
Cover Depth	meters	0	0	0
Density of Contaminated Zone	grams/cm^3	1.8	1.8	1.8
Contaminated Zone Erosion Rate	meters/year	7.49E-05	7.49E-05	7.49E-05
Contaminated Zone Total Porosity	Dimensionless	0.3	0.3	0.3
Contaminated Zone Effective Porosity	Dimensionless	0.1	0.1	0.1
Contaminated Zone Hydraulic Conductivity	meters/year	44.5	44.5	44.5
Contaminated Zone b Parameter	Dimensionless	10.4	10.4	10.4
Evapotranspiration Coefficient	Dimensionless	0.253	0.920	0.920
Precipitation	meters/year	0.381	0.381	0.381
Irrigation	meters/year	1	0.0	0.0
Irrigation Mode	Dimensionless	Overhead	Not Applicable	Not Applicable
Runoff Coefficient	Dimensionless	0.004	0.004	0.004
Watershed Area For Nearby Stream or Pond	meter^2	8280000	Not Applicable	Not Applicable
Accuracy For Water/Soil Computations	Dimensionless	0.001	Not Applicable	Not Applicable

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Saturated Zone Hydrological Data

RESRAD Parameter	Units	Residential Surface Soils Parameters	Open Space Surface Soils Parameters	Office Worker Surface Soils Parameters
Density of Saturated Zone	grams/cm3	1.8	Not Applicable	Not Applicable
Saturated Zone Total Porosity	Dimensionless	0.3	Not Applicable	Not Applicable
Saturated Zone Effective Porosity	Dimensionless	0.1	Not Applicable	Not Applicable
Saturated Zone Hydraulic Conductivity	meters/year	44.5	Not Applicable	Not Applicable
Saturated Zone Hydraulic Gradient	Dimensionless	0.15	Not Applicable	Not Applicable
Water Table Drop Rate	meters/year	0	Not Applicable	Not Applicable
Well Pump Intake Depth	Meters Below Water Table	10	Not Applicable	Not Applicable
Nondispersion or Mass Balance	Dimensionless	Nondispersion	Not Applicable	Not Applicable
Well Pumping Rate	m^3/year	250	Not Applicable	Not Applicable

Uncontaminated and Unsaturated Strata Hydrological Data

RESRAD Parameter	Units	Residential Surface Soils Parameters	Open Space Surface Soils Parameters	Office Worker Surface Soils Parameters
Thickness	meters	3	Not Applicable	Not Applicable
Density of Saturated Zone	grams/cm^3	1.8	Not Applicable	Not Applicable
Total Porosity	Dimensionless	0.3	Not Applicable	Not Applicable
Effective Porosity	Dimensionless	0.1	Not Applicable	Not Applicable
Soil-Specific b Parameter	Dimensionless	10.4	Not Applicable	Not Applicable
Hydraulic Conductivity	meters/year	44.5	Not Applicable	Not Applicable

Distribution Coefficients

Radionuclide	Units	Residential Surface Soils Parameters	Open Space Surface Soils Parameters	Office Worker Surface Soils Parameters
Plutonium	cm^3/gram	218	218	218
Americium	cm^3/gram	76	76	76
Uranium	cm^3/gram	50	50	50
Actinium	cm^3/gram	20	20	20
Neptunium	cm^3/gram	-1 (a)	-1 (a)	-1 (a)
Protactinium	cm^3/gram	50	50	50
Lead	cm^3/gram	100	100	100
Radium	cm^3/gram	70	70	70
Thorium	cm^3/gram	60,000	60,000	60,000

(a) - This distribution coefficient is calculated by the RESRAD code based on a correlation with the plant-soil concentration ratio.

Soil Inhalation, Ingestion and External Gamma Parameters

RESRAD Parameter	Units	Residential Surface Soils Parameters	Open Space Surface Soils Parameters	Office Worker Surface Soils Parameters
Inhalation Rate	m^3/year	7000	175	1660
Mass Loading	grams/m^3	0.000026	0.000026	0.000026
Dilution Length	meters	3	3	3
Exposure Duration	years	30	30	25
Inhalation Shielding Factor	dimensionless	1.0	1.0	1.0
External Gamma Shielding Factor	dimensionless	0.8	0.014	0.17
Indoor Time Fraction	dimensionless	1.0	1.0	1.0
Outdoor Time Fraction	dimensionless	0	0	0
Shape Factor	dimensionless	1.0	1.0	1.0

Vegetable and Fruit Ingestion Parameters

RESRAD Parameter	Units	Residential Surface Soils Parameters	Open Space Surface Soils Parameters	Office Worker Surface Soils Parameters
Fruits, Nonleafy Vegetables & Grain Consumption	kg/year	40.1	Not Applicable	Not Applicable
Leafy Vegetable Consumption	kg/year	2.6	Not Applicable	Not Applicable
Soil Ingestion Rate	gram/year	70	2.5	12.5
Irrigation Water, Contamination Fraction	Dimensionless	0	Not Applicable	Not Applicable
Plant Food, Contamination Fraction	Dimensionless	1	Not Applicable	Not Applicable
Mass Loading For Foliar Deposition	grams/m3	0.0001	Not Applicable	Not Applicable
Depth of Soil Mixing Layer	meter	0.15	0.15	0.15
Depth of Roots	meter	0.9	Not Applicable	Not Applicable
Groundwater Fractional Usage, Irrigation	Dimensionless	1	Not Applicable	Not Applicable
Fruits, Nonleafy Vegetables & Grain Consumption, Average Storage Time	days	14	Not Applicable	Not Applicable
Leafy Vegetables, Average Storage Time	days	1	Not Applicable	Not Applicable
Well Water, Average Storage Time	days	1	Not Applicable	Not Applicable
Surface Water, Average Storage Time	days	1	Not Applicable	Not Applicable

ATTACHMENT II
SURFACE SOIL ACTION LEVELS

Radionuclide	TIER I Residential Exposure Scenario, Direct Exposure to Surficial Soils at the 85 Millirem Dose Limit (pCi/gram)	TIER II Residential Exposure Scenario, Direct Exposure to Surficial Soils at the 15 Millirem Dose Limit (pCi/gram)	TIER I Open Space Exposure Scenario, Direct Exposure to Surficial Soils at the 15 Millirem Dose Limit (pCi/gram)	TIER I Office Worker Exposure Scenario, Direct Exposure to Surficial Soils at the 15 Millirem Dose Limit (pCi/gram)
Americium-241	215	38	1283	209
Plutonium-238	1529	270	10580	1164
Plutonium-239	1429	252	9906	1088
Plutonium-240	1432	253	9919	1089
Plutonium-241	19830	3499	48020	7801
Plutonium-242	1506	266	10430	1145
Uranium-234	1738	307	11500	1627
Uranium-235	135	24	1314	113
Uranium-238	586	103	5079	506

ATTACHMENT III
RESRAD SUMMARY OUTPUT FOR THE RESIDENTIAL TIER I (85 MREM) ACTION LEVELS

Summary : Residential surface soil exposure at the 85 millirem level
File : \RES561\PUBLIC\RESDNT85.DAT

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Dose Conversion Factor (and Related) Parameter Summary
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.720E+00	6.720E+00	DCF2(1)
B-1	Am-241	4.440E-01	4.440E-01	DCF2(2)
B-1	Np-237+D	5.400E-01	5.400E-01	DCF2(3)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(4)
B-1	Pb-210+D	2.320E-02	2.320E-02	DCF2(5)
B-1	Pu-238	2.880E-01	3.920E-01	DCF2(6)
B-1	Pu-239	3.080E-01	4.290E-01	DCF2(7)
B-1	Pu-240	3.080E-01	4.290E-01	DCF2(8)
B-1	Pu-241+D	4.960E-03	8.250E-03	DCF2(9)
B-1	Pu-242	2.930E-01	4.110E-01	DCF2(11)
B-1	Ra-226+D	8.600E-03	8.600E-03	DCF2(12)
B-1	Ra-228+D	5.080E-03	5.080E-03	DCF2(13)
B-1	Th-228+D	3.450E-01	3.450E-01	DCF2(14)
B-1	Th-229+D	2.160E+00	2.160E+00	DCF2(15)
B-1	Th-230	3.260E-01	3.260E-01	DCF2(16)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(17)
B-1	U-233	1.350E-01	1.350E-01	DCF2(18)
B-1	U-234	1.320E-01	1.320E-01	DCF2(19)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(20)
B-1	U-236	1.250E-01	1.250E-01	DCF2(21)
B-1	U-238+D	1.180E-01	1.180E-01	DCF2(22)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Ac-227+D	1.480E-02	1.480E-02	DCF3(1)
D-1	Am-241	3.640E-03	3.640E-03	DCF3(2)
D-1	Np-237+D	4.440E-03	4.440E-03	DCF3(3)
D-1	Pa-231	1.060E-02	1.060E-02	DCF3(4)
D-1	Pb-210+D	7.270E-03	7.270E-03	DCF3(5)
D-1	Pu-238	4.960E-05	3.200E-03	DCF3(6)
D-1	Pu-239	5.180E-05	3.540E-03	DCF3(7)
D-1	Pu-240	5.180E-05	3.540E-03	DCF3(8)
D-1	Pu-241+D	7.660E-07	6.850E-05	DCF3(9)
D-1	Pu-242	4.920E-05	3.360E-03	DCF3(11)
D-1	Ra-226+D	1.330E-03	1.330E-03	DCF3(12)
D-1	Ra-228+D	1.440E-03	1.440E-03	DCF3(13)
D-1	Th-228+D	8.080E-04	8.080E-04	DCF3(14)
D-1	Th-229+D	4.030E-03	4.030E-03	DCF3(15)
D-1	Th-230	5.480E-04	5.480E-04	DCF3(16)
D-1	Th-232	2.730E-03	2.730E-03	DCF3(17)
D-1	U-233	2.890E-04	2.890E-04	DCF3(18)
D-1	U-234	2.830E-04	2.830E-04	DCF3(19)
D-1	U-235+D	2.670E-04	2.670E-04	DCF3(20)
D-1	U-236	2.690E-04	2.690E-04	DCF3(21)
D-1	U-238+D	2.690E-04	2.690E-04	DCF3(22)
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)

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Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-34	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,1)
D-34	Am-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-05	5.000E-05	RTF(2,2)
D-34	Am-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-06	2.000E-06	RTF(2,3)
D-34				
D-34	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(3,1)
D-34	Np-237+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(3,2)
D-34	Np-237+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(3,3)
D-34				
D-34	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(4,1)
D-34	Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(4,2)
D-34	Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(4,3)
D-34				
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(5,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(5,3)
D-34				
D-34	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Pu-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Pu-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(6,3)
D-34				
D-34	Pu-239 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Pu-239 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Pu-239 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(7,3)
D-34				
D-34	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,1)
D-34	Pu-240 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(8,2)
D-34	Pu-240 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(8,3)
D-34				
D-34	Pu-241+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(9,1)
D-34	Pu-241+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(9,2)
D-34	Pu-241+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(9,3)
D-34				
D-34	Pu-242 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,1)
D-34	Pu-242 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(11,2)
D-34	Pu-242 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(11,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(12,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(12,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(12,3)
D-34				
D-34	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,1)
D-34	Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(13,2)
D-34	Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(13,3)
D-34				
D-34	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(14,1)
D-34	Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(14,2)
D-34	Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(14,3)
D-34				

Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-34	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(15,1)
D-34	Th-229+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(15,2)
D-34	Th-229+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(15,3)
D-34				
D-34	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,1)
D-34	Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(16,2)
D-34	Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(16,3)
D-34				
D-34	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,1)
D-34	Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(17,2)
D-34	Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(17,3)
D-34				
D-34	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(18,1)
D-34	U-233 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(18,2)
D-34	U-233 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(18,3)
D-34				
D-34	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(19,1)
D-34	U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(19,2)
D-34	U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(19,3)
D-34				
D-34	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,1)
D-34	U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(20,2)
D-34	U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(20,3)
D-34				
D-34	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,1)
D-34	U-236 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(21,2)
D-34	U-236 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(21,3)
D-34				
D-34	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,1)
D-34	U-238+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(22,2)
D-34	U-238+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(22,3)
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	Am-241 , fish	3.000E+01	3.000E+01	BIOFAC(2,1)
D-5	Am-241 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC(2,2)
D-5				
D-5	Np-237+D , fish	3.000E+01	3.000E+01	BIOFAC(3,1)
D-5	Np-237+D , crustacea and mollusks	4.000E+02	4.000E+02	BIOFAC(3,2)
D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(4,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(4,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(5,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(5,2)
D-5				
D-5	Pu-238 , fish	3.000E+01	3.000E+01	BIOFAC(6,1)
D-5	Pu-238 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(6,2)

Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-5	Pu-239 , fish	3.000E+01	3.000E+01	BIOFAC(7,1)
D-5	Pu-239 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(7,2)
D-5				
D-5	Pu-240 , fish	3.000E+01	3.000E+01	BIOFAC(8,1)
D-5	Pu-240 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(8,2)
D-5				
D-5	Pu-241+D , fish	3.000E+01	3.000E+01	BIOFAC(9,1)
D-5	Pu-241+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(9,2)
D-5				
D-5	Pu-242 , fish	3.000E+01	3.000E+01	BIOFAC(11,1)
D-5	Pu-242 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(11,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(12,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(12,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(13,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(13,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(14,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(14,2)
D-5				
D-5	Th-229+D , fish	1.000E+02	1.000E+02	BIOFAC(15,1)
D-5	Th-229+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(15,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(16,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(16,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(17,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(17,2)
D-5				
D-5	U-233 , fish	1.000E+01	1.000E+01	BIOFAC(18,1)
D-5	U-233 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(18,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(19,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(19,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(20,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(20,2)
D-5				
D-5	U-236 , fish	1.000E+01	1.000E+01	BIOFAC(21,1)
D-5	U-236 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(21,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(22,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(22,2)

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)	4.000E+04	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	1.500E-01	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	2.000E+02	1.000E+02	---	LCZPAQ
R011	Basic radiation dose limit (mrem/yr)	8.500E+01	3.000E+01	---	BRDL
R011	Time since placement of material (yr)	0.000E+00	0.000E+00	---	TI
R011	Times for calculations (yr)	1.000E+00	1.000E+00	---	T(2)
R011	Times for calculations (yr)	3.000E+00	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+01	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+01	3.000E+01	---	T(5)
R011	Times for calculations (yr)	1.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	3.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	1.000E+03	1.000E+03	---	T(8)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Am-241	1.000E+02	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Pu-238	1.000E+02	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g): Pu-239	1.000E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g): Pu-240	1.000E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g): Pu-241	1.000E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g): Pu-242	1.000E+02	0.000E+00	---	S1(11)
R012	Initial principal radionuclide (pCi/g): U-234	1.000E+02	0.000E+00	---	S1(19)
R012	Initial principal radionuclide (pCi/g): U-235	1.000E+02	0.000E+00	---	S1(20)
R012	Initial principal radionuclide (pCi/g): U-238	1.000E+02	0.000E+00	---	S1(22)
R012	Concentration in groundwater (pCi/L): Am-241	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L): Pu-238	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L): Pu-239	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L): Pu-240	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L): Pu-241	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L): Pu-242	not used	0.000E+00	---	W1(11)
R012	Concentration in groundwater (pCi/L): U-234	not used	0.000E+00	---	W1(19)
R012	Concentration in groundwater (pCi/L): U-235	not used	0.000E+00	---	W1(20)
R012	Concentration in groundwater (pCi/L): U-238	not used	0.000E+00	---	W1(22)
R013	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	not used	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.800E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	7.490E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	3.000E-01	4.000E-01	---	TPCZ
R013	Contaminated zone effective porosity	1.000E-01	2.000E-01	---	EPCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	4.450E+01	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	1.040E+01	5.300E+00	---	BCZ
R013	Humidity in air (g/cm**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	2.530E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	3.810E-01	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	1.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	4.000E-03	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	8.280E+06	1.000E+06	---	WAREA

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Accuracy for water/soil computations	1.000E-03	1.000E-03	---	EPS
R014	Density of saturated zone (g/cm**3)	1.800E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	3.000E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	1.000E-01	2.000E-01	---	EPSZ
R014	Saturated zone hydraulic conductivity (m/yr)	4.450E+01	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	1.500E-01	2.000E-02	---	HGWT
R014	Saturated zone b parameter	5.300E+00	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)	ND	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	2.500E+02	2.500E+02	---	UW
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	3.000E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.800E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.000E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	1.000E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.040E+01	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.450E+01	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for Am-241				
R016	Contaminated zone (cm**3/g)	7.600E+01	2.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	7.600E+01	2.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	7.600E+01	2.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.012E-02	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R016	Distribution coefficients for Pu-238				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCU(6,1)
R016	Saturated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.750E-02	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Pu-239				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCU(7,1)
R016	Saturated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.750E-02	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Pu-240				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCU(8,1)
R016	Saturated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.750E-02	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 Pu-241				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCU(9,1
R016	Saturated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.750E-02	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for Pu-242				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCU(11,1
R016	Saturated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.750E-02	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(19)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(19,1
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(19)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(19)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(19)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(20)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(20,1
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(20)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(20)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(20)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(22)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(22,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(22)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(22)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(22)
R016	Distribution coefficients for daughter Ac-227				
R016	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.895E-01	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for daughter Np-237				
R016	Contaminated zone (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCU(3,1)
R016	Saturated zone (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.874E-02	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for daughter Pa-231				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(4,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for daughter Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU(5,1)
R016	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.811E-02	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for daughter Ra-226				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(12)
R016	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU(12,1)
R016	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS(12)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.441E-02	ALEACH(12)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(12)
R016	Distribution coefficients for daughter Ra-228				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(13)
R016	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU(13,1)
R016	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS(13)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.441E-02	ALEACH(13)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(13)
R016	Distribution coefficients for daughter Th-228				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(14)
R016	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU(14,1)
R016	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS(14)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.361E-05	ALEACH(14)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(14)
R016	Distribution coefficients for daughter Th-229				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(15)
R016	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU(15,1)
R016	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS(15)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.361E-05	ALEACH(15)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(15)
R016	Distribution coefficients for daughter Th-230				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(16)
R016	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU(16,1)
R016	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS(16)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.361E-05	ALEACH(16)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(16)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for daughter Th-232				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(17)
R016	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU(17,1)
R016	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS(17)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.361E-05	ALEACH(17)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(17)
R016	Distribution coefficients for daughter U-233				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(18)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(18,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(18)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(18)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(18)
R016	Distribution coefficients for daughter U-236				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(21)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(21,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(21)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(21)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(21)
R017	Inhalation rate (m**3/yr)	7.000E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	2.600E-05	2.000E-04	---	MLINH
R017	Dilution length for airborne dust, inhalation (m)	3.000E+00	3.000E+00	---	LM
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	1.000E+00	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	8.000E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	0.000E+00	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	1 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)	4.010E+01	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	2.600E+00	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)	7.000E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	not used	5.100E+02	---	DWI
R018	Contamination fraction of drinking water	not used	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	0.000E+00	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	1.000E+00	-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)	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	not used	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	not used	1.000E+00	---	FGWIR
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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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	not used	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	not used	2.000E+01	---	STOR_T(4)
STOR	Fish	not used	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	not used	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	not used	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR
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 annual wind speed (m/sec)	not used	2.000E+00	---	WIND
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)

Summary of Pathway Selections

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

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Summary : Residential surface soil exposure at the 85 millirem level
File : \RES561\PUBLIC\RESDNT85.DAT

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	40000.00 square meters	Am-241	1.000E+02
Thickness:	0.15 meters	Pu-238	1.000E+02
Cover Depth:	0.00 meters	Pu-239	1.000E+02
		Pu-240	1.000E+02
		Pu-241	1.000E+02
		Pu-242	1.000E+02
		U-234	1.000E+02
		U-235	1.000E+02
		U-238	1.000E+02

Total Dose TDOSE(t), mrem/yr
Basic Radiation Dose Limit = 85 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	1.450E+02	1.365E+02	1.212E+02	8.119E+01	2.973E+01	3.574E+00	8.137E-02	1.144E-03
M(t):	1.706E+00	1.606E+00	1.426E+00	9.552E-01	3.498E-01	4.205E-02	9.572E-04	1.346E-05

Maximum TDOSE(t): 1.450E+02 mrem/yr at t = 0.000E+00 years

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	3.438E+00	0.0237	7.961E+00	0.0549	0.000E+00	0.0000	2.693E+00	0.0186	0.000E+00	0.0000	0.000E+00	0.0000	2.548E+01	0.1758
Pu-238	1.200E-02	0.0001	5.164E+00	0.0356	0.000E+00	0.0000	3.669E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.472E-01	0.0024
Pu-239	2.280E-02	0.0002	5.523E+00	0.0381	0.000E+00	0.0000	3.833E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.626E-01	0.002[illegible]
Pu-240	1.168E-02	0.0001	5.523E+00	0.0381	0.000E+00	0.0000	3.833E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.626E-01	0.0025
Pu-241	1.469E-03	0.0000	8.894E-02	0.0006	0.000E+00	0.0000	5.658E-04	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.362E-03	0.0000
Pu-242	1.016E-02	0.0001	5.254E+00	0.0362	0.000E+00	0.0000	3.640E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.444E-01	0.0024
U-234	3.150E-02	0.0002	2.367E+00	0.0163	0.000E+00	0.0000	5.115E-01	0.0035	0.000E+00	0.0000	0.000E+00	0.0000	1.981E+00	0.0137
U-235	5.827E+01	0.4020	2.206E+00	0.0152	0.000E+00	0.0000	4.826E-01	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	1.869E+00	0.0129
U-238	1.001E+01	0.0691	2.116E+00	0.0146	0.000E+00	0.0000	4.862E-01	0.0034	0.000E+00	0.0000	0.000E+00	0.0000	1.883E+00	0.0130
Total	7.181E+01	0.4954	3.620E+01	0.2497	0.000E+00	0.0000	4.324E+00	0.0298	0.000E+00	0.0000	0.000E+00	0.0000	3.264E+01	0.2251

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.957E+01	0.2730
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.560E+00	0.0384
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.946E+00	0.0410
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.935E+00	0.0409
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.633E-02	0.0007
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.645E+00	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	4.891E+00	0.0337
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	6.283E+01	0.4334
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	1.450E+01	0.1000
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	1.450E+02	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.
Am-241	3.265E+00	0.0239	7.556E+00	0.0553	0.000E+00	0.0000	2.556E+00	0.0187	0.000E+00	0.0000	0.000E+00	0.0000	2.418E+01	0.1771
Pu-238	1.170E-02	0.0001	5.032E+00	0.0369	0.000E+00	0.0000	3.575E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.383E-01	0.0025
Pu-239	2.241E-02	0.0002	5.424E+00	0.0397	0.000E+00	0.0000	3.764E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.561E-01	0.0026
Pu-240	1.148E-02	0.0001	5.424E+00	0.0397	0.000E+00	0.0000	3.764E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.561E-01	0.0026
Pu-241	6.576E-03	0.0000	9.528E-02	0.0007	0.000E+00	0.0000	4.746E-03	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.353E-02	0.0003
Pu-242	9.984E-03	0.0001	5.160E+00	0.0378	0.000E+00	0.0000	3.575E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.383E-01	0.0025
U-234	2.919E-02	0.0002	2.192E+00	0.0161	0.000E+00	0.0000	4.738E-01	0.0035	0.000E+00	0.0000	0.000E+00	0.0000	1.835E+00	0.0134
U-235	5.400E+01	0.3955	2.043E+00	0.0150	0.000E+00	0.0000	4.485E-01	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	1.733E+00	0.0127
U-238	9.278E+00	0.0680	1.960E+00	0.0144	0.000E+00	0.0000	4.503E-01	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	1.744E+00	0.0128
Total	6.663E+01	0.4881	3.489E+01	0.2555	0.000E+00	0.0000	4.080E+00	0.0299	0.000E+00	0.0000	0.000E+00	0.0000	3.093E+01	0.2265

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

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.756E+01	0.2751
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.418E+00	0.0397
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.840E+00	0.0428
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.829E+00	0.0427
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.501E-01	0.0011
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.544E+00	0.0406
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	4.530E+00	0.0332
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	5.823E+01	0.4265
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	1.343E+01	0.0984
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	1.365E+02	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	2.944E+00	0.0243	6.807E+00	0.0561	0.000E+00	0.0000	2.303E+00	0.0190	0.000E+00	0.0000	0.000E+00	0.0000	2.178E+01	0.1797
Pu-238	1.112E-02	0.0001	4.778E+00	0.0394	0.000E+00	0.0000	3.395E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.213E-01	0.0026
Pu-239	2.163E-02	0.0002	5.232E+00	0.0432	0.000E+00	0.0000	3.631E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.435E-01	0.0028
Pu-240	1.108E-02	0.0001	5.231E+00	0.0431	0.000E+00	0.0000	3.630E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.434E-01	0.0028
Pu-241	1.508E-02	0.0001	1.050E-01	0.0009	0.000E+00	0.0000	1.144E-02	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	1.071E-01	0.0009
Pu-242	9.641E-03	0.0001	4.978E+00	0.0411	0.000E+00	0.0000	3.449E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.263E-01	0.0027
U-234	2.508E-02	0.0002	1.881E+00	0.0155	0.000E+00	0.0000	4.065E-01	0.0034	0.000E+00	0.0000	0.000E+00	0.0000	1.574E+00	0.0130
U-235	4.637E+01	0.3825	1.754E+00	0.0145	0.000E+00	0.0000	3.874E-01	0.0032	0.000E+00	0.0000	0.000E+00	0.0000	1.489E+00	0.0123
U-238	7.966E+00	0.0657	1.681E+00	0.0139	0.000E+00	0.0000	3.864E-01	0.0032	0.000E+00	0.0000	0.000E+00	0.0000	1.496E+00	0.0123
Total	5.738E+01	0.4732	3.245E+01	0.2676	0.000E+00	0.0000	3.635E+00	0.0300	0.000E+00	0.0000	0.000E+00	0.0000	2.779E+01	0.2292

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.384E+01	0.2791
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.144E+00	0.0424
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.634E+00	0.0465
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.622E+00	0.0464
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.386E-01	0.0020
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.348E+00	0.0441
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	3.887E+00	0.0321
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	5.000E+01	0.4124
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	1.153E+01	0.0951
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	1.212E+02	1.0000

*Sum of all water independent and dependent pathways.

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	2.050E+00	0.0252	4.722E+00	0.0582	0.000E+00	0.0000	1.598E+00	0.0197	0.000E+00	0.0000	0.000E+00	0.0000	1.511E+01	0.1861
Pu-238	9.307E-03	0.0001	3.986E+00	0.0491	0.000E+00	0.0000	2.833E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	2.680E-01	0.0033
Pu-239	1.913E-02	0.0002	4.612E+00	0.0568	0.000E+00	0.0000	3.201E-02	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	3.028E-01	0.0037
Pu-240	9.794E-03	0.0001	4.608E+00	0.0568	0.000E+00	0.0000	3.198E-02	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	3.026E-01	0.0037
Pu-241	3.145E-02	0.0004	1.166E-01	0.0014	0.000E+00	0.0000	2.429E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	2.291E-01	0.0028
Pu-242	8.530E-03	0.0001	4.388E+00	0.0540	0.000E+00	0.0000	3.041E-02	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	2.877E-01	0.0035
U-234	1.482E-02	0.0002	1.100E+00	0.0136	0.000E+00	0.0000	2.378E-01	0.0029	0.000E+00	0.0000	0.000E+00	0.0000	9.210E-01	0.0113
U-235	2.721E+01	0.3352	1.029E+00	0.0127	0.000E+00	0.0000	2.320E-01	0.0029	0.000E+00	0.0000	0.000E+00	0.0000	8.771E-01	0.0108
U-238	4.673E+00	0.0575	9.835E-01	0.0121	0.000E+00	0.0000	2.260E-01	0.0028	0.000E+00	0.0000	0.000E+00	0.0000	8.752E-01	0.0108
Total	3.403E+01	0.4191	2.555E+01	0.3146	0.000E+00	0.0000	2.440E+00	0.0301	0.000E+00	0.0000	0.000E+00	0.0000	1.918E+01	0.2362

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.348E+01	0.2892
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.292E+00	0.0529
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.966E+00	0.0612
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.953E+00	0.0610
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.014E-01	0.0049
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.715E+00	0.0581
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	2.274E+00	0.0280
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	2.935E+01	0.3615
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	6.757E+00	0.0832
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	8.119E+01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	7.288E-01	0.0245	1.661E+00	0.0559	0.000E+00	0.0000	5.622E-01	0.0189	0.000E+00	0.0000	0.000E+00	0.0000	5.317E+00	0.1788
Pu-238	5.601E-03	0.0002	2.375E+00	0.0799	0.000E+00	0.0000	1.688E-02	0.0006	0.000E+00	0.0000	0.000E+00	0.0000	1.597E-01	0.0054
Pu-239	1.347E-02	0.0005	3.216E+00	0.1082	0.000E+00	0.0000	2.232E-02	0.0008	0.000E+00	0.0000	0.000E+00	0.0000	2.111E-01	0.0071
Pu-240	6.888E-03	0.0002	3.208E+00	0.1079	0.000E+00	0.0000	2.227E-02	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	2.106E-01	0.0071
Pu-241	2.887E-02	0.0010	7.759E-02	0.0026	0.000E+00	0.0000	2.221E-02	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	2.099E-01	0.0071
Pu-242	6.011E-03	0.0002	3.062E+00	0.1030	0.000E+00	0.0000	2.121E-02	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	2.007E-01	0.0067
U-234	3.643E-03	0.0001	2.382E-01	0.0080	0.000E+00	0.0000	5.142E-02	0.0017	0.000E+00	0.0000	0.000E+00	0.0000	1.993E-01	0.0067
U-235	5.936E+00	0.1996	2.242E-01	0.0075	0.000E+00	0.0000	5.358E-02	0.0018	0.000E+00	0.0000	0.000E+00	0.0000	1.935E-01	0.0065
U-238	1.018E+00	0.0342	2.125E-01	0.0071	0.000E+00	0.0000	4.882E-02	0.0016	0.000E+00	0.0000	0.000E+00	0.0000	1.891E-01	0.0064
Total	7.747E+00	0.2605	1.427E+01	0.4801	0.000E+00	0.0000	8.210E-01	0.0276	0.000E+00	0.0000	0.000E+00	0.0000	6.891E+00	0.2318

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.270E+00	0.2781
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.557E+00	0.0860
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.463E+00	0.1165
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.448E+00	0.1160
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.386E-01	0.0114
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.289E+00	0.1106
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	4.926E-01	0.0166
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	6.407E+00	0.2155
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	1.468E+00	0.0494
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	2.973E+01	1.0000

*Sum of all water independent and dependent pathways.

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	1.962E-02	0.0055	4.289E-02	0.0120	0.000E+00	0.0000	1.459E-02	0.0041	0.000E+00	0.0000	0.000E+00	0.0000	1.373E-01	0.0384
Pu-238	9.466E-04	0.0003	3.871E-01	0.1083	0.000E+00	0.0000	2.752E-03	0.0008	0.000E+00	0.0000	0.000E+00	0.0000	2.603E-02	0.0073
Pu-239	3.938E-03	0.0011	9.096E-01	0.2545	0.000E+00	0.0000	6.312E-03	0.0018	0.000E+00	0.0000	0.000E+00	0.0000	5.972E-02	0.0167
Pu-240	2.009E-03	0.0006	9.026E-01	0.2525	0.000E+00	0.0000	6.264E-03	0.0018	0.000E+00	0.0000	0.000E+00	0.0000	5.926E-02	0.0166
Pu-241	1.695E-03	0.0005	3.834E-03	0.0011	0.000E+00	0.0000	1.260E-03	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	1.190E-02	0.0033
Pu-242	1.766E-03	0.0005	8.676E-01	0.2427	0.000E+00	0.0000	6.012E-03	0.0017	0.000E+00	0.0000	0.000E+00	0.0000	5.687E-02	0.0159
U-234	7.462E-04	0.0002	1.765E-03	0.0005	0.000E+00	0.0000	3.385E-04	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	1.386E-03	0.0004
U-235	2.876E-02	0.0080	1.084E-03	0.0003	0.000E+00	0.0000	3.076E-04	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	9.733E-04	0.0003
U-238	4.905E-03	0.0014	9.949E-04	0.0003	0.000E+00	0.0000	2.286E-04	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	8.854E-04	0.0002
Total	6.439E-02	0.0180	3.117E+00	0.8722	0.000E+00	0.0000	3.807E-02	0.0107	0.000E+00	0.0000	0.000E+00	0.0000	3.543E-01	0.0991

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

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.144E-01	0.0600
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.168E-01	0.1166
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.795E-01	0.2741
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.701E-01	0.2714
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.869E-02	0.0052
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.322E-01	0.2608
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	4.236E-03	0.0012
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	3.112E-02	0.0087
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	7.014E-03	0.0020
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	3.574E+00	1.0000

*Sum of all water independent and dependent pathways.

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	3.543E-06	0.0000	1.526E-06	0.0000	0.000E+00	0.0000	2.332E-06	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.886E-06	0.0001
Pu-238	5.966E-06	0.0001	2.157E-03	0.0265	0.000E+00	0.0000	1.534E-05	0.0002	0.000E+00	0.0000	0.000E+00	0.0000	1.451E-04	0.0018
Pu-239	1.171E-04	0.0014	2.446E-02	0.3006	0.000E+00	0.0000	1.697E-04	0.0021	0.000E+00	0.0000	0.000E+00	0.0000	1.606E-03	0.0197
Pu-240	5.942E-05	0.0007	2.390E-02	0.2937	0.000E+00	0.0000	1.659E-04	0.0020	0.000E+00	0.0000	0.000E+00	0.0000	1.569E-03	0.0193
Pu-241	1.710E-07	0.0000	1.503E-07	0.0000	0.000E+00	0.0000	1.129E-07	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.804E-07	0.0000
Pu-242	5.332E-05	0.0007	2.346E-02	0.2883	0.000E+00	0.0000	1.625E-04	0.0020	0.000E+00	0.0000	0.000E+00	0.0000	1.538E-03	0.0189
U-234	7.078E-04	0.0087	5.759E-04	0.0071	0.000E+00	0.0000	8.780E-05	0.0011	0.000E+00	0.0000	0.000E+00	0.0000	4.028E-04	0.0050
U-235	6.983E-09	0.0000	2.589E-10	0.0000	0.000E+00	0.0000	1.028E-10	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.552E-10	0.0000
U-238	2.756E-08	0.0000	2.169E-08	0.0000	0.000E+00	0.0000	3.324E-09	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.521E-08	0.0000
Total	9.474E-04	0.0116	7.455E-02	0.9162	0.000E+00	0.0000	6.037E-04	0.0074	0.000E+00	0.0000	0.000E+00	0.0000	5.266E-03	0.0647

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.229E-05	0.0002
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.323E-03	0.0286
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.635E-02	0.3239
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.569E-02	0.3158
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.145E-07	0.0000
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.521E-02	0.3098
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	1.774E-03	0.0218
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	7.600E-09	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	6.778E-08	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	8.137E-02	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.
Am-241	1.644E-10	0.0000	3.078E-11	0.0000	0.000E+00	0.0000	4.615E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.328E-11	0.0000
Pu-238	6.125E-08	0.0001	3.611E-08	0.0000	0.000E+00	0.0000	5.502E-09	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.524E-08	0.0000
Pu-239	4.993E-10	0.0000	6.775E-08	0.0001	0.000E+00	0.0000	4.702E-10	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.448E-09	0.0000
Pu-240	2.623E-10	0.0000	6.272E-08	0.0001	0.000E+00	0.0000	4.353E-10	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.118E-09	0.0000
Pu-241	4.079E-12	0.0000	7.579E-13	0.0000	0.000E+00	0.0000	1.352E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.815E-13	0.0000
Pu-242	2.519E-10	0.0000	6.621E-08	0.0001	0.000E+00	0.0000	4.588E-10	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.340E-09	0.0000
U-234	5.471E-04	0.4780	3.223E-04	0.2817	0.000E+00	0.0000	4.914E-05	0.0429	0.000E+00	0.0000	0.000E+00	0.0000	2.255E-04	0.1970
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	2.040E-08	0.0000	1.202E-08	0.0000	0.000E+00	0.0000	1.832E-09	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.406E-09	0.0000
Total	5.472E-04	0.4781	3.226E-04	0.2819	0.000E+00	0.0000	4.915E-05	0.0429	0.000E+00	0.0000	0.000E+00	0.0000	2.255E-04	0.1971

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.230E-10	0.0000
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.281E-07	0.0001
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.317E-08	0.0001
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.753E-08	0.0001
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.554E-12	0.0000
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.126E-08	0.0001
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	1.144E-03	0.9997
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	4.265E-08	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	1.144E-03	1.0000

*Sum of all water independent and dependent pathways.

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

Parent (i)	Product (j)	Branch Fraction	DSR(j,t) (mrem/yr)/(pCi/g) t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	3.957E-01	3.756E-01	3.384E-01	2.348E-01	8.269E-02	2.141E-03	6.224E-08	7.373E-24
Am-241	Np-237	1.000E+00	0.000E+00	5.876E-07	1.642E-06	4.284E-06	6.545E-06	2.645E-06	6.063E-08	8.877E-14
Am-241	U-233	1.000E+00	0.000E+00	3.625E-14	2.848E-13	2.224E-12	7.858E-12	5.097E-12	1.175E-13	1.410E-19
Am-241	Th-229	1.000E+00	0.000E+00	4.114E-17	1.029E-15	2.962E-14	4.088E-13	2.313E-12	3.078E-12	2.142E-12
Am-241	ΣDSR(j)		3.957E-01	3.756E-01	3.384E-01	2.348E-01	8.270E-02	2.144E-03	1.229E-07	2.230E-12
Pu-238	Pu-238	1.000E+00	5.560E-02	5.418E-02	5.144E-02	4.292E-02	2.557E-02	4.168E-03	2.323E-05	2.608E-13
Pu-238	U-234	1.000E+00	0.000E+00	1.319E-07	3.572E-07	8.396E-07	9.827E-07	2.037E-07	1.143E-09	1.287E-17
Pu-238	Th-230	1.000E+00	0.000E+00	1.264E-12	1.058E-11	9.334E-11	4.638E-10	1.122E-09	1.123E-09	6.334E-10
Pu-238	Ra-226	1.000E+00	0.000E+00	1.492E-14	3.727E-13	1.057E-11	1.391E-10	6.825E-10	8.201E-10	6.244E-10
Pu-238	Pb-210	1.000E+00	0.000E+00	1.830E-17	1.152E-15	9.762E-14	3.296E-12	3.220E-11	4.080E-11	2.296E-11
Pu-238	ΣDSR(j)		5.560E-02	5.418E-02	5.144E-02	4.292E-02	2.557E-02	4.168E-03	2.323E-05	1.281E-09
Pu-239	Pu-239	1.000E+00	5.946E-02	5.840E-02	5.634E-02	4.966E-02	3.463E-02	9.795E-03	2.635E-04	7.317E-10
Pu-239	U-235	1.000E+00	0.000E+00	5.906E-10	1.615E-09	3.927E-09	5.155E-09	1.812E-09	5.362E-11	2.207E-16
Pu-239	Pa-231	1.000E+00	0.000E+00	1.858E-14	1.485E-13	1.115E-12	3.477E-12	1.842E-12	5.093E-14	1.468E-19
Pu-239	Ac-227	1.000E+00	0.000E+00	4.162E-16	9.103E-15	1.768E-13	9.633E-13	6.246E-13	1.790E-14	5.910E-20
Pu-239	ΣDSR(j)		5.946E-02	5.840E-02	5.634E-02	4.966E-02	3.463E-02	9.795E-03	2.635E-04	7.317E-10
Pu-240	Pu-240	1.000E+00	5.935E-02	5.829E-02	5.622E-02	4.953E-02	3.448E-02	9.701E-03	2.569E-04	6.753E-10
Pu-240	U-236	1.000E+00	0.000E+00	1.309E-09	3.572E-09	8.655E-09	1.125E-08	3.816E-09	1.014E-10	2.668E-16
Pu-240	Th-232	1.000E+00	0.000E+00	3.578E-19	3.025E-18	2.725E-17	1.430E-16	4.053E-16	4.589E-16	2.604E-16
Pu-240	Ra-228	1.000E+00	0.000E+00	1.321E-19	3.128E-18	7.528E-17	7.222E-16	2.665E-15	3.355E-15	2.580E-15
Pu-240	Th-228	1.000E+00	0.000E+00	1.682E-20	1.070E-18	6.150E-17	9.181E-16	3.906E-15	5.001E-15	3.823E-15
Pu-240	ΣDSR(j)		5.935E-02	5.829E-02	5.622E-02	4.953E-02	3.448E-02	9.701E-03	2.569E-04	6.753E-10
Pu-241	Pu-241	1.000E+00	9.633E-04	9.017E-04	7.900E-04	4.973E-04	1.325E-04	1.293E-06	2.309E-12	1.533E-32
Pu-241	Am-241	1.000E+00	0.000E+00	5.997E-04	1.596E-03	3.517E-03	3.253E-03	1.855E-04	7.068E-09	8.504E-25
Pu-241	Np-237	1.000E+00	0.000E+00	4.667E-10	3.832E-09	3.106E-08	1.167E-07	8.428E-08	2.073E-09	3.036E-15
Pu-241	U-233	1.000E+00	0.000E+00	1.983E-17	4.552E-16	1.141E-14	1.091E-13	1.533E-13	4.017E-15	4.823E-21
Pu-241	Th-229	1.000E+00	0.000E+00	1.631E-20	1.214E-18	1.119E-16	4.080E-15	4.815E-14	7.516E-14	5.246E-14
Pu-241	ΣDSR(j)		9.633E-04	1.501E-03	2.386E-03	4.014E-03	3.386E-03	1.869E-04	9.144E-09	5.549E-14
Pu-241	Pu-241	2.450E-05	2.360E-08	2.209E-08	1.936E-08	1.218E-08	3.246E-09	3.168E-11	5.657E-17	3.756E-37
Pu-241	Np-237	2.450E-05	0.000E+00	1.430E-11	3.941E-11	9.837E-11	1.356E-10	4.690E-11	1.045E-12	1.530E-18
Pu-241	U-233	2.450E-05	0.000E+00	8.838E-19	6.880E-18	5.206E-17	1.693E-16	9.230E-17	2.025E-18	2.431E-24
Pu-241	Th-229	2.450E-05	0.000E+00	9.992E-22	2.491E-20	7.017E-19	9.149E-18	4.645E-17	5.945E-17	4.133E-17
Pu-241	ΣDSR(j)		2.360E-08	2.211E-08	1.939E-08	1.228E-08	3.382E-09	7.858E-11	1.045E-12	4.286E-17
Pu-242	Pu-242	1.000E+00	5.645E-02	5.544E-02	5.348E-02	4.715E-02	3.289E-02	9.322E-03	2.521E-04	7.126E-10
Pu-242	U-238	1.000E+00	0.000E+00	2.147E-11	5.868E-11	1.426E-10	1.866E-10	6.502E-11	1.874E-12	6.918E-18
Pu-242	U-234	1.000E+00	0.000E+00	1.024E-17	8.185E-17	6.143E-16	1.915E-15	1.014E-15	2.799E-17	7.936E-23
Pu-242	Th-230	1.000E+00	0.000E+00	6.437E-23	1.596E-21	4.424E-20	5.555E-19	2.668E-18	3.303E-18	1.878E-18
Pu-242	Ra-226	1.000E+00	0.000E+00	5.753E-25	4.261E-23	3.865E-21	1.357E-19	1.504E-18	2.403E-18	1.851E-18
Pu-242	Pb-210	1.000E+00	0.000E+00	4.419E-28	9.660E-26	2.828E-23	2.693E-21	6.573E-20	1.185E-19	6.773E-20
Pu-242	ΣDSR(j)		5.645E-02	5.544E-02	5.348E-02	4.715E-02	3.289E-02	9.322E-03	2.521E-04	7.126E-10

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

Parent (i)	Product (j)	Branch Fraction	DSR(j,t) (mrem/yr)/(pCi/g) t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
U-234	U-234	1.000E+00	4.891E-02	4.530E-02	3.887E-02	2.273E-02	4.911E-03	2.299E-05	5.037E-12	2.159E-35
U-234	Th-230	1.000E+00	0.000E+00	8.850E-07	2.457E-06	6.384E-06	1.064E-05	1.137E-05	1.004E-05	5.658E-06
U-234	Ra-226	1.000E+00	0.000E+00	1.572E-08	1.297E-07	1.073E-06	4.478E-06	7.605E-06	7.336E-06	5.577E-06
U-234	Pb-210	1.000E+00	0.000E+00	2.426E-11	5.221E-10	1.305E-08	1.367E-07	3.961E-07	3.652E-07	2.051E-07
U-234	ΣDSR(j)		4.891E-02	4.530E-02	3.887E-02	2.274E-02	4.926E-03	4.236E-05	1.774E-05	1.144E-05
U-235	U-235	1.000E+00	6.283E-01	5.822E-01	4.999E-01	2.933E-01	6.391E-02	3.085E-04	7.417E-11	4.709E-34
U-235	Pa-231	1.000E+00	0.000E+00	3.685E-05	9.461E-05	1.843E-04	1.195E-04	1.868E-06	1.234E-12	1.817E-35
U-235	Ac-227	1.000E+00	0.000E+00	1.222E-06	8.503E-06	4.124E-05	4.383E-05	8.326E-07	5.948E-13	1.019E-35
U-235	ΣDSR(j)		6.283E-01	5.823E-01	5.000E-01	2.935E-01	6.407E-02	3.112E-04	7.600E-11	4.993E-34
U-238	U-238	1.000E+00	1.450E-01	1.343E-01	1.153E-01	6.757E-02	1.468E-02	7.013E-05	1.633E-11	9.127E-35
U-238	U-234	1.000E+00	0.000E+00	1.289E-07	3.310E-07	6.447E-07	4.177E-07	6.519E-09	4.286E-15	6.128E-38
U-238	Th-230	1.000E+00	0.000E+00	1.243E-12	1.006E-11	7.915E-11	2.937E-10	4.222E-10	3.744E-10	2.109E-10
U-238	Ra-226	1.000E+00	0.000E+00	1.473E-14	3.588E-13	9.323E-12	9.699E-11	2.766E-10	2.735E-10	2.079E-10
U-238	Pb-210	1.000E+00	0.000E+00	1.811E-17	1.117E-15	8.816E-14	2.442E-12	1.396E-11	1.362E-11	7.645E-12
U-238	ΣDSR(j)		1.450E-01	1.343E-01	1.153E-01	6.757E-02	1.468E-02	7.014E-05	6.778E-10	4.265E-10

Branch Fraction is the cumulative factor for the j'th principal radionuclide daughter: CUMBRF(j) = BRF(1)*BRF(2)* ... BRF(j).
The DSR includes contributions from associated (half-life ≥ 0.5 yr) daughters.

Single Radionuclide Soil Guidelines G(i,t) in pCi/g
Basic Radiation Dose Limit = 85 mrem/yr

Nuclide (i)	t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	2.148E+02	2.263E+02	2.512E+02	3.619E+02	1.028E+03	3.965E+04	6.918E+08	*3.430E+12
Pu-238	1.529E+03	1.569E+03	1.652E+03	1.981E+03	3.325E+03	2.039E+04	3.659E+06	6.635E+10
Pu-239	1.429E+03	1.455E+03	1.509E+03	1.712E+03	2.455E+03	8.678E+03	3.226E+05	*6.212E+10
Pu-240	1.432E+03	1.458E+03	1.512E+03	1.716E+03	2.465E+03	8.762E+03	3.308E+05	1.259E+11
Pu-241	8.823E+04	5.662E+04	3.563E+04	2.118E+04	2.510E+04	4.549E+05	9.295E+09	*1.030E+14
Pu-242	1.506E+03	1.533E+03	1.589E+03	1.803E+03	2.584E+03	9.118E+03	3.372E+05	*3.923E+09
U-234	1.738E+03	1.876E+03	2.187E+03	3.738E+03	1.726E+04	2.007E+06	4.791E+06	7.430E+06
U-235	1.353E+02	1.460E+02	1.700E+02	2.896E+02	1.327E+03	2.731E+05	*2.160E+06	*2.160E+06
U-238	5.863E+02	6.328E+02	7.372E+02	1.258E+03	5.790E+03	*3.360E+05	*3.360E+05	*3.360E+05

*At specific activity limit

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

Nuclide (i)	Initial pCi/g	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Am-241	1.000E+02	0.000E+00	3.957E-01	2.148E+02	3.957E-01	2.148E+02
Pu-238	1.000E+02	0.000E+00	5.560E-02	1.529E+03	5.560E-02	1.529E+03
Pu-239	1.000E+02	0.000E+00	5.946E-02	1.429E+03	5.946E-02	1.429E+03
Pu-240	1.000E+02	0.000E+00	5.935E-02	1.432E+03	5.935E-02	1.432E+03
Pu-241	1.000E+02	15.44 þ 0.02	4.287E-03	1.983E+04	9.633E-04	8.823E+04
Pu-242	1.000E+02	0.000E+00	5.645E-02	1.506E+03	5.645E-02	1.506E+03
U-234	1.000E+02	0.000E+00	4.891E-02	1.738E+03	4.891E-02	1.738E+03
U-235	1.000E+02	0.000E+00	6.283E-01	1.353E+02	6.283E-01	1.353E+02
U-238	1.000E+02	0.000E+00	1.450E-01	5.863E+02	1.450E-01	5.863E+02

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

Nuclide (j)	Parent (i)	BRF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	3.957E+01	3.756E+01	3.384E+01	2.348E+01	8.269E+00	2.141E-01	6.224E-06	7.373E-22
Am-241	Pu-241	1.000E+00	0.000E+00	5.997E-02	1.596E-01	3.517E-01	3.253E-01	1.855E-02	7.068E-07	8.504E-23
Am-241	ΣDOSE(j):		3.957E+01	3.762E+01	3.400E+01	2.384E+01	8.595E+00	2.327E-01	6.931E-06	8.223E-22
Np-237	Am-241	1.000E+00	0.000E+00	5.876E-05	1.642E-04	4.284E-04	6.545E-04	2.645E-04	6.063E-06	8.877E-12
Np-237	Pu-241	1.000E+00	0.000E+00	4.667E-08	3.832E-07	3.106E-06	1.167E-05	8.428E-06	2.073E-07	3.036E-13
Np-237	Pu-241	2.450E-05	0.000E+00	1.430E-09	3.941E-09	9.837E-09	1.356E-08	4.690E-09	1.045E-10	1.530E-16
Np-237	ΣDOSE(j):		0.000E+00	5.880E-05	1.646E-04	4.315E-04	6.662E-04	2.729E-04	6.270E-06	9.180E-12
U-233	Am-241	1.000E+00	0.000E+00	3.625E-12	2.848E-11	2.224E-10	7.858E-10	5.097E-10	1.175E-11	1.410E-17
U-233	Pu-241	1.000E+00	0.000E+00	1.983E-15	4.552E-14	1.141E-12	1.091E-11	1.533E-11	4.017E-13	4.823E-19
U-233	Pu-241	2.450E-05	0.000E+00	8.838E-17	6.880E-16	5.206E-15	1.693E-14	9.230E-15	2.025E-16	2.431E-22
U-233	ΣDOSE(j):		0.000E+00	3.627E-12	2.852E-11	2.235E-10	7.967E-10	5.250E-10	1.215E-11	1.459E-17
Th-229	Am-241	1.000E+00	0.000E+00	4.114E-15	1.029E-13	2.962E-12	4.088E-11	2.313E-10	3.078E-10	2.142E-10
Th-229	Pu-241	1.000E+00	0.000E+00	1.631E-18	1.214E-16	1.119E-14	4.080E-13	4.815E-12	7.516E-12	5.246E-12
Th-229	Pu-241	2.450E-05	0.000E+00	9.992E-20	2.491E-18	7.017E-17	9.149E-16	4.645E-15	5.945E-15	4.133E-15
Th-229	ΣDOSE(j):		0.000E+00	4.116E-15	1.030E-13	2.973E-12	4.129E-11	2.361E-10	3.153E-10	2.194E-10
Pu-238	Pu-238	1.000E+00	5.560E+00	5.418E+00	5.144E+00	4.292E+00	2.557E+00	4.168E-01	2.323E-03	2.608E-11
U-234	Pu-238	1.000E+00	0.000E+00	1.319E-05	3.572E-05	8.396E-05	9.827E-05	2.037E-05	1.143E-07	1.287E-15
U-234	Pu-242	1.000E+00	0.000E+00	1.024E-15	8.185E-15	6.143E-14	1.915E-13	1.014E-13	2.799E-15	7.936E-21
U-234	U-234	1.000E+00	4.891E+00	4.530E+00	3.887E+00	2.273E+00	4.911E-01	2.299E-03	5.037E-10	0.000E+00
U-234	U-238	1.000E+00	0.000E+00	1.289E-05	3.310E-05	6.447E-05	4.177E-05	6.519E-07	4.286E-13	0.000E+00
U-234	ΣDOSE(j):		4.891E+00	4.530E+00	3.887E+00	2.273E+00	4.912E-01	2.320E-03	1.148E-07	1.287E-15
Th-230	Pu-238	1.000E+00	0.000E+00	1.264E-10	1.058E-09	9.334E-09	4.638E-08	1.122E-07	1.123E-07	6.334E-08
Th-230	Pu-242	1.000E+00	0.000E+00	6.437E-21	1.596E-19	4.424E-18	5.555E-17	2.668E-16	3.303E-16	1.878E-16
Th-230	U-234	1.000E+00	0.000E+00	8.850E-05	2.457E-04	6.384E-04	1.064E-03	1.137E-03	1.004E-03	5.658E-04
Th-230	U-238	1.000E+00	0.000E+00	1.243E-10	1.006E-09	7.915E-09	2.937E-08	4.222E-08	3.744E-08	2.109E-08
Th-230	ΣDOSE(j):		0.000E+00	8.850E-05	2.457E-04	6.384E-04	1.064E-03	1.137E-03	1.004E-03	5.659E-04
Ra-226	Pu-238	1.000E+00	0.000E+00	1.492E-12	3.727E-11	1.057E-09	1.391E-08	6.825E-08	8.201E-08	6.244E-08
Ra-226	Pu-242	1.000E+00	0.000E+00	5.753E-23	4.261E-21	3.865E-19	1.357E-17	1.504E-16	2.403E-16	1.851E-16
Ra-226	U-234	1.000E+00	0.000E+00	1.572E-06	1.297E-05	1.073E-04	4.478E-04	7.605E-04	7.336E-04	5.577E-04
Ra-226	U-238	1.000E+00	0.000E+00	1.473E-12	3.588E-11	9.323E-10	9.699E-09	2.766E-08	2.735E-08	2.079E-08
Ra-226	ΣDOSE(j):		0.000E+00	1.572E-06	1.297E-05	1.073E-04	4.479E-04	7.606E-04	7.337E-04	5.578E-04
Pb-210	Pu-238	1.000E+00	0.000E+00	1.830E-15	1.152E-13	9.762E-12	3.296E-10	3.220E-09	4.080E-09	2.296E-09
Pb-210	Pu-242	1.000E+00	0.000E+00	4.419E-26	9.660E-24	2.828E-21	2.693E-19	6.573E-18	1.185E-17	6.773E-18
Pb-210	U-234	1.000E+00	0.000E+00	2.426E-09	5.221E-08	1.305E-06	1.367E-05	3.961E-05	3.652E-05	2.051E-05
Pb-210	U-238	1.000E+00	0.000E+00	1.811E-15	1.117E-13	8.816E-12	2.442E-10	1.396E-09	1.362E-09	7.645E-10
Pb-210	ΣDOSE(j):		0.000E+00	2.426E-09	5.221E-08	1.305E-06	1.367E-05	3.961E-05	3.653E-05	2.051E-05
Pu-239	Pu-239	1.000E+00	5.946E+00	5.840E+00	5.634E+00	4.966E+00	3.463E+00	9.795E-01	2.635E-02	7.317E-08
U-235	Pu-239	1.000E+00	0.000E+00	5.906E-08	1.615E-07	3.927E-07	5.155E-07	1.812E-07	5.362E-09	2.207E-14
U-235	U-235	1.000E+00	6.283E+01	5.822E+01	4.999E+01	2.933E+01	6.391E+00	3.085E-02	7.417E-09	0.000E+00
U-235	ΣDOSE(j):		6.283E+01	5.822E+01	4.999E+01	2.933E+01	6.391E+00	3.085E-02	1.278E-08	2.207E-14

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

Nuclide (j)	Parent (i)	BRF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pa-231	Pu-239	1.000E+00	0.000E+00	1.858E-12	1.485E-11	1.115E-10	3.477E-10	1.842E-10	5.093E-12	1.468E-17
Pa-231	U-235	1.000E+00	0.000E+00	3.685E-03	9.461E-03	1.843E-02	1.195E-02	1.868E-04	1.234E-10	0.000E+00
Pa-231	ÕDOSE(j):		0.000E+00	3.685E-03	9.461E-03	1.843E-02	1.195E-02	1.868E-04	1.285E-10	1.468E-17
Ac-227	Pu-239	1.000E+00	0.000E+00	4.162E-14	9.103E-13	1.768E-11	9.633E-11	6.246E-11	1.790E-12	5.910E-18
Ac-227	U-235	1.000E+00	0.000E+00	1.222E-04	8.503E-04	4.124E-03	4.383E-03	8.326E-05	5.948E-11	0.000E+00
Ac-227	ÕDOSE(j):		0.000E+00	1.222E-04	8.503E-04	4.124E-03	4.383E-03	8.326E-05	6.127E-11	5.910E-18
Pu-240	Pu-240	1.000E+00	5.935E+00	5.829E+00	5.622E+00	4.953E+00	3.448E+00	9.701E-01	2.569E-02	6.753E-08
U-236	Pu-240	1.000E+00	0.000E+00	1.309E-07	3.572E-07	8.655E-07	1.125E-06	3.816E-07	1.014E-08	2.668E-14
Th-232	Pu-240	1.000E+00	0.000E+00	3.578E-17	3.025E-16	2.725E-15	1.430E-14	4.053E-14	4.589E-14	2.604E-14
Ra-228	Pu-240	1.000E+00	0.000E+00	1.321E-17	3.128E-16	7.528E-15	7.222E-14	2.665E-13	3.355E-13	2.580E-13
Th-228	Pu-240	1.000E+00	0.000E+00	1.682E-18	1.070E-16	6.150E-15	9.181E-14	3.906E-13	5.001E-13	3.823E-13
Pu-241	Pu-241	1.000E+00	9.633E-02	9.017E-02	7.900E-02	4.973E-02	1.325E-02	1.293E-04	2.309E-10	0.000E+00
Pu-241	Pu-241	2.450E-05	2.360E-06	2.209E-06	1.936E-06	1.218E-06	3.246E-07	3.168E-09	5.657E-15	0.000E+00
Pu-241	ÕDOSE(j):		9.633E-02	9.017E-02	7.900E-02	4.973E-02	1.325E-02	1.293E-04	2.309E-10	0.000E+00
Pu-242	Pu-242	1.000E+00	5.645E+00	5.544E+00	5.348E+00	4.715E+00	3.289E+00	9.322E-01	2.521E-02	7.126E-08
U-238	Pu-242	1.000E+00	0.000E+00	2.147E-09	5.868E-09	1.426E-08	1.866E-08	6.502E-09	1.874E-10	6.918E-16
U-238	U-238	1.000E+00	1.450E+01	1.343E+01	1.153E+01	6.757E+00	1.468E+00	7.013E-03	1.633E-09	0.000E+00
U-238	ÕDOSE(j):		1.450E+01	1.343E+01	1.153E+01	6.757E+00	1.468E+00	7.013E-03	1.821E-09	6.918E-16

BRF(i) is the branch fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	BRF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
ááááááá	ááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá
Am-241	Am-241	1.000E+00	1.000E+02	9.496E+01	8.563E+01	5.961E+01	2.119E+01	5.669E-01	1.822E-05	3.427E-21
Am-241	Pu-241	1.000E+00	0.000E+00	1.512E-01	4.035E-01	8.926E-01	8.334E-01	4.911E-02	2.069E-06	3.953E-22
Am-241	δS(j):		1.000E+02	9.511E+01	8.603E+01	6.051E+01	2.202E+01	6.160E-01	2.029E-05	3.823E-21
Np-237	Am-241	1.000E+00	0.000E+00	3.127E-05	8.746E-05	2.288E-04	3.516E-04	1.452E-04	3.556E-06	7.167E-12
Np-237	Pu-241	1.000E+00	0.000E+00	2.482E-08	2.041E-07	1.658E-06	6.269E-06	4.627E-06	1.216E-07	2.451E-13
Np-237	Pu-241	2.450E-05	0.000E+00	7.608E-10	2.099E-09	5.252E-09	7.284E-09	2.575E-09	6.130E-11	1.235E-16
Np-237	δS(j):		0.000E+00	3.130E-05	8.767E-05	2.304E-04	3.579E-04	1.498E-04	3.678E-06	7.412E-12
U-233	Am-241	1.000E+00	0.000E+00	6.745E-11	5.508E-10	4.375E-09	1.567E-08	1.054E-08	2.710E-10	5.462E-16
U-233	Pu-241	1.000E+00	0.000E+00	3.591E-14	8.722E-13	2.238E-11	2.175E-10	3.171E-10	9.265E-12	1.868E-17
U-233	Pu-241	2.450E-05	0.000E+00	1.645E-15	1.331E-14	1.024E-13	3.378E-13	1.909E-13	4.671E-15	9.414E-21
U-233	δS(j):		0.000E+00	6.749E-11	5.517E-10	4.398E-09	1.589E-08	1.086E-08	2.803E-10	5.648E-16
Th-229	Am-241	1.000E+00	0.000E+00	2.149E-15	5.396E-14	1.558E-12	2.161E-11	1.243E-10	1.739E-10	1.569E-10
Th-229	Pu-241	1.000E+00	0.000E+00	8.567E-19	6.378E-17	5.886E-15	2.156E-13	2.587E-12	4.247E-12	3.844E-12
Th-229	Pu-241	2.450E-05	0.000E+00	5.248E-20	1.309E-18	3.692E-17	4.836E-16	2.495E-15	3.359E-15	3.029E-15
Th-229	δS(j):		0.000E+00	2.150E-15	5.403E-14	1.564E-12	2.183E-11	1.269E-10	1.782E-10	1.608E-10
Pu-238	Pu-238	1.000E+00	1.000E+02	9.749E+01	9.266E+01	7.757E+01	4.668E+01	7.890E+00	4.912E-02	9.349E-10
U-234	Pu-238	1.000E+00	0.000E+00	2.695E-04	7.311E-04	1.725E-03	2.039E-03	4.382E-04	2.745E-06	5.226E-14
U-234	Pu-242	1.000E+00	0.000E+00	2.078E-14	1.672E-13	1.261E-12	3.973E-12	2.181E-12	6.722E-14	3.222E-19
U-234	U-234	1.000E+00	1.000E+02	9.267E+01	7.958E+01	4.671E+01	1.019E+01	4.946E-02	1.210E-08	8.764E-32
U-234	U-238	1.000E+00	0.000E+00	2.627E-04	6.769E-04	1.324E-03	8.669E-04	1.402E-05	1.030E-11	2.488E-34
U-234	δS(j):		1.000E+02	9.267E+01	7.959E+01	4.671E+01	1.020E+01	4.991E-02	2.757E-06	5.226E-14
Th-230	Pu-238	1.000E+00	0.000E+00	1.234E-09	1.039E-08	9.207E-08	4.623E-07	1.159E-06	1.296E-06	1.232E-06
Th-230	Pu-242	1.000E+00	0.000E+00	6.325E-20	1.570E-18	4.367E-17	5.539E-16	2.757E-15	3.810E-15	3.654E-15
Th-230	U-234	1.000E+00	0.000E+00	8.668E-04	2.414E-03	6.299E-03	1.061E-02	1.175E-02	1.158E-02	1.101E-02
Th-230	U-238	1.000E+00	0.000E+00	1.213E-09	9.876E-09	7.808E-08	2.928E-07	4.363E-07	4.318E-07	4.104E-07
Th-230	δS(j):		0.000E+00	8.668E-04	2.414E-03	6.300E-03	1.061E-02	1.175E-02	1.158E-02	1.101E-02
Ra-226	Pu-238	1.000E+00	0.000E+00	1.772E-13	4.428E-12	1.257E-10	1.659E-09	8.227E-09	1.024E-08	9.748E-09
Ra-226	Pu-242	1.000E+00	0.000E+00	6.833E-24	5.062E-22	4.597E-20	1.619E-18	1.813E-17	3.001E-17	2.890E-17
Ra-226	U-234	1.000E+00	0.000E+00	1.867E-07	1.541E-06	1.276E-05	5.342E-05	9.168E-05	9.161E-05	8.707E-05
Ra-226	U-238	1.000E+00	0.000E+00	1.750E-13	4.263E-12	1.109E-10	1.157E-09	3.334E-09	3.415E-09	3.246E-09
Ra-226	δS(j):		0.000E+00	1.867E-07	1.541E-06	1.276E-05	5.342E-05	9.169E-05	9.163E-05	8.708E-05
Pb-210	Pu-238	1.000E+00	0.000E+00	1.369E-15	1.014E-13	9.181E-12	3.190E-10	3.250E-09	4.602E-09	4.383E-09
Pb-210	Pu-242	1.000E+00	0.000E+00	4.262E-26	9.326E-24	2.740E-21	2.636E-19	6.672E-18	1.343E-17	1.300E-17
Pb-210	U-234	1.000E+00	0.000E+00	1.922E-09	4.698E-08	1.236E-06	1.326E-05	4.000E-05	4.120E-05	3.915E-05
Pb-210	U-238	1.000E+00	0.000E+00	1.355E-15	9.832E-14	8.297E-12	2.365E-10	1.409E-09	1.536E-09	1.460E-09
Pb-210	δS(j):		0.000E+00	1.922E-09	4.698E-08	1.236E-06	1.326E-05	4.000E-05	4.120E-05	3.916E-05
Pu-239	Pu-239	1.000E+00	1.000E+02	9.826E+01	9.488E+01	8.393E+01	5.911E+01	1.733E+01	5.209E-01	2.450E-06
U-235	Pu-239	1.000E+00	0.000E+00	9.400E-08	2.571E-07	6.255E-07	8.223E-07	2.906E-07	8.756E-09	4.119E-14
U-235	U-235	1.000E+00	1.000E+02	9.267E+01	7.959E+01	4.671E+01	1.019E+01	4.948E-02	1.211E-08	8.789E-32
U-235	δS(j):		1.000E+02	9.267E+01	7.959E+01	4.671E+01	1.019E+01	4.948E-02	2.087E-08	4.119E-14

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	BRF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pa-231	Pu-239	1.000E+00	0.000E+00	9.847E-13	7.920E-12	5.974E-11	1.882E-10	1.031E-10	3.161E-12	1.487E-17
Pa-231	U-235	1.000E+00	0.000E+00	1.961E-03	5.052E-03	9.883E-03	6.468E-03	1.046E-04	7.663E-11	1.840E-33
Pa-231	ðS(j):		0.000E+00	1.961E-03	5.052E-03	9.883E-03	6.468E-03	1.046E-04	7.979E-11	1.487E-17
Ac-227	Pu-239	1.000E+00	0.000E+00	1.003E-14	2.237E-13	4.385E-12	2.409E-11	1.601E-11	4.938E-13	2.323E-18
Ac-227	U-235	1.000E+00	0.000E+00	2.975E-05	2.097E-04	1.024E-03	1.097E-03	2.135E-05	1.642E-11	4.007E-34
Ac-227	ðS(j):		0.000E+00	2.975E-05	2.097E-04	1.024E-03	1.097E-03	2.135E-05	1.691E-11	2.323E-18
Pu-240	Pu-240	1.000E+00	1.000E+02	9.826E+01	9.486E+01	8.386E+01	5.898E+01	1.720E+01	5.090E-01	2.268E-06
U-236	Pu-240	1.000E+00	0.000E+00	2.825E-06	7.726E-06	1.879E-05	2.468E-05	8.678E-06	2.575E-07	1.147E-12
Th-232	Pu-240	1.000E+00	0.000E+00	7.078E-17	5.991E-16	5.411E-15	2.870E-14	8.434E-14	1.067E-13	1.027E-13
Ra-228	Pu-240	1.000E+00	0.000E+00	2.745E-18	6.503E-17	1.567E-15	1.508E-14	5.626E-14	7.349E-14	7.082E-14
Th-228	Pu-240	1.000E+00	0.000E+00	2.346E-19	1.493E-17	8.585E-16	1.286E-14	5.531E-14	7.346E-14	7.082E-14
Pu-241	Pu-241	1.000E+00	1.000E+02	9.365E+01	8.213E+01	5.187E+01	1.396E+01	1.411E-01	2.812E-07	3.139E-27
Pu-241	Pu-241	2.450E-05	2.450E-03	2.294E-03	2.012E-03	1.271E-03	3.420E-04	3.458E-06	6.890E-12	7.692E-32
Pu-241	ðS(j):		1.000E+02	9.365E+01	8.213E+01	5.188E+01	1.396E+01	1.412E-01	2.812E-07	3.139E-27
Pu-242	Pu-242	1.000E+00	1.000E+02	9.827E+01	9.489E+01	8.395E+01	5.916E+01	1.738E+01	5.251E-01	2.517E-06
U-238	Pu-242	1.000E+00	0.000E+00	1.481E-08	4.050E-08	9.855E-08	1.296E-07	4.587E-08	1.390E-09	6.662E-15
U-238	U-238	1.000E+00	1.000E+02	9.267E+01	7.959E+01	4.671E+01	1.019E+01	4.948E-02	1.211E-08	8.789E-32
U-238	ðS(j):		1.000E+02	9.267E+01	7.959E+01	4.671E+01	1.019E+01	4.948E-02	1.350E-08	6.662E-15

BRF(i) is the branch fraction of the parent nuclide.

ATTACHMENT IV
RESRAD SUMMARY OUTPUT FOR THE RESIDENTIAL TIER II (15 MREM) ACTION LEVELS

Summary : Residential surface soil exposure at the 15 millirem level
File : \RES561\PUBLIC\RESDNT15.DAT

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Dose Conversion Factor (and Related) Parameter Summary
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.720E+00	6.720E+00	DCF2(1)
B-1	Am-241	4.440E-01	4.440E-01	DCF2(2)
B-1	Np-237+D	5.400E-01	5.400E-01	DCF2(3)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(4)
B-1	Pb-210+D	2.320E-02	2.320E-02	DCF2(5)
B-1	Pu-238	2.880E-01	3.920E-01	DCF2(6)
B-1	Pu-239	3.080E-01	4.290E-01	DCF2(7)
B-1	Pu-240	3.080E-01	4.290E-01	DCF2(8)
B-1	Pu-241+D	4.960E-03	8.250E-03	DCF2(9)
B-1	Pu-242	2.930E-01	4.110E-01	DCF2(11)
B-1	Ra-226+D	8.600E-03	8.600E-03	DCF2(12)
B-1	Ra-228+D	5.080E-03	5.080E-03	DCF2(13)
B-1	Th-228+D	3.450E-01	3.450E-01	DCF2(14)
B-1	Th-229+D	2.160E+00	2.160E+00	DCF2(15)
B-1	Th-230	3.260E-01	3.260E-01	DCF2(16)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(17)
B-1	U-233	1.350E-01	1.350E-01	DCF2(18)
B-1	U-234	1.320E-01	1.320E-01	DCF2(19)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(20)
B-1	U-236	1.250E-01	1.250E-01	DCF2(21)
B-1	U-238+D	1.180E-01	1.180E-01	DCF2(22)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Ac-227+D	1.480E-02	1.480E-02	DCF3(1)
D-1	Am-241	3.640E-03	3.640E-03	DCF3(2)
D-1	Np-237+D	4.440E-03	4.440E-03	DCF3(3)
D-1	Pa-231	1.060E-02	1.060E-02	DCF3(4)
D-1	Pb-210+D	7.270E-03	7.270E-03	DCF3(5)
D-1	Pu-238	4.960E-05	3.200E-03	DCF3(6)
D-1	Pu-239	5.180E-05	3.540E-03	DCF3(7)
D-1	Pu-240	5.180E-05	3.540E-03	DCF3(8)
D-1	Pu-241+D	7.660E-07	6.850E-05	DCF3(9)
D-1	Pu-242	4.920E-05	3.360E-03	DCF3(11)
D-1	Ra-226+D	1.330E-03	1.330E-03	DCF3(12)
D-1	Ra-228+D	1.440E-03	1.440E-03	DCF3(13)
D-1	Th-228+D	8.080E-04	8.080E-04	DCF3(14)
D-1	Th-229+D	4.030E-03	4.030E-03	DCF3(15)
D-1	Th-230	5.480E-04	5.480E-04	DCF3(16)
D-1	Th-232	2.730E-03	2.730E-03	DCF3(17)
D-1	U-233	2.890E-04	2.890E-04	DCF3(18)
D-1	U-234	2.830E-04	2.830E-04	DCF3(19)
D-1	U-235+D	2.670E-04	2.670E-04	DCF3(20)
D-1	U-236	2.690E-04	2.690E-04	DCF3(21)
D-1	U-238+D	2.690E-04	2.690E-04	DCF3(22)
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)

Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-34	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,1)
D-34	Am-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-05	5.000E-05	RTF(2,2)
D-34	Am-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-06	2.000E-06	RTF(2,3)
D-34				
D-34	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(3,1)
D-34	Np-237+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(3,2)
D-34	Np-237+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(3,3)
D-34				
D-34	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(4,1)
D-34	Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(4,2)
D-34	Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(4,3)
D-34				
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(5,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(5,3)
D-34				
D-34	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Pu-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Pu-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(6,3)
D-34				
D-34	Pu-239 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Pu-239 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Pu-239 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(7,3)
D-34				
D-34	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,1)
D-34	Pu-240 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(8,2)
D-34	Pu-240 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(8,3)
D-34				
D-34	Pu-241+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(9,1)
D-34	Pu-241+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(9,2)
D-34	Pu-241+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(9,3)
D-34				
D-34	Pu-242 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,1)
D-34	Pu-242 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(11,2)
D-34	Pu-242 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(11,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(12,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(12,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(12,3)
D-34				
D-34	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,1)
D-34	Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(13,2)
D-34	Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(13,3)
D-34				
D-34	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(14,1)
D-34	Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(14,2)
D-34	Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(14,3)
D-34				

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Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-34	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(15,1)
D-34	Th-229+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(15,2)
D-34	Th-229+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(15,3)
D-34				
D-34	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,1)
D-34	Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(16,2)
D-34	Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(16,3)
D-34				
D-34	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,1)
D-34	Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(17,2)
D-34	Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(17,3)
D-34				
D-34	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(18,1)
D-34	U-233 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(18,2)
D-34	U-233 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(18,3)
D-34				
D-34	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(19,1)
D-34	U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(19,2)
D-34	U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(19,3)
D-34				
D-34	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,1)
D-34	U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(20,2)
D-34	U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(20,3)
D-34				
D-34	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,1)
D-34	U-236 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(21,2)
D-34	U-236 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(21,3)
D-34				
D-34	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,1)
D-34	U-238+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(22,2)
D-34	U-238+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(22,3)
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	Am-241 , fish	3.000E+01	3.000E+01	BIOFAC(2,1)
D-5	Am-241 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC(2,2)
D-5				
D-5	Np-237+D , fish	3.000E+01	3.000E+01	BIOFAC(3,1)
D-5	Np-237+D , crustacea and mollusks	4.000E+02	4.000E+02	BIOFAC(3,2)
D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(4,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(4,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(5,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(5,2)
D-5				
D-5	Pu-238 , fish	3.000E+01	3.000E+01	BIOFAC(6,1)
D-5	Pu-238 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(6,2)

Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-5	Pu-239 , fish	3.000E+01	3.000E+01	BIOFAC(7,1)
D-5	Pu-239 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(7,2)
D-5				
D-5	Pu-240 , fish	3.000E+01	3.000E+01	BIOFAC(8,1)
D-5	Pu-240 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(8,2)
D-5				
D-5	Pu-241+D , fish	3.000E+01	3.000E+01	BIOFAC(9,1)
D-5	Pu-241+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(9,2)
D-5				
D-5	Pu-242 , fish	3.000E+01	3.000E+01	BIOFAC(11,1)
D-5	Pu-242 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(11,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(12,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(12,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(13,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(13,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(14,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(14,2)
D-5				
D-5	Th-229+D , fish	1.000E+02	1.000E+02	BIOFAC(15,1)
D-5	Th-229+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(15,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(16,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(16,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(17,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(17,2)
D-5				
D-5	U-233 , fish	1.000E+01	1.000E+01	BIOFAC(18,1)
D-5	U-233 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(18,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(19,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(19,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(20,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(20,2)
D-5				
D-5	U-236 , fish	1.000E+01	1.000E+01	BIOFAC(21,1)
D-5	U-236 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(21,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(22,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(22,2)

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)	4.000E+04	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	1.500E-01	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	2.000E+02	1.000E+02	---	LCZPAQ
R011	Basic radiation dose limit (mrem/yr)	1.500E+01	3.000E+01	---	BRDL
R011	Time since placement of material (yr)	0.000E+00	0.000E+00	---	TI
R011	Times for calculations (yr)	1.000E+00	1.000E+00	---	T(2)
R011	Times for calculations (yr)	3.000E+00	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+01	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+01	3.000E+01	---	T(5)
R011	Times for calculations (yr)	1.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	3.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	1.000E+03	1.000E+03	---	T(8)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Am-241	1.000E+02	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Pu-238	1.000E+02	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g): Pu-239	1.000E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g): Pu-240	1.000E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g): Pu-241	1.000E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g): Pu-242	1.000E+02	0.000E+00	---	S1(11)
R012	Initial principal radionuclide (pCi/g): U-234	1.000E+02	0.000E+00	---	S1(19)
R012	Initial principal radionuclide (pCi/g): U-235	1.000E+02	0.000E+00	---	S1(20)
R012	Initial principal radionuclide (pCi/g): U-238	1.000E+02	0.000E+00	---	S1(22)
R012	Concentration in groundwater (pCi/L): Am-241	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L): Pu-238	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L): Pu-239	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L): Pu-240	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L): Pu-241	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L): Pu-242	not used	0.000E+00	---	W1(11)
R012	Concentration in groundwater (pCi/L): U-234	not used	0.000E+00	---	W1(19)
R012	Concentration in groundwater (pCi/L): U-235	not used	0.000E+00	---	W1(20)
R012	Concentration in groundwater (pCi/L): U-238	not used	0.000E+00	---	W1(22)
R013	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	not used	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.800E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	7.490E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	3.000E-01	4.000E-01	---	TPCZ
R013	Contaminated zone effective porosity	1.000E-01	2.000E-01	---	EPCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	4.450E+01	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	1.040E+01	5.300E+00	---	BCZ
R013	Humidity in air (g/cm**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	2.530E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	3.810E-01	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	1.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	4.000E-03	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	8.280E+06	1.000E+06	---	WAREA

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Accuracy for water/soil computations	1.000E-03	1.000E-03	---	EPS
R014	Density of saturated zone (g/cm**3)	1.800E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	3.000E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	1.000E-01	2.000E-01	---	EPSZ
R014	Saturated zone hydraulic conductivity (m/yr)	4.450E+01	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	1.500E-01	2.000E-02	---	HGWT
R014	Saturated zone b parameter	5.300E+00	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)	ND	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	2.500E+02	2.500E+02	---	UW
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	3.000E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.800E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	3.000E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	1.000E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.040E+01	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	4.450E+01	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for Am-241				
R016	Contaminated zone (cm**3/g)	7.600E+01	2.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	7.600E+01	2.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	7.600E+01	2.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.012E-02	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R016	Distribution coefficients for Pu-238				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCU(6,1)
R016	Saturated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.750E-02	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Pu-239				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCU(7,1)
R016	Saturated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.750E-02	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Pu-240				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCU(8,1)
R016	Saturated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.750E-02	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 Pu-241				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCU(9,1
R016	Saturated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.750E-02	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for Pu-242				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCU(11,1
R016	Saturated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.750E-02	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(19)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(19,1
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(19)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(19)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(19)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(20)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(20,1
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(20)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(20)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(20)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(22)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(22,1
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(22)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(22)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(22)
R016	Distribution coefficients for daughter Ac-227				
R016	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCU(1,1
R016	Saturated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.895E-01	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for daughter Np-237				
R016	Contaminated zone (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCU(3,1
R016	Saturated zone (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.874E-02	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for daughter Pa-231				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(4,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for daughter Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU(5,1)
R016	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.811E-02	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for daughter Ra-226				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(12)
R016	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU(12,1)
R016	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS(12)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.441E-02	ALEACH(12)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(12)
R016	Distribution coefficients for daughter Ra-228				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(13)
R016	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU(13,1)
R016	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS(13)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.441E-02	ALEACH(13)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(13)
R016	Distribution coefficients for daughter Th-228				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(14)
R016	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU(14,1)
R016	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS(14)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.361E-05	ALEACH(14)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(14)
R016	Distribution coefficients for daughter Th-229				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(15)
R016	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU(15,1)
R016	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS(15)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.361E-05	ALEACH(15)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(15)
R016	Distribution coefficients for daughter Th-230				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(16)
R016	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU(16,1)
R016	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS(16)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.361E-05	ALEACH(16)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(16)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for daughter Th-232				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(17)
R016	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU(17,1
R016	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS(17)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.361E-05	ALEACH(17)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(17)
R016	Distribution coefficients for daughter U-233				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(18)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(18,1
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(18)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(18)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(18)
R016	Distribution coefficients for daughter U-236				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(21)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(21,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(21)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	7.611E-02	ALEACH(21)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(21)
R017	Inhalation rate (m**3/yr)	7.000E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	2.600E-05	2.000E-04	---	MLINH
R017	Dilution length for airborne dust, inhalation (m)	3.000E+00	3.000E+00	---	LM
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	1.000E+00	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	8.000E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	0.000E+00	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	1 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)	4.010E+01	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	2.600E+00	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)	7.000E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	not used	5.100E+02	---	DWI
R018	Contamination fraction of drinking water	not used	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	0.000E+00	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	not used	5.000E-01	---	FR9
R018	Contamination fraction of plant food	1.000E+00	-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)	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	not used	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	not used	1.000E+00	---	FGWIR
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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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	not used	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	not used	2.000E+01	---	STOR_T(4)
STOR	Fish	not used	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	not used	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	not used	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR
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 annual wind speed (m/sec)	not used	2.000E+00	---	WIND
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)

Summary of Pathway Selections

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

Summary : Residential surface soil exposure at the 15 millirem level
File : \RES561\PUBLIC\RESDNT15.DAT

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	40000.00 square meters	Am-241	1.000E+02
Thickness:	0.15 meters	Pu-238	1.000E+02
Cover Depth:	0.00 meters	Pu-239	1.000E+02
		Pu-240	1.000E+02
		Pu-241	1.000E+02
		Pu-242	1.000E+02
		U-234	1.000E+02
		U-235	1.000E+02
		U-238	1.000E+02

Total Dose TDOSE(t), mrem/yr
Basic Radiation Dose Limit = 15 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	1.450E+02	1.365E+02	1.212E+02	8.119E+01	2.973E+01	3.574E+00	8.137E-02	1.144E-03
M(t):	9.665E+00	9.102E+00	8.083E+00	5.413E+00	1.982E+00	2.383E-01	5.424E-03	7.629E-05

Maximum TDOSE(t): 1.450E+02 mrem/yr at t = 0.000E+00 years

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	3.438E+00	0.0237	7.961E+00	0.0549	0.000E+00	0.0000	2.693E+00	0.0186	0.000E+00	0.0000	0.000E+00	0.0000	2.548E+01	0.1758
Pu-238	1.200E-02	0.0001	5.164E+00	0.0356	0.000E+00	0.0000	3.669E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.472E-01	0.0024
Pu-239	2.280E-02	0.0002	5.523E+00	0.0381	0.000E+00	0.0000	3.833E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.626E-01	0.0025
Pu-240	1.168E-02	0.0001	5.523E+00	0.0381	0.000E+00	0.0000	3.833E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.626E-01	0.0025
Pu-241	1.469E-03	0.0000	8.894E-02	0.0006	0.000E+00	0.0000	5.658E-04	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.362E-03	0.0000
Pu-242	1.016E-02	0.0001	5.254E+00	0.0362	0.000E+00	0.0000	3.640E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.444E-01	0.0024
U-234	3.150E-02	0.0002	2.367E+00	0.0163	0.000E+00	0.0000	5.115E-01	0.0035	0.000E+00	0.0000	0.000E+00	0.0000	1.981E+00	0.0137
U-235	5.827E+01	0.4020	2.206E+00	0.0152	0.000E+00	0.0000	4.826E-01	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	1.869E+00	0.0129
U-238	1.001E+01	0.0691	2.116E+00	0.0146	0.000E+00	0.0000	4.862E-01	0.0034	0.000E+00	0.0000	0.000E+00	0.0000	1.883E+00	0.0130
Total	7.181E+01	0.4954	3.620E+01	0.2497	0.000E+00	0.0000	4.324E+00	0.0298	0.000E+00	0.0000	0.000E+00	0.0000	3.264E+01	0.2251

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.957E+01	0.2730
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.560E+00	0.0384
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.946E+00	0.0410
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.935E+00	0.0409
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.633E-02	0.0007
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.645E+00	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	4.891E+00	0.0337
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	6.283E+01	0.4334
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	1.450E+01	0.1000
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	1.450E+02	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.
Am-241	3.265E+00	0.0239	7.556E+00	0.0553	0.000E+00	0.0000	2.556E+00	0.0187	0.000E+00	0.0000	0.000E+00	0.0000	2.418E+01	0.1771
Pu-238	1.170E-02	0.0001	5.032E+00	0.0369	0.000E+00	0.0000	3.575E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.383E-01	0.0025
Pu-239	2.241E-02	0.0002	5.424E+00	0.0397	0.000E+00	0.0000	3.764E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.561E-01	0.0026
Pu-240	1.148E-02	0.0001	5.424E+00	0.0397	0.000E+00	0.0000	3.764E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.561E-01	0.0026
Pu-241	6.576E-03	0.0000	9.528E-02	0.0007	0.000E+00	0.0000	4.746E-03	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.353E-02	0.0003
Pu-242	9.984E-03	0.0001	5.160E+00	0.0378	0.000E+00	0.0000	3.575E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.383E-01	0.0025
U-234	2.919E-02	0.0002	2.192E+00	0.0161	0.000E+00	0.0000	4.738E-01	0.0035	0.000E+00	0.0000	0.000E+00	0.0000	1.835E+00	0.0134
U-235	5.400E+01	0.3955	2.043E+00	0.0150	0.000E+00	0.0000	4.485E-01	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	1.733E+00	0.0127
U-238	9.278E+00	0.0680	1.960E+00	0.0144	0.000E+00	0.0000	4.503E-01	0.0033	0.000E+00	0.0000	0.000E+00	0.0000	1.744E+00	0.0128
Total	6.663E+01	0.4881	3.489E+01	0.2555	0.000E+00	0.0000	4.080E+00	0.0299	0.000E+00	0.0000	0.000E+00	0.0000	3.093E+01	0.2265

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

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.756E+01	0.2751
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.418E+00	0.0397
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.840E+00	0.0428
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.829E+00	0.0427
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.501E-01	0.0011
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.544E+00	0.0406
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	4.530E+00	0.0332
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	5.823E+01	0.4265
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	1.343E+01	0.0984
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	1.365E+02	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	2.944E+00	0.0243	6.807E+00	0.0561	0.000E+00	0.0000	2.303E+00	0.0190	0.000E+00	0.0000	0.000E+00	0.0000	2.178E+01	0.1797
Pu-238	1.112E-02	0.0001	4.778E+00	0.0394	0.000E+00	0.0000	3.395E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.213E-01	0.0026
Pu-239	2.163E-02	0.0002	5.232E+00	0.0432	0.000E+00	0.0000	3.631E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.435E-01	0.0028
Pu-240	1.108E-02	0.0001	5.231E+00	0.0431	0.000E+00	0.0000	3.630E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.434E-01	0.0028
Pu-241	1.508E-02	0.0001	1.050E-01	0.0009	0.000E+00	0.0000	1.144E-02	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	1.071E-01	0.0009
Pu-242	9.641E-03	0.0001	4.978E+00	0.0411	0.000E+00	0.0000	3.449E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	3.263E-01	0.0027
U-234	2.508E-02	0.0002	1.881E+00	0.0155	0.000E+00	0.0000	4.065E-01	0.0034	0.000E+00	0.0000	0.000E+00	0.0000	1.574E+00	0.0130
U-235	4.637E+01	0.3825	1.754E+00	0.0145	0.000E+00	0.0000	3.874E-01	0.0032	0.000E+00	0.0000	0.000E+00	0.0000	1.489E+00	0.0123
U-238	7.966E+00	0.0657	1.681E+00	0.0139	0.000E+00	0.0000	3.864E-01	0.0032	0.000E+00	0.0000	0.000E+00	0.0000	1.496E+00	0.0123
Total	5.738E+01	0.4732	3.245E+01	0.2676	0.000E+00	0.0000	3.635E+00	0.0300	0.000E+00	0.0000	0.000E+00	0.0000	2.779E+01	0.2292

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.384E+01	0.2791
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.144E+00	0.0424
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.634E+00	0.0465
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.622E+00	0.0464
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.386E-01	0.0020
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.348E+00	0.0441
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	3.887E+00	0.0321
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	5.000E+01	0.4124
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	1.153E+01	0.0951
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	1.212E+02	1.0000

*Sum of all water independent and dependent pathways.

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	2.050E+00	0.0252	4.722E+00	0.0582	0.000E+00	0.0000	1.598E+00	0.0197	0.000E+00	0.0000	0.000E+00	0.0000	1.511E+01	0.1861
Pu-238	9.307E-03	0.0001	3.986E+00	0.0491	0.000E+00	0.0000	2.833E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	2.680E-01	0.0033
Pu-239	1.913E-02	0.0002	4.612E+00	0.0568	0.000E+00	0.0000	3.201E-02	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	3.028E-01	0.0037
Pu-240	9.794E-03	0.0001	4.608E+00	0.0568	0.000E+00	0.0000	3.198E-02	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	3.026E-01	0.0037
Pu-241	3.145E-02	0.0004	1.166E-01	0.0014	0.000E+00	0.0000	2.429E-02	0.0003	0.000E+00	0.0000	0.000E+00	0.0000	2.291E-01	0.0028
Pu-242	8.530E-03	0.0001	4.388E+00	0.0540	0.000E+00	0.0000	3.041E-02	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	2.877E-01	0.0035
U-234	1.482E-02	0.0002	1.100E+00	0.0136	0.000E+00	0.0000	2.378E-01	0.0029	0.000E+00	0.0000	0.000E+00	0.0000	9.210E-01	0.0113
U-235	2.721E+01	0.3352	1.029E+00	0.0127	0.000E+00	0.0000	2.320E-01	0.0029	0.000E+00	0.0000	0.000E+00	0.0000	8.771E-01	0.0108
U-238	4.673E+00	0.0575	9.835E-01	0.0121	0.000E+00	0.0000	2.260E-01	0.0028	0.000E+00	0.0000	0.000E+00	0.0000	8.752E-01	0.0108
Total	3.403E+01	0.4191	2.555E+01	0.3146	0.000E+00	0.0000	2.440E+00	0.0301	0.000E+00	0.0000	0.000E+00	0.0000	1.918E+01	0.2362

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.348E+01	0.2892
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.292E+00	0.0529
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.966E+00	0.0612
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.953E+00	0.0610
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.014E-01	0.0049
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.715E+00	0.0581
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	2.274E+00	0.0280
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	2.935E+01	0.3615
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	6.757E+00	0.0832
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	8.119E+01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	7.288E-01	0.0245	1.661E+00	0.0559	0.000E+00	0.0000	5.622E-01	0.0189	0.000E+00	0.0000	0.000E+00	0.0000	5.317E+00	0.1788
Pu-238	5.601E-03	0.0002	2.375E+00	0.0799	0.000E+00	0.0000	1.688E-02	0.0006	0.000E+00	0.0000	0.000E+00	0.0000	1.597E-01	0.0054
Pu-239	1.347E-02	0.0005	3.216E+00	0.1082	0.000E+00	0.0000	2.232E-02	0.0008	0.000E+00	0.0000	0.000E+00	0.0000	2.111E-01	0.0071
Pu-240	6.888E-03	0.0002	3.208E+00	0.1079	0.000E+00	0.0000	2.227E-02	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	2.106E-01	0.0071
Pu-241	2.887E-02	0.0010	7.759E-02	0.0026	0.000E+00	0.0000	2.221E-02	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	2.099E-01	0.0071
Pu-242	6.011E-03	0.0002	3.062E+00	0.1030	0.000E+00	0.0000	2.121E-02	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	2.007E-01	0.0067
U-234	3.643E-03	0.0001	2.382E-01	0.0080	0.000E+00	0.0000	5.142E-02	0.0017	0.000E+00	0.0000	0.000E+00	0.0000	1.993E-01	0.0067
U-235	5.936E+00	0.1996	2.242E-01	0.0075	0.000E+00	0.0000	5.358E-02	0.0018	0.000E+00	0.0000	0.000E+00	0.0000	1.935E-01	0.0065
U-238	1.018E+00	0.0342	2.125E-01	0.0071	0.000E+00	0.0000	4.882E-02	0.0016	0.000E+00	0.0000	0.000E+00	0.0000	1.891E-01	0.0064
Total	7.747E+00	0.2605	1.427E+01	0.4801	0.000E+00	0.0000	8.210E-01	0.0276	0.000E+00	0.0000	0.000E+00	0.0000	6.891E+00	0.2318

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.270E+00	0.2781
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.557E+00	0.0860
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.463E+00	0.1165
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.448E+00	0.1160
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.386E-01	0.0114
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.289E+00	0.1106
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	4.926E-01	0.0166
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	6.407E+00	0.2155
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	1.468E+00	0.0494
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	2.973E+01	1.0000

*Sum of all water independent and dependent pathways.

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	1.962E-02	0.0055	4.289E-02	0.0120	0.000E+00	0.0000	1.459E-02	0.0041	0.000E+00	0.0000	0.000E+00	0.0000	1.373E-01	0.0384
Pu-238	9.466E-04	0.0003	3.871E-01	0.1083	0.000E+00	0.0000	2.752E-03	0.0008	0.000E+00	0.0000	0.000E+00	0.0000	2.603E-02	0.0073
Pu-239	3.938E-03	0.0011	9.096E-01	0.2545	0.000E+00	0.0000	6.312E-03	0.0018	0.000E+00	0.0000	0.000E+00	0.0000	5.972E-02	0.0167
Pu-240	2.009E-03	0.0006	9.026E-01	0.2525	0.000E+00	0.0000	6.264E-03	0.0018	0.000E+00	0.0000	0.000E+00	0.0000	5.926E-02	0.0166
Pu-241	1.695E-03	0.0005	3.834E-03	0.0011	0.000E+00	0.0000	1.260E-03	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	1.190E-02	0.0033
Pu-242	1.766E-03	0.0005	8.676E-01	0.2427	0.000E+00	0.0000	6.012E-03	0.0017	0.000E+00	0.0000	0.000E+00	0.0000	5.687E-02	0.0159
U-234	7.462E-04	0.0002	1.765E-03	0.0005	0.000E+00	0.0000	3.385E-04	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	1.386E-03	0.0004
U-235	2.876E-02	0.0080	1.084E-03	0.0003	0.000E+00	0.0000	3.076E-04	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	9.733E-04	0.0003
U-238	4.905E-03	0.0014	9.949E-04	0.0003	0.000E+00	0.0000	2.286E-04	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	8.854E-04	0.0002
Total	6.439E-02	0.0180	3.117E+00	0.8722	0.000E+00	0.0000	3.807E-02	0.0107	0.000E+00	0.0000	0.000E+00	0.0000	3.543E-01	0.0991

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

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.144E-01	0.0600
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.168E-01	0.1166
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.795E-01	0.2741
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.701E-01	0.2714
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.869E-02	0.0052
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.322E-01	0.2608
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	4.236E-03	0.0012
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	3.112E-02	0.0087
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	7.014E-03	0.0020
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	3.574E+00	1.0000

*Sum of all water independent and dependent pathways.

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	3.543E-06	0.0000	1.526E-06	0.0000	0.000E+00	0.0000	2.332E-06	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.886E-06	0.0001
Pu-238	5.966E-06	0.0001	2.157E-03	0.0265	0.000E+00	0.0000	1.534E-05	0.0002	0.000E+00	0.0000	0.000E+00	0.0000	1.451E-04	0.0018
Pu-239	1.171E-04	0.0014	2.446E-02	0.3006	0.000E+00	0.0000	1.697E-04	0.0021	0.000E+00	0.0000	0.000E+00	0.0000	1.606E-03	0.0197
Pu-240	5.942E-05	0.0007	2.390E-02	0.2937	0.000E+00	0.0000	1.659E-04	0.0020	0.000E+00	0.0000	0.000E+00	0.0000	1.569E-03	0.0193
Pu-241	1.710E-07	0.0000	1.503E-07	0.0000	0.000E+00	0.0000	1.129E-07	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.804E-07	0.0000
Pu-242	5.332E-05	0.0007	2.346E-02	0.2883	0.000E+00	0.0000	1.625E-04	0.0020	0.000E+00	0.0000	0.000E+00	0.0000	1.538E-03	0.0189
U-234	7.078E-04	0.0087	5.759E-04	0.0071	0.000E+00	0.0000	8.780E-05	0.0011	0.000E+00	0.0000	0.000E+00	0.0000	4.028E-04	0.0050
U-235	6.983E-09	0.0000	2.589E-10	0.0000	0.000E+00	0.0000	1.028E-10	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.552E-10	0.0000
U-238	2.756E-08	0.0000	2.169E-08	0.0000	0.000E+00	0.0000	3.324E-09	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.521E-08	0.0000
Total	9.474E-04	0.0116	7.455E-02	0.9162	0.000E+00	0.0000	6.037E-04	0.0074	0.000E+00	0.0000	0.000E+00	0.0000	5.266E-03	0.0647

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.229E-05	0.0002
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.323E-03	0.0286
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.635E-02	0.3239
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.569E-02	0.3158
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.145E-07	0.0000
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.521E-02	0.3098
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	1.774E-03	0.0218
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	7.600E-09	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	6.778E-08	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	8.137E-02	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.
Am-241	1.644E-10	0.0000	3.078E-11	0.0000	0.000E+00	0.0000	4.615E-12	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.328E-11	0.0000
Pu-238	6.125E-08	0.0001	3.611E-08	0.0000	0.000E+00	0.0000	5.502E-09	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.524E-08	0.0000
Pu-239	4.993E-10	0.0000	6.775E-08	0.0001	0.000E+00	0.0000	4.702E-10	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.448E-09	0.0000
Pu-240	2.623E-10	0.0000	6.272E-08	0.0001	0.000E+00	0.0000	4.353E-10	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.118E-09	0.0000
Pu-241	4.079E-12	0.0000	7.579E-13	0.0000	0.000E+00	0.0000	1.352E-13	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.815E-13	0.0000
Pu-242	2.519E-10	0.0000	6.621E-08	0.0001	0.000E+00	0.0000	4.588E-10	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.340E-09	0.0000
U-234	5.471E-04	0.4780	3.223E-04	0.2817	0.000E+00	0.0000	4.914E-05	0.0429	0.000E+00	0.0000	0.000E+00	0.0000	2.255E-04	0.1970
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	2.040E-08	0.0000	1.202E-08	0.0000	0.000E+00	0.0000	1.832E-09	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.406E-09	0.0000
Total	5.472E-04	0.4781	3.226E-04	0.2819	0.000E+00	0.0000	4.915E-05	0.0429	0.000E+00	0.0000	0.000E+00	0.0000	2.255E-04	0.1971

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.230E-10	0.0000
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.281E-07	0.0001
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.317E-08	0.0001
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.753E-08	0.0001
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.554E-12	0.0000
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.126E-08	0.0001
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	1.144E-03	0.9997
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	4.265E-08	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	1.144E-03	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)	Branch Fraction	DSR(j,t) (mrem/yr)/(pCi/g) t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	3.957E-01	3.756E-01	3.384E-01	2.348E-01	8.269E-02	2.141E-03	6.224E-08	7.373E-24
Am-241	Np-237	1.000E+00	0.000E+00	5.876E-07	1.642E-06	4.284E-06	6.545E-06	2.645E-06	6.063E-08	8.877E-14
Am-241	U-233	1.000E+00	0.000E+00	3.625E-14	2.848E-13	2.224E-12	7.858E-12	5.097E-12	1.175E-13	1.410E-19
Am-241	Th-229	1.000E+00	0.000E+00	4.114E-17	1.029E-15	2.962E-14	4.088E-13	2.313E-12	3.078E-12	2.142E-12
Am-241	ÕDSR(j)		3.957E-01	3.756E-01	3.384E-01	2.348E-01	8.270E-02	2.144E-03	1.229E-07	2.230E-12
Pu-238	Pu-238	1.000E+00	5.560E-02	5.418E-02	5.144E-02	4.292E-02	2.557E-02	4.168E-03	2.323E-05	2.608E-13
Pu-238	U-234	1.000E+00	0.000E+00	1.319E-07	3.572E-07	8.396E-07	9.827E-07	2.037E-07	1.143E-09	1.287E-17
Pu-238	Th-230	1.000E+00	0.000E+00	1.264E-12	1.058E-11	9.334E-11	4.638E-10	1.122E-09	1.123E-09	6.334E-10
Pu-238	Ra-226	1.000E+00	0.000E+00	1.492E-14	3.727E-13	1.057E-11	1.391E-10	6.825E-10	8.201E-10	6.244E-10
Pu-238	Pb-210	1.000E+00	0.000E+00	1.830E-17	1.152E-15	9.762E-14	3.296E-12	3.220E-11	4.080E-11	2.296E-11
Pu-238	ÕDSR(j)		5.560E-02	5.418E-02	5.144E-02	4.292E-02	2.557E-02	4.168E-03	2.323E-05	1.281E-09
Pu-239	Pu-239	1.000E+00	5.946E-02	5.840E-02	5.634E-02	4.966E-02	3.463E-02	9.795E-03	2.635E-04	7.317E-10
Pu-239	U-235	1.000E+00	0.000E+00	5.906E-10	1.615E-09	3.927E-09	5.155E-09	1.812E-09	5.362E-11	2.207E-16
Pu-239	Pa-231	1.000E+00	0.000E+00	1.858E-14	1.485E-13	1.115E-12	3.477E-12	1.842E-12	5.093E-14	1.468E-19
Pu-239	Ac-227	1.000E+00	0.000E+00	4.162E-16	9.103E-15	1.768E-13	9.633E-13	6.246E-13	1.790E-14	5.910E-20
Pu-239	ÕDSR(j)		5.946E-02	5.840E-02	5.634E-02	4.966E-02	3.463E-02	9.795E-03	2.635E-04	7.317E-10
Pu-240	Pu-240	1.000E+00	5.935E-02	5.829E-02	5.622E-02	4.953E-02	3.448E-02	9.701E-03	2.569E-04	6.753E-10
Pu-240	U-236	1.000E+00	0.000E+00	1.309E-09	3.572E-09	8.655E-09	1.125E-08	3.816E-09	1.014E-10	2.668E-16
Pu-240	Th-232	1.000E+00	0.000E+00	3.578E-19	3.025E-18	2.725E-17	1.430E-16	4.053E-16	4.589E-16	2.604E-16
Pu-240	Ra-228	1.000E+00	0.000E+00	1.321E-19	3.128E-18	7.528E-17	7.222E-16	2.665E-15	3.355E-15	2.580E-15
Pu-240	Th-228	1.000E+00	0.000E+00	1.682E-20	1.070E-18	6.150E-17	9.181E-16	3.906E-15	5.001E-15	3.823E-15
Pu-240	ÕDSR(j)		5.935E-02	5.829E-02	5.622E-02	4.953E-02	3.448E-02	9.701E-03	2.569E-04	6.753E-10
Pu-241	Pu-241	1.000E+00	9.633E-04	9.017E-04	7.900E-04	4.973E-04	1.325E-04	1.293E-06	2.309E-12	1.533E-32
Pu-241	Am-241	1.000E+00	0.000E+00	5.997E-04	1.596E-03	3.517E-03	3.253E-03	1.855E-04	7.068E-09	8.504E-25
Pu-241	Np-237	1.000E+00	0.000E+00	4.667E-10	3.832E-09	3.106E-08	1.167E-07	8.428E-08	2.073E-09	3.036E-15
Pu-241	U-233	1.000E+00	0.000E+00	1.983E-17	4.552E-16	1.141E-14	1.091E-13	1.533E-13	4.017E-15	4.823E-21
Pu-241	Th-229	1.000E+00	0.000E+00	1.631E-20	1.214E-18	1.119E-16	4.080E-15	4.815E-14	7.516E-14	5.246E-14
Pu-241	ÕDSR(j)		9.633E-04	1.501E-03	2.386E-03	4.014E-03	3.386E-03	1.869E-04	9.144E-09	5.549E-14
Pu-241	Pu-241	2.450E-05	2.360E-08	2.209E-08	1.936E-08	1.218E-08	3.246E-09	3.168E-11	5.657E-17	3.756E-37
Pu-241	Np-237	2.450E-05	0.000E+00	1.430E-11	3.941E-11	9.837E-11	1.356E-10	4.690E-11	1.045E-12	1.530E-18
Pu-241	U-233	2.450E-05	0.000E+00	8.838E-19	6.880E-18	5.206E-17	1.693E-16	9.230E-17	2.025E-18	2.431E-24
Pu-241	Th-229	2.450E-05	0.000E+00	9.992E-22	2.491E-20	7.017E-19	9.149E-18	4.645E-17	5.945E-17	4.133E-17
Pu-241	ÕDSR(j)		2.360E-08	2.211E-08	1.939E-08	1.228E-08	3.382E-09	7.858E-11	1.045E-12	4.286E-17
Pu-242	Pu-242	1.000E+00	5.645E-02	5.544E-02	5.348E-02	4.715E-02	3.289E-02	9.322E-03	2.521E-04	7.126E-10
Pu-242	U-238	1.000E+00	0.000E+00	2.147E-11	5.868E-11	1.426E-10	1.866E-10	6.502E-11	1.874E-12	6.918E-18
Pu-242	U-234	1.000E+00	0.000E+00	1.024E-17	8.185E-17	6.143E-16	1.915E-15	1.014E-15	2.799E-17	7.936E-23
Pu-242	Th-230	1.000E+00	0.000E+00	6.437E-23	1.596E-21	4.424E-20	5.555E-19	2.668E-18	3.303E-18	1.878E-18
Pu-242	Ra-226	1.000E+00	0.000E+00	5.753E-25	4.261E-23	3.865E-21	1.357E-19	1.504E-18	2.403E-18	1.851E-18
Pu-242	Pb-210	1.000E+00	0.000E+00	4.419E-28	9.660E-26	2.828E-23	2.693E-21	6.573E-20	1.185E-19	6.773E-20
Pu-242	ÕDSR(j)		5.645E-02	5.544E-02	5.348E-02	4.715E-02	3.289E-02	9.322E-03	2.521E-04	7.126E-10

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

Parent (i)	Product (j)	Branch Fraction	DSR(j,t) (mrem/yr)/(pCi/g) t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
U-234	U-234	1.000E+00	4.891E-02	4.530E-02	3.887E-02	2.273E-02	4.911E-03	2.299E-05	5.037E-12	2.159E-35
U-234	Th-230	1.000E+00	0.000E+00	8.850E-07	2.457E-06	6.384E-06	1.064E-05	1.137E-05	1.004E-05	5.658E-06
U-234	Ra-226	1.000E+00	0.000E+00	1.572E-08	1.297E-07	1.073E-06	4.478E-06	7.605E-06	7.336E-06	5.577E-06
U-234	Pb-210	1.000E+00	0.000E+00	2.426E-11	5.221E-10	1.305E-08	1.367E-07	3.961E-07	3.652E-07	2.051E-07
U-234	ÖDSR(j)		4.891E-02	4.530E-02	3.887E-02	2.274E-02	4.926E-03	4.236E-05	1.774E-05	1.144E-05
U-235	U-235	1.000E+00	6.283E-01	5.822E-01	4.999E-01	2.933E-01	6.391E-02	3.085E-04	7.417E-11	4.709E-34
U-235	Pa-231	1.000E+00	0.000E+00	3.685E-05	9.461E-05	1.843E-04	1.195E-04	1.868E-06	1.234E-12	1.817E-35
U-235	Ac-227	1.000E+00	0.000E+00	1.222E-06	8.503E-06	4.124E-05	4.383E-05	8.326E-07	5.948E-13	1.019E-35
U-235	ÖDSR(j)		6.283E-01	5.823E-01	5.000E-01	2.935E-01	6.407E-02	3.112E-04	7.600E-11	4.993E-34
U-238	U-238	1.000E+00	1.450E-01	1.343E-01	1.153E-01	6.757E-02	1.468E-02	7.013E-05	1.633E-11	9.127E-35
U-238	U-234	1.000E+00	0.000E+00	1.289E-07	3.310E-07	6.447E-07	4.177E-07	6.519E-09	4.286E-15	6.128E-38
U-238	Th-230	1.000E+00	0.000E+00	1.243E-12	1.006E-11	7.915E-11	2.937E-10	4.222E-10	3.744E-10	2.109E-10
U-238	Ra-226	1.000E+00	0.000E+00	1.473E-14	3.588E-13	9.323E-12	9.699E-11	2.766E-10	2.735E-10	2.079E-10
U-238	Pb-210	1.000E+00	0.000E+00	1.811E-17	1.117E-15	8.816E-14	2.442E-12	1.396E-11	1.362E-11	7.645E-12
U-238	ÖDSR(j)		1.450E-01	1.343E-01	1.153E-01	6.757E-02	1.468E-02	7.014E-05	6.778E-10	4.265E-10

Branch Fraction is the cumulative factor for the j'th principal radionuclide daughter: CUMBRF(j) = BRF(1)*BRF(2)* ... BRF(j).
The DSR includes contributions from associated (half-life μ 0.5 yr) daughters.

Single Radionuclide Soil Guidelines G(i,t) in pCi/g
Basic Radiation Dose Limit = 15 mrem/yr

Nuclide (i)	t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	3.790E+01	3.994E+01	4.433E+01	6.387E+01	1.814E+02	6.997E+03	1.221E+08	*3.430E+12
Pu-238	2.698E+02	2.769E+02	2.916E+02	3.495E+02	5.867E+02	3.598E+03	6.457E+05	1.171E+10
Pu-239	2.522E+02	2.568E+02	2.663E+02	3.021E+02	4.332E+02	1.531E+03	5.692E+04	2.050E+10
Pu-240	2.527E+02	2.573E+02	2.668E+02	3.029E+02	4.350E+02	1.546E+03	5.838E+04	2.221E+10
Pu-241	1.557E+04	9.991E+03	6.287E+03	3.737E+03	4.430E+03	8.027E+04	1.640E+09	*1.030E+14
Pu-242	2.657E+02	2.706E+02	2.805E+02	3.181E+02	4.560E+02	1.609E+03	5.950E+04	*3.923E+09
U-234	3.067E+02	3.311E+02	3.859E+02	6.596E+02	3.045E+03	3.541E+05	8.454E+05	1.311E+06
U-235	2.387E+01	2.576E+01	3.000E+01	5.110E+01	2.341E+02	4.820E+04	*2.160E+06	*2.160E+06
U-238	1.035E+02	1.117E+02	1.301E+02	2.220E+02	1.022E+03	2.139E+05	*3.360E+05	*3.360E+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 = 0.000E+00 years

Nuclide (i)	Initial pCi/g	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Am-241	1.000E+02	0.000E+00	3.957E-01	3.790E+01	3.957E-01	3.790E+01
Pu-238	1.000E+02	0.000E+00	5.560E-02	2.698E+02	5.560E-02	2.698E+02
Pu-239	1.000E+02	0.000E+00	5.946E-02	2.522E+02	5.946E-02	2.522E+02
Pu-240	1.000E+02	0.000E+00	5.935E-02	2.527E+02	5.935E-02	2.527E+02
Pu-241	1.000E+02	15.44 þ 0.02	4.287E-03	3.499E+03	9.633E-04	1.557E+04
Pu-242	1.000E+02	0.000E+00	5.645E-02	2.657E+02	5.645E-02	2.657E+02
U-234	1.000E+02	0.000E+00	4.891E-02	3.067E+02	4.891E-02	3.067E+02
U-235	1.000E+02	0.000E+00	6.283E-01	2.387E+01	6.283E-01	2.387E+01
U-238	1.000E+02	0.000E+00	1.450E-01	1.035E+02	1.450E-01	1.035E+02

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

Nuclide (j)	Parent (i)	BRF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	3.957E+01	3.756E+01	3.384E+01	2.348E+01	8.269E+00	2.141E-01	6.224E-06	7.373E-22
Am-241	Pu-241	1.000E+00	0.000E+00	5.997E-02	1.596E-01	3.517E-01	3.253E-01	1.855E-02	7.068E-07	8.504E-23
Am-241	δDOSE(j):		3.957E+01	3.762E+01	3.400E+01	2.384E+01	8.595E+00	2.327E-01	6.931E-06	8.223E-22
Np-237	Am-241	1.000E+00	0.000E+00	5.876E-05	1.642E-04	4.284E-04	6.545E-04	2.645E-04	6.063E-06	8.877E-12
Np-237	Pu-241	1.000E+00	0.000E+00	4.667E-08	3.832E-07	3.106E-06	1.167E-05	8.428E-06	2.073E-07	3.036E-13
Np-237	Pu-241	2.450E-05	0.000E+00	1.430E-09	3.941E-09	9.837E-09	1.356E-08	4.690E-09	1.045E-10	1.530E-16
Np-237	δDOSE(j):		0.000E+00	5.880E-05	1.646E-04	4.315E-04	6.662E-04	2.729E-04	6.270E-06	9.180E-12
U-233	Am-241	1.000E+00	0.000E+00	3.625E-12	2.848E-11	2.224E-10	7.858E-10	5.097E-10	1.175E-11	1.410E-17
U-233	Pu-241	1.000E+00	0.000E+00	1.983E-15	4.552E-14	1.141E-12	1.091E-11	1.533E-11	4.017E-13	4.823E-19
U-233	Pu-241	2.450E-05	0.000E+00	8.838E-17	6.880E-16	5.206E-15	1.693E-14	9.230E-15	2.025E-16	2.431E-22
U-233	δDOSE(j):		0.000E+00	3.627E-12	2.852E-11	2.235E-10	7.967E-10	5.250E-10	1.215E-11	1.459E-17
Th-229	Am-241	1.000E+00	0.000E+00	4.114E-15	1.029E-13	2.962E-12	4.088E-11	2.313E-10	3.078E-10	2.142E-10
Th-229	Pu-241	1.000E+00	0.000E+00	1.631E-18	1.214E-16	1.119E-14	4.080E-13	4.815E-12	7.516E-12	5.246E-12
Th-229	Pu-241	2.450E-05	0.000E+00	9.992E-20	2.491E-18	7.017E-17	9.149E-16	4.645E-15	5.945E-15	4.133E-15
Th-229	δDOSE(j):		0.000E+00	4.116E-15	1.030E-13	2.973E-12	4.129E-11	2.361E-10	3.153E-10	2.194E-10
Pu-238	Pu-238	1.000E+00	5.560E+00	5.418E+00	5.144E+00	4.292E+00	2.557E+00	4.168E-01	2.323E-03	2.608E-11
U-234	Pu-238	1.000E+00	0.000E+00	1.319E-05	3.572E-05	8.396E-05	9.827E-05	2.037E-05	1.143E-07	1.287E-15
U-234	Pu-242	1.000E+00	0.000E+00	1.024E-15	8.185E-15	6.143E-14	1.915E-13	1.014E-13	2.799E-15	7.936E-21
U-234	U-234	1.000E+00	4.891E+00	4.530E+00	3.887E+00	2.273E+00	4.911E-01	2.299E-03	5.037E-10	0.000E+00
U-234	U-238	1.000E+00	0.000E+00	1.289E-05	3.310E-05	6.447E-05	4.177E-05	6.519E-07	4.286E-13	0.000E+00
U-234	δDOSE(j):		4.891E+00	4.530E+00	3.887E+00	2.273E+00	4.912E-01	2.320E-03	1.148E-07	1.287E-15
Th-230	Pu-238	1.000E+00	0.000E+00	1.264E-10	1.058E-09	9.334E-09	4.638E-08	1.122E-07	1.123E-07	6.334E-08
Th-230	Pu-242	1.000E+00	0.000E+00	6.437E-21	1.596E-19	4.424E-18	5.555E-17	2.668E-16	3.303E-16	1.878E-16
Th-230	U-234	1.000E+00	0.000E+00	8.850E-05	2.457E-04	6.384E-04	1.064E-03	1.137E-03	1.004E-03	5.658E-04
Th-230	U-238	1.000E+00	0.000E+00	1.243E-10	1.006E-09	7.915E-09	2.937E-08	4.222E-08	3.744E-08	2.109E-08
Th-230	δDOSE(j):		0.000E+00	8.850E-05	2.457E-04	6.384E-04	1.064E-03	1.137E-03	1.004E-03	5.659E-04
Ra-226	Pu-238	1.000E+00	0.000E+00	1.492E-12	3.727E-11	1.057E-09	1.391E-08	6.825E-08	8.201E-08	6.244E-08
Ra-226	Pu-242	1.000E+00	0.000E+00	5.753E-23	4.261E-21	3.865E-19	1.357E-17	1.504E-16	2.403E-16	1.851E-16
Ra-226	U-234	1.000E+00	0.000E+00	1.572E-06	1.297E-05	1.073E-04	4.478E-04	7.605E-04	7.336E-04	5.577E-04
Ra-226	U-238	1.000E+00	0.000E+00	1.473E-12	3.588E-11	9.323E-10	9.699E-09	2.766E-08	2.735E-08	2.079E-08
Ra-226	δDOSE(j):		0.000E+00	1.572E-06	1.297E-05	1.073E-04	4.479E-04	7.606E-04	7.337E-04	5.578E-04
Pb-210	Pu-238	1.000E+00	0.000E+00	1.830E-15	1.152E-13	9.762E-12	3.296E-10	3.220E-09	4.080E-09	2.296E-09
Pb-210	Pu-242	1.000E+00	0.000E+00	4.419E-26	9.660E-24	2.828E-21	2.693E-19	6.573E-18	1.185E-17	6.773E-18
Pb-210	U-234	1.000E+00	0.000E+00	2.426E-09	5.221E-08	1.305E-06	1.367E-05	3.961E-05	3.652E-05	2.051E-05
Pb-210	U-238	1.000E+00	0.000E+00	1.811E-15	1.117E-13	8.816E-12	2.442E-10	1.396E-09	1.362E-09	7.645E-10
Pb-210	δDOSE(j):		0.000E+00	2.426E-09	5.221E-08	1.305E-06	1.367E-05	3.961E-05	3.653E-05	2.051E-05
Pu-239	Pu-239	1.000E+00	5.946E+00	5.840E+00	5.634E+00	4.966E+00	3.463E+00	9.795E-01	2.635E-02	7.317E-08
U-235	Pu-239	1.000E+00	0.000E+00	5.906E-08	1.615E-07	3.927E-07	5.155E-07	1.812E-07	5.362E-09	2.207E-14
U-235	U-235	1.000E+00	6.283E+01	5.822E+01	4.999E+01	2.933E+01	6.391E+00	3.085E-02	7.417E-09	0.000E+00
U-235	δDOSE(j):		6.283E+01	5.822E+01	4.999E+01	2.933E+01	6.391E+00	3.085E-02	1.278E-08	2.207E-14

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

Nuclide (j)	Parent (i)	BRF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pa-231	Pu-239	1.000E+00	0.000E+00	1.858E-12	1.485E-11	1.115E-10	3.477E-10	1.842E-10	5.093E-12	1.468E-17
Pa-231	U-235	1.000E+00	0.000E+00	3.685E-03	9.461E-03	1.843E-02	1.195E-02	1.868E-04	1.234E-10	0.000E+00
Pa-231	ÕDOSE(j):		0.000E+00	3.685E-03	9.461E-03	1.843E-02	1.195E-02	1.868E-04	1.285E-10	1.468E-17
Ac-227	Pu-239	1.000E+00	0.000E+00	4.162E-14	9.103E-13	1.768E-11	9.633E-11	6.246E-11	1.790E-12	5.910E-18
Ac-227	U-235	1.000E+00	0.000E+00	1.222E-04	8.503E-04	4.124E-03	4.383E-03	8.326E-05	5.948E-11	0.000E+00
Ac-227	ÕDOSE(j):		0.000E+00	1.222E-04	8.503E-04	4.124E-03	4.383E-03	8.326E-05	6.127E-11	5.910E-18
Pu-240	Pu-240	1.000E+00	5.935E+00	5.829E+00	5.622E+00	4.953E+00	3.448E+00	9.701E-01	2.569E-02	6.753E-08
U-236	Pu-240	1.000E+00	0.000E+00	1.309E-07	3.572E-07	8.655E-07	1.125E-06	3.816E-07	1.014E-08	2.668E-14
Th-232	Pu-240	1.000E+00	0.000E+00	3.578E-17	3.025E-16	2.725E-15	1.430E-14	4.053E-14	4.589E-14	2.604E-14
Ra-228	Pu-240	1.000E+00	0.000E+00	1.321E-17	3.128E-16	7.528E-15	7.222E-14	2.665E-13	3.355E-13	2.580E-13
Th-228	Pu-240	1.000E+00	0.000E+00	1.682E-18	1.070E-16	6.150E-15	9.181E-14	3.906E-13	5.001E-13	3.823E-13
Pu-241	Pu-241	1.000E+00	9.633E-02	9.017E-02	7.900E-02	4.973E-02	1.325E-02	1.293E-04	2.309E-10	0.000E+00
Pu-241	Pu-241	2.450E-05	2.360E-06	2.209E-06	1.936E-06	1.218E-06	3.246E-07	3.168E-09	5.657E-15	0.000E+00
Pu-241	ÕDOSE(j):		9.633E-02	9.017E-02	7.900E-02	4.973E-02	1.325E-02	1.293E-04	2.309E-10	0.000E+00
Pu-242	Pu-242	1.000E+00	5.645E+00	5.544E+00	5.348E+00	4.715E+00	3.289E+00	9.322E-01	2.521E-02	7.126E-08
U-238	Pu-242	1.000E+00	0.000E+00	2.147E-09	5.868E-09	1.426E-08	1.866E-08	6.502E-09	1.874E-10	6.918E-16
U-238	U-238	1.000E+00	1.450E+01	1.343E+01	1.153E+01	6.757E+00	1.468E+00	7.013E-03	1.633E-09	0.000E+00
U-238	ÕDOSE(j):		1.450E+01	1.343E+01	1.153E+01	6.757E+00	1.468E+00	7.013E-03	1.821E-09	6.918E-16

BRF(i) is the branch fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	BRF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	1.000E+02	9.496E+01	8.563E+01	5.961E+01	2.119E+01	5.669E-01	1.822E-05	3.427E-21
Am-241	Pu-241	1.000E+00	0.000E+00	1.512E-01	4.035E-01	8.926E-01	8.334E-01	4.911E-02	2.069E-06	3.953E-22
Am-241	δS(j):		1.000E+02	9.511E+01	8.603E+01	6.051E+01	2.202E+01	6.160E-01	2.029E-05	3.823E-21
Np-237	Am-241	1.000E+00	0.000E+00	3.127E-05	8.746E-05	2.288E-04	3.516E-04	1.452E-04	3.556E-06	7.167E-12
Np-237	Pu-241	1.000E+00	0.000E+00	2.482E-08	2.041E-07	1.658E-06	6.269E-06	4.627E-06	1.216E-07	2.451E-13
Np-237	Pu-241	2.450E-05	0.000E+00	7.608E-10	2.099E-09	5.252E-09	7.284E-09	2.575E-09	6.130E-11	1.235E-16
Np-237	δS(j):		0.000E+00	3.130E-05	8.767E-05	2.304E-04	3.579E-04	1.498E-04	3.678E-06	7.412E-12
U-233	Am-241	1.000E+00	0.000E+00	6.745E-11	5.508E-10	4.375E-09	1.567E-08	1.054E-08	2.710E-10	5.462E-16
U-233	Pu-241	1.000E+00	0.000E+00	3.591E-14	8.722E-13	2.238E-11	2.175E-10	3.171E-10	9.265E-12	1.868E-17
U-233	Pu-241	2.450E-05	0.000E+00	1.645E-15	1.331E-14	1.024E-13	3.378E-13	1.909E-13	4.671E-15	9.414E-21
U-233	δS(j):		0.000E+00	6.749E-11	5.517E-10	4.398E-09	1.589E-08	1.086E-08	2.803E-10	5.648E-16
Th-229	Am-241	1.000E+00	0.000E+00	2.149E-15	5.396E-14	1.558E-12	2.161E-11	1.243E-10	1.739E-10	1.569E-10
Th-229	Pu-241	1.000E+00	0.000E+00	8.567E-19	6.378E-17	5.886E-15	2.156E-13	2.587E-12	4.247E-12	3.844E-12
Th-229	Pu-241	2.450E-05	0.000E+00	5.248E-20	1.309E-18	3.692E-17	4.836E-16	2.495E-15	3.359E-15	3.029E-15
Th-229	δS(j):		0.000E+00	2.150E-15	5.403E-14	1.564E-12	2.183E-11	1.269E-10	1.782E-10	1.608E-10
Pu-238	Pu-238	1.000E+00	1.000E+02	9.749E+01	9.266E+01	7.757E+01	4.668E+01	7.890E+00	4.912E-02	9.349E-10
U-234	Pu-238	1.000E+00	0.000E+00	2.695E-04	7.311E-04	1.725E-03	2.039E-03	4.382E-04	2.745E-06	5.226E-14
U-234	Pu-242	1.000E+00	0.000E+00	2.078E-14	1.672E-13	1.261E-12	3.973E-12	2.181E-12	6.722E-14	3.222E-19
U-234	U-234	1.000E+00	1.000E+02	9.267E+01	7.958E+01	4.671E+01	1.019E+01	4.946E-02	1.210E-08	8.764E-32
U-234	U-238	1.000E+00	0.000E+00	2.627E-04	6.769E-04	1.324E-03	8.669E-04	1.402E-05	1.030E-11	2.488E-34
U-234	δS(j):		1.000E+02	9.267E+01	7.959E+01	4.671E+01	1.020E+01	4.991E-02	2.757E-06	5.226E-14
Th-230	Pu-238	1.000E+00	0.000E+00	1.234E-09	1.039E-08	9.207E-08	4.623E-07	1.159E-06	1.296E-06	1.232E-06
Th-230	Pu-242	1.000E+00	0.000E+00	6.325E-20	1.570E-18	4.367E-17	5.539E-16	2.757E-15	3.810E-15	3.654E-15
Th-230	U-234	1.000E+00	0.000E+00	8.668E-04	2.414E-03	6.299E-03	1.061E-02	1.175E-02	1.158E-02	1.101E-02
Th-230	U-238	1.000E+00	0.000E+00	1.213E-09	9.876E-09	7.808E-08	2.928E-07	4.363E-07	4.318E-07	4.104E-07
Th-230	δS(j):		0.000E+00	8.668E-04	2.414E-03	6.300E-03	1.061E-02	1.175E-02	1.158E-02	1.101E-02
Ra-226	Pu-238	1.000E+00	0.000E+00	1.772E-13	4.428E-12	1.257E-10	1.659E-09	8.227E-09	1.024E-08	9.748E-09
Ra-226	Pu-242	1.000E+00	0.000E+00	6.833E-24	5.062E-22	4.597E-20	1.619E-18	1.813E-17	3.001E-17	2.890E-17
Ra-226	U-234	1.000E+00	0.000E+00	1.867E-07	1.541E-06	1.276E-05	5.342E-05	9.168E-05	9.161E-05	8.707E-05
Ra-226	U-238	1.000E+00	0.000E+00	1.750E-13	4.263E-12	1.109E-10	1.157E-09	3.334E-09	3.415E-09	3.246E-09
Ra-226	δS(j):		0.000E+00	1.867E-07	1.541E-06	1.276E-05	5.342E-05	9.169E-05	9.163E-05	8.708E-05
Pb-210	Pu-238	1.000E+00	0.000E+00	1.369E-15	1.014E-13	9.181E-12	3.190E-10	3.250E-09	4.602E-09	4.383E-09
Pb-210	Pu-242	1.000E+00	0.000E+00	4.262E-26	9.326E-24	2.740E-21	2.636E-19	6.672E-18	1.343E-17	1.300E-17
Pb-210	U-234	1.000E+00	0.000E+00	1.922E-09	4.698E-08	1.236E-06	1.326E-05	4.000E-05	4.120E-05	3.915E-05
Pb-210	U-238	1.000E+00	0.000E+00	1.355E-15	9.832E-14	8.297E-12	2.365E-10	1.409E-09	1.536E-09	1.460E-09
Pb-210	δS(j):		0.000E+00	1.922E-09	4.698E-08	1.236E-06	1.326E-05	4.000E-05	4.120E-05	3.916E-05
Pu-239	Pu-239	1.000E+00	1.000E+02	9.826E+01	9.488E+01	8.393E+01	5.911E+01	1.733E+01	5.209E-01	2.450E-06
U-235	Pu-239	1.000E+00	0.000E+00	9.400E-08	2.571E-07	6.255E-07	8.223E-07	2.906E-07	8.756E-09	4.119E-14
U-235	U-235	1.000E+00	1.000E+02	9.267E+01	7.959E+01	4.671E+01	1.019E+01	4.948E-02	1.211E-08	8.789E-32
U-235	δS(j):		1.000E+02	9.267E+01	7.959E+01	4.671E+01	1.019E+01	4.948E-02	2.087E-08	4.119E-14

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	BRF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pa-231	Pu-239	1.000E+00	0.000E+00	9.847E-13	7.920E-12	5.974E-11	1.882E-10	1.031E-10	3.161E-12	1.487E-17
Pa-231	U-235	1.000E+00	0.000E+00	1.961E-03	5.052E-03	9.883E-03	6.468E-03	1.046E-04	7.663E-11	1.840E-33
Pa-231	ðS(j):		0.000E+00	1.961E-03	5.052E-03	9.883E-03	6.468E-03	1.046E-04	7.979E-11	1.487E-17
Ac-227	Pu-239	1.000E+00	0.000E+00	1.003E-14	2.237E-13	4.385E-12	2.409E-11	1.601E-11	4.938E-13	2.323E-18
Ac-227	U-235	1.000E+00	0.000E+00	2.975E-05	2.097E-04	1.024E-03	1.097E-03	2.135E-05	1.642E-11	4.007E-34
Ac-227	ðS(j):		0.000E+00	2.975E-05	2.097E-04	1.024E-03	1.097E-03	2.135E-05	1.691E-11	2.323E-18
Pu-240	Pu-240	1.000E+00	1.000E+02	9.826E+01	9.486E+01	8.386E+01	5.898E+01	1.720E+01	5.090E-01	2.268E-06
U-236	Pu-240	1.000E+00	0.000E+00	2.825E-06	7.726E-06	1.879E-05	2.468E-05	8.678E-06	2.575E-07	1.147E-12
Th-232	Pu-240	1.000E+00	0.000E+00	7.078E-17	5.991E-16	5.411E-15	2.870E-14	8.434E-14	1.067E-13	1.027E-13
Ra-228	Pu-240	1.000E+00	0.000E+00	2.745E-18	6.503E-17	1.567E-15	1.508E-14	5.626E-14	7.349E-14	7.082E-14
Th-228	Pu-240	1.000E+00	0.000E+00	2.346E-19	1.493E-17	8.585E-16	1.286E-14	5.531E-14	7.346E-14	7.082E-14
Pu-241	Pu-241	1.000E+00	1.000E+02	9.365E+01	8.213E+01	5.187E+01	1.396E+01	1.411E-01	2.812E-07	3.139E-27
Pu-241	Pu-241	2.450E-05	2.450E-03	2.294E-03	2.012E-03	1.271E-03	3.420E-04	3.458E-06	6.890E-12	7.692E-32
Pu-241	ðS(j):		1.000E+02	9.365E+01	8.213E+01	5.188E+01	1.396E+01	1.412E-01	2.812E-07	3.139E-27
Pu-242	Pu-242	1.000E+00	1.000E+02	9.827E+01	9.489E+01	8.395E+01	5.916E+01	1.738E+01	5.251E-01	2.517E-06
U-238	Pu-242	1.000E+00	0.000E+00	1.481E-08	4.050E-08	9.855E-08	1.296E-07	4.587E-08	1.390E-09	6.662E-15
U-238	U-238	1.000E+00	1.000E+02	9.267E+01	7.959E+01	4.671E+01	1.019E+01	4.948E-02	1.211E-08	8.789E-32
U-238	ðS(j):		1.000E+02	9.267E+01	7.959E+01	4.671E+01	1.019E+01	4.948E-02	1.350E-08	6.662E-15

BRF(i) is the branch fraction of the parent nuclide.

ATTACHMENT V
RESRAD SUMMARY OUTPUT FOR THE OPEN SPACE TIER I (15 MREM) ACTION LEVELS

Summary : Open space surface soil exposure at the 15 millirem level
File : \RES561\PUBLIC\OPEN15.DAT

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Dose Conversion Factor (and Related) Parameter Summary
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.720E+00	6.720E+00	DCF2(1)
B-1	Am-241	4.440E-01	4.440E-01	DCF2(2)
B-1	Np-237+D	5.400E-01	5.400E-01	DCF2(3)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(4)
B-1	Pb-210+D	2.320E-02	2.320E-02	DCF2(5)
B-1	Pu-238	2.880E-01	3.920E-01	DCF2(6)
B-1	Pu-239	3.080E-01	4.290E-01	DCF2(7)
B-1	Pu-240	3.080E-01	4.290E-01	DCF2(8)
B-1	Pu-241+D	4.960E-03	8.250E-03	DCF2(9)
B-1	Pu-242	2.930E-01	4.110E-01	DCF2(11)
B-1	Ra-226+D	8.600E-03	8.600E-03	DCF2(12)
B-1	Ra-228+D	5.080E-03	5.080E-03	DCF2(13)
B-1	Th-228+D	3.450E-01	3.450E-01	DCF2(14)
B-1	Th-229+D	2.160E+00	2.160E+00	DCF2(15)
B-1	Th-230	3.260E-01	3.260E-01	DCF2(16)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(17)
B-1	U-233	1.350E-01	1.350E-01	DCF2(18)
B-1	U-234	1.320E-01	1.320E-01	DCF2(19)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(20)
B-1	U-236	1.250E-01	1.250E-01	DCF2(21)
B-1	U-238+D	1.180E-01	1.180E-01	DCF2(22)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Ac-227+D	1.480E-02	1.480E-02	DCF3(1)
D-1	Am-241	3.640E-03	3.640E-03	DCF3(2)
D-1	Np-237+D	4.440E-03	4.440E-03	DCF3(3)
D-1	Pa-231	1.060E-02	1.060E-02	DCF3(4)
D-1	Pb-210+D	7.270E-03	7.270E-03	DCF3(5)
D-1	Pu-238	4.960E-05	3.200E-03	DCF3(6)
D-1	Pu-239	5.180E-05	3.540E-03	DCF3(7)
D-1	Pu-240	5.180E-05	3.540E-03	DCF3(8)
D-1	Pu-241+D	7.660E-07	6.850E-05	DCF3(9)
D-1	Pu-242	4.920E-05	3.360E-03	DCF3(11)
D-1	Ra-226+D	1.330E-03	1.330E-03	DCF3(12)
D-1	Ra-228+D	1.440E-03	1.440E-03	DCF3(13)
D-1	Th-228+D	8.080E-04	8.080E-04	DCF3(14)
D-1	Th-229+D	4.030E-03	4.030E-03	DCF3(15)
D-1	Th-230	5.480E-04	5.480E-04	DCF3(16)
D-1	Th-232	2.730E-03	2.730E-03	DCF3(17)
D-1	U-233	2.890E-04	2.890E-04	DCF3(18)
D-1	U-234	2.830E-04	2.830E-04	DCF3(19)
D-1	U-235+D	2.670E-04	2.670E-04	DCF3(20)
D-1	U-236	2.690E-04	2.690E-04	DCF3(21)
D-1	U-238+D	2.690E-04	2.690E-04	DCF3(22)
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)

Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-34	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,1)
D-34	Am-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-05	5.000E-05	RTF(2,2)
D-34	Am-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-06	2.000E-06	RTF(2,3)
D-34				
D-34	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(3,1)
D-34	Np-237+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(3,2)
D-34	Np-237+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(3,3)
D-34				
D-34	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(4,1)
D-34	Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(4,2)
D-34	Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(4,3)
D-34				
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(5,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(5,3)
D-34				
D-34	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Pu-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Pu-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(6,3)
D-34				
D-34	Pu-239 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Pu-239 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Pu-239 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(7,3)
D-34				
D-34	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,1)
D-34	Pu-240 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(8,2)
D-34	Pu-240 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(8,3)
D-34				
D-34	Pu-241+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(9,1)
D-34	Pu-241+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(9,2)
D-34	Pu-241+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(9,3)
D-34				
D-34	Pu-242 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,1)
D-34	Pu-242 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(11,2)
D-34	Pu-242 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(11,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(12,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(12,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(12,3)
D-34				
D-34	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,1)
D-34	Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(13,2)
D-34	Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(13,3)
D-34				
D-34	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(14,1)
D-34	Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(14,2)
D-34	Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(14,3)
D-34				

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Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-34	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(15,1)
D-34	Th-229+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(15,2)
D-34	Th-229+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(15,3)
D-34				
D-34	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,1)
D-34	Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(16,2)
D-34	Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(16,3)
D-34				
D-34	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,1)
D-34	Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(17,2)
D-34	Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(17,3)
D-34				
D-34	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(18,1)
D-34	U-233 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(18,2)
D-34	U-233 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(18,3)
D-34				
D-34	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(19,1)
D-34	U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(19,2)
D-34	U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(19,3)
D-34				
D-34	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,1)
D-34	U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(20,2)
D-34	U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(20,3)
D-34				
D-34	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,1)
D-34	U-236 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(21,2)
D-34	U-236 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(21,3)
D-34				
D-34	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,1)
D-34	U-238+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(22,2)
D-34	U-238+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(22,3)
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	Am-241 , fish	3.000E+01	3.000E+01	BIOFAC(2,1)
D-5	Am-241 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC(2,2)
D-5				
D-5	Np-237+D , fish	3.000E+01	3.000E+01	BIOFAC(3,1)
D-5	Np-237+D , crustacea and mollusks	4.000E+02	4.000E+02	BIOFAC(3,2)
D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(4,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(4,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(5,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(5,2)
D-5				
D-5	Pu-238 , fish	3.000E+01	3.000E+01	BIOFAC(6,1)
D-5	Pu-238 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(6,2)

Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-5	Pu-239 , fish	3.000E+01	3.000E+01	BIOFAC(7,1)
D-5	Pu-239 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(7,2)
D-5				
D-5	Pu-240 , fish	3.000E+01	3.000E+01	BIOFAC(8,1)
D-5	Pu-240 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(8,2)
D-5				
D-5	Pu-241+D , fish	3.000E+01	3.000E+01	BIOFAC(9,1)
D-5	Pu-241+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(9,2)
D-5				
D-5	Pu-242 , fish	3.000E+01	3.000E+01	BIOFAC(11,1)
D-5	Pu-242 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(11,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(12,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(12,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(13,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(13,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(14,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(14,2)
D-5				
D-5	Th-229+D , fish	1.000E+02	1.000E+02	BIOFAC(15,1)
D-5	Th-229+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(15,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(16,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(16,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(17,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(17,2)
D-5				
D-5	U-233 , fish	1.000E+01	1.000E+01	BIOFAC(18,1)
D-5	U-233 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(18,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(19,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(19,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(20,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(20,2)
D-5				
D-5	U-236 , fish	1.000E+01	1.000E+01	BIOFAC(21,1)
D-5	U-236 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(21,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(22,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(22,2)

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)	4.000E+04	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	1.500E-01	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	not used	1.000E+02	---	LCZPAQ
R011	Basic radiation dose limit (mrem/yr)	1.500E+01	3.000E+01	---	BRDL
R011	Time since placement of material (yr)	0.000E+00	0.000E+00	---	TI
R011	Times for calculations (yr)	1.000E+00	1.000E+00	---	T(2)
R011	Times for calculations (yr)	3.000E+00	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+01	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+01	3.000E+01	---	T(5)
R011	Times for calculations (yr)	1.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	3.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	1.000E+03	1.000E+03	---	T(8)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Am-241	1.000E+02	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Pu-238	1.000E+02	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g): Pu-239	1.000E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g): Pu-240	1.000E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g): Pu-241	1.000E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g): Pu-242	1.000E+02	0.000E+00	---	S1(11)
R012	Initial principal radionuclide (pCi/g): U-234	1.000E+02	0.000E+00	---	S1(19)
R012	Initial principal radionuclide (pCi/g): U-235	1.000E+02	0.000E+00	---	S1(20)
R012	Initial principal radionuclide (pCi/g): U-238	1.000E+02	0.000E+00	---	S1(22)
R012	Concentration in groundwater (pCi/L): Am-241	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L): Pu-238	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L): Pu-239	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L): Pu-240	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L): Pu-241	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L): Pu-242	not used	0.000E+00	---	W1(11)
R012	Concentration in groundwater (pCi/L): U-234	not used	0.000E+00	---	W1(19)
R012	Concentration in groundwater (pCi/L): U-235	not used	0.000E+00	---	W1(20)
R012	Concentration in groundwater (pCi/L): U-238	not used	0.000E+00	---	W1(22)
R013	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	not used	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.800E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	7.490E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	3.000E-01	4.000E-01	---	TPCZ
R013	Contaminated zone effective porosity	1.000E-01	2.000E-01	---	EPCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	4.450E+01	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	1.040E+01	5.300E+00	---	BCZ
R013	Humidity in air (g/cm**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	9.200E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	3.810E-01	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	4.000E-03	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	not used	1.000E+06	---	WAREA

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Accuracy for water/soil computations	not used	1.000E-03	Zero shows Simpson's rule.	EPS
R014	Density of saturated zone (g/cm**3)	1.800E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	3.000E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	1.000E-01	2.000E-01	---	EPSZ
R014	Saturated zone hydraulic conductivity (m/yr)	4.450E+01	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	1.500E-01	2.000E-02	---	HGWT
R014	Saturated zone b parameter	5.300E+00	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)	ND	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	2.500E+02	2.500E+02	---	UW
R015	Number of unsaturated zone strata	not used	1	---	NS
R015	Unsat. zone 1, thickness (m)	not used	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	not used	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	not used	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	not used	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	not used	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	not used	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for Am-241				
R016	Contaminated zone (cm**3/g)	7.600E+01	2.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.477E-03	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R016	Distribution coefficients for Pu-238				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+03	---	DCNUCU(6,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+03	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.155E-04	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Pu-239				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+03	---	DCNUCU(7,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+03	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.155E-04	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Pu-240				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+03	---	DCNUCU(8,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+03	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.155E-04	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 Pu-241				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+03	---	DCNUCU(9,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+03	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.155E-04	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for Pu-242				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+03	---	DCNUCU(11,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+03	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.155E-04	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(19)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(19,1)
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(19)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(19)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(19)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(20)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(20,1)
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(20)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(20)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(20)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(22)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(22,1)
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(22)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(22)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(22)
R016	Distribution coefficients for daughter Ac-227				
R016	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+01	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.588E-03	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for daughter Np-237				
R016	Contaminated zone (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCU(3,1)
R016	Saturated zone (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.520E-04	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for daughter Pa-231				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(4,1)
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for daughter Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	not used	1.000E+02	---	DCNUCU(5,1)
R016	Saturated zone (cm**3/g)	not used	1.000E+02	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.123E-03	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for daughter Ra-226				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(12)
R016	Unsaturated zone 1 (cm**3/g)	not used	7.000E+01	---	DCNUCU(12,1)
R016	Saturated zone (cm**3/g)	not used	7.000E+01	---	DCNUCS(12)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.603E-03	ALEACH(12)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(12)
R016	Distribution coefficients for daughter Ra-228				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(13)
R016	Unsaturated zone 1 (cm**3/g)	not used	7.000E+01	---	DCNUCU(13,1)
R016	Saturated zone (cm**3/g)	not used	7.000E+01	---	DCNUCS(13)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.603E-03	ALEACH(13)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(13)
R016	Distribution coefficients for daughter Th-228				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(14)
R016	Unsaturated zone 1 (cm**3/g)	not used	6.000E+04	---	DCNUCU(14,1)
R016	Saturated zone (cm**3/g)	not used	6.000E+04	---	DCNUCS(14)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.874E-06	ALEACH(14)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(14)
R016	Distribution coefficients for daughter Th-229				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(15)
R016	Unsaturated zone 1 (cm**3/g)	not used	6.000E+04	---	DCNUCU(15,1)
R016	Saturated zone (cm**3/g)	not used	6.000E+04	---	DCNUCS(15)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.874E-06	ALEACH(15)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(15)
R016	Distribution coefficients for daughter Th-230				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(16)
R016	Unsaturated zone 1 (cm**3/g)	not used	6.000E+04	---	DCNUCU(16,1)
R016	Saturated zone (cm**3/g)	not used	6.000E+04	---	DCNUCS(16)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.874E-06	ALEACH(16)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(16)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for daughter Th-232				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(17)
R016	Unsaturated zone 1 (cm**3/g)	not used	6.000E+04	---	DCNUCU(17,1)
R016	Saturated zone (cm**3/g)	not used	6.000E+04	---	DCNUCS(17)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.874E-06	ALEACH(17)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(17)
R016	Distribution coefficients for daughter U-233				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(18)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(18,1
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(18)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(18)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(18)
R016	Distribution coefficients for daughter U-236				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(21)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(21,1
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(21)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(21)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(21)
R017	Inhalation rate (m**3/yr)	1.750E+02	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	2.600E-05	2.000E-04	---	MLINH
R017	Dilution length for airborne dust, inhalation (m)	3.000E+00	3.000E+00	---	LM
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	1.000E+00	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	1.400E-02	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	0.000E+00	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	1 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(
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(
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(
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(
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(1
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)

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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)	2.500E+00	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	not used	5.100E+02	---	DWI
R018	Contamination fraction of drinking water	not used	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
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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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	not used	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	not used	1.000E+00	---	STOR_T(2)
STOR	Milk	not used	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	not used	2.000E+01	---	STOR_T(4)
STOR	Fish	not used	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	not used	7.000E+00	---	STOR_T(6)
STOR	Well water	not used	1.000E+00	---	STOR_T(7)
STOR	Surface water	not used	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	not used	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR
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 annual wind speed (m/sec)	not used	2.000E+00	---	WIND
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)

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	suppressed
8 -- soil ingestion	active
9 -- radon	suppressed

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Summary : Open space surface soil exposure at the 15 millirem level
File : \RES561\PUBLIC\OPEN15.DAT

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	40000.00 square meters	Am-241	1.000E+02
Thickness:	0.15 meters	Pu-238	1.000E+02
Cover Depth:	0.00 meters	Pu-239	1.000E+02
		Pu-240	1.000E+02
		Pu-241	1.000E+02
		Pu-242	1.000E+02
		U-234	1.000E+02
		U-235	1.000E+02
		U-238	1.000E+02

Total Dose TDOSE(t), mrem/yr
Basic Radiation Dose Limit = 15 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	3.327E+00	3.319E+00	3.304E+00	3.247E+00	3.083E+00	2.555E+00	1.537E+00	3.092E-01
M(t):	2.218E-01	2.213E-01	2.202E-01	2.165E-01	2.055E-01	1.703E-01	1.024E-01	2.062E-02

Maximum TDOSE(t): 3.327E+00 mrem/yr at t = 0.000E+00 years

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	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.
Am-241	6.017E-02	0.0181	1.990E-01	0.0598	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.100E-01	0.2735
Pu-238	2.100E-04	0.0001	1.291E-01	0.0388	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.240E-02	0.0037
Pu-239	3.990E-04	0.0001	1.381E-01	0.0415	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.295E-02	0.00[illegible]
Pu-240	2.044E-04	0.0001	1.381E-01	0.0415	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.295E-02	0.00[illegible]
Pu-241	2.571E-05	0.0000	2.223E-03	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.915E-04	0.0001
Pu-242	1.778E-04	0.0001	1.313E-01	0.0395	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.230E-02	0.003[illegible]
U-234	5.512E-04	0.0002	5.917E-02	0.0178	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.075E-02	0.02[illegible]
U-235	1.020E+00	0.3065	5.514E-02	0.0166	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.675E-02	0.0201
U-238	1.752E-01	0.0527	5.290E-02	0.0159	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.725E-02	0.0202
Total	1.257E+00	0.3777	9.051E-01	0.2720	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.166E+00	0.350[illegible]

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.169E+00	0.351[illegible]
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.417E-01	0.042[illegible]
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.514E-01	0.0455
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.512E-01	0.0454
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.441E-03	0.000[illegible]
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.438E-01	0.043[illegible]
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	1.305E-01	0.0392
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	1.142E+00	0.343[illegible]
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	2.954E-01	0.088[illegible]
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	3.327E+00	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.
Am-241	5.998E-02	0.0181	1.983E-01	0.0597	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.067E-01	0.2732
Pu-238	2.082E-04	0.0001	1.280E-01	0.0385	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.229E-02	0.0037
Pu-239	3.988E-04	0.0001	1.379E-01	0.0416	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.294E-02	0.0039
Pu-240	2.043E-04	0.0001	1.379E-01	0.0415	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.294E-02	0.0039
Pu-241	1.185E-04	0.0000	2.428E-03	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.604E-03	0.0005
Pu-242	1.777E-04	0.0001	1.312E-01	0.0395	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.229E-02	0.0037
U-234	5.500E-04	0.0002	5.901E-02	0.0178	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.056E-02	0.0213
U-235	1.017E+00	0.3065	5.500E-02	0.0166	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.662E-02	0.0201
U-238	1.748E-01	0.0527	5.275E-02	0.0159	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.707E-02	0.0202
Total	1.254E+00	0.3777	9.025E-01	0.2719	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.163E+00	0.3504

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

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.165E+00	0.3510
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.405E-01	0.0423
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.513E-01	0.0456
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.511E-01	0.0455
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.150E-03	0.0013
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.437E-01	0.0433
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	1.301E-01	0.0392
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	1.139E+00	0.3432
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	2.946E-01	0.0888
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	3.319E+00	1.0000

*Sum of all water independent and dependent pathways.

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	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	frac
Am-241	5.962E-02	0.0180	1.969E-01	0.0596	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.003E-01	0.2725
Pu-238	2.047E-04	0.0001	1.257E-01	0.0380	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.207E-02	0.00
Pu-239	3.984E-04	0.0001	1.376E-01	0.0417	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.291E-02	0.00
Pu-240	2.040E-04	0.0001	1.376E-01	0.0417	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.291E-02	0.0039
Pu-241	2.903E-04	0.0001	2.804E-03	0.0008	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.214E-03	0.0013
Pu-242	1.775E-04	0.0001	1.309E-01	0.0396	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.226E-02	0.00
U-234	5.478E-04	0.0002	5.869E-02	0.0178	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.017E-02	0.02
U-235	1.013E+00	0.3066	5.473E-02	0.0166	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.638E-02	0.0201
U-238	1.740E-01	0.0527	5.246E-02	0.0159	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.670E-02	0.020
Total	1.248E+00	0.3778	8.975E-01	0.2717	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.158E+00	0.3505

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.157E+00	0.350
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.380E-01	0.041
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.509E-01	0.0457
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.507E-01	0.045
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.308E-03	0.002
Pu-242	0.000E+00	0.0000	0.000E+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-01	0.0434
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	1.294E-01	0.0392
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	1.134E+00	0.343
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	2.932E-01	0.088
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	3.304E+00	1.000

*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.
Am-241	5.835E-02	0.0180	1.920E-01	0.0591	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.780E-01	0.2704
Pu-238	1.930E-04	0.0001	1.181E-01	0.0364	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.134E-02	0.0035
Pu-239	3.967E-04	0.0001	1.366E-01	0.0421	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.282E-02	0.0039
Pu-240	2.031E-04	0.0001	1.365E-01	0.0420	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.281E-02	0.0039
Pu-241	7.674E-04	0.0002	3.834E-03	0.0012	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.143E-02	0.0035
Pu-242	1.769E-04	0.0001	1.300E-01	0.0400	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.218E-02	0.0037
U-234	5.418E-04	0.0002	5.758E-02	0.0177	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.885E-02	0.0212
U-235	9.969E-01	0.3070	5.385E-02	0.0166	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.560E-02	0.0202
U-238	1.712E-01	0.0527	5.147E-02	0.0158	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.543E-02	0.0202
Total	1.229E+00	0.3784	8.800E-01	0.2710	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.138E+00	0.3506

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.128E+00	0.3475
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.296E-01	0.0399
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.498E-01	0.0461
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.495E-01	0.0461
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.603E-02	0.0049
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.424E-01	0.0438
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	1.270E-01	0.0391
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	1.116E+00	0.3438
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	2.881E+01	0.0887
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	3.247E+00	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	5.488E-02	0.0178	1.787E-01	0.0580	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.172E-01	0.2651
Pu-238	1.631E-04	0.0001	9.880E-02	0.0321	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.494E-03	0.00[illegible]
Pu-239	3.922E-04	0.0001	1.338E-01	0.0434	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.255E-02	0.004[illegible]
Pu-240	2.006E-04	0.0001	1.335E-01	0.0433	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.252E-02	0.0041
Pu-241	1.445E-03	0.0005	5.196E-03	0.0017	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.148E-02	0.0070
Pu-242	1.751E-04	0.0001	1.274E-01	0.0413	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.193E-02	0.003[illegible]
U-234	5.390E-04	0.0002	5.453E-02	0.0177	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.519E-02	0.021[illegible]
U-235	9.530E-01	0.3092	5.172E-02	0.0168	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.377E-02	0.0207
U-238	1.633E-01	0.0530	4.872E-02	0.0158	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.194E-02	0.020[illegible]
Total	1.174E+00	0.3809	8.324E-01	0.2700	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.076E+00	0.3491

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.051E+00	0.340[illegible]
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.085E-01	0.035[illegible]
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.467E-01	0.0476
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.462E-01	0.047[illegible]
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.812E-02	0.009[illegible]
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.395E-01	0.0453
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	1.203E-01	0.0390
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	1.068E+00	0.3466
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	2.740E-01	0.088[illegible]
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	3.083E+00	1.0000

*Sum of all water independent and dependent pathways.

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	4.428E-02	0.0173	1.390E-01	0.0544	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.354E-01	0.2487
Pu-238	9.059E-05	0.0000	5.288E-02	0.0207	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.089E-03	0.0020
Pu-239	3.765E-04	0.0001	1.242E-01	0.0486	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.165E-02	0.0046
Pu-240	1.921E-04	0.0001	1.233E-01	0.0482	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.156E-02	0.0045
Pu-241	1.542E-03	0.0006	4.855E-03	0.0019	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.213E-02	0.0087
Pu-242	1.688E-04	0.0001	1.185E-01	0.0464	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.110E-02	0.0043
U-234	6.739E-04	0.0003	4.502E-02	0.0176	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.382E-02	0.0211
U-235	8.148E-01	0.3189	4.595E-02	0.0180	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.882E-02	0.0230
U-238	1.386E-01	0.0543	4.017E-02	0.0157	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.107E-02	0.0200
Total	1.001E+00	0.3917	6.938E-01	0.2715	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.606E-01	0.3368

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

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.186E-01	0.3204
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.806E-02	0.0227
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.363E-01	0.0533
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.350E-01	0.0528
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.852E-02	0.0112
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.298E-01	0.0508
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	9.952E-02	0.0389
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	9.196E-01	0.3599
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	2.299E-01	0.0900
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	2.555E+00	1.0000

*Sum of all water independent and dependent pathways.

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	frac
Am-241	2.400E-02	0.0156	6.716E-02	0.0437	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.071E-01	0.1998
Pu-238	1.718E-05	0.0000	8.801E-03	0.0057	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.563E-04	0.0006
Pu-239	3.343E-04	0.0002	9.970E-02	0.0649	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.351E-03	0.00
Pu-240	1.695E-04	0.0001	9.742E-02	0.0634	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.138E-03	0.005
Pu-241	8.442E-04	0.0005	2.364E-03	0.0015	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.081E-02	0.0070
Pu-242	1.522E-04	0.0001	9.562E-02	0.0622	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.954E-03	0.00
U-234	1.823E-03	0.0012	2.589E-02	0.0168	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.107E-02	0.02
U-235	5.199E-01	0.3383	3.227E-02	0.0210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.455E-02	0.0290
U-238	8.636E-02	0.0562	2.297E-02	0.0149	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.920E-02	0.019
Total	6.336E-01	0.4123	4.522E-01	0.2943	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.510E-01	0.2935

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
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.982E-01	0.259
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.674E-03	0.006
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.094E-01	0.0712
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.067E-01	0.0694
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.401E-02	0.009
Pu-242	0.000E+00	0.0000	0.000E+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-01	0.0681
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	5.878E-02	0.0383
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	5.967E-01	0.388
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	1.385E-01	0.090
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	1.537E+00	1.000

*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.
Am-241	2.834E-03	0.0092	4.584E-03	0.0148	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.096E-02	0.0678
Pu-238	1.795E-06	0.0000	1.583E-05	0.0001	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.334E-06	0.0000
Pu-239	2.072E-04	0.0007	4.011E-02	0.1297	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.762E-03	0.0122
Pu-240	1.084E-04	0.0004	3.713E-02	0.1201	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.483E-03	0.0113
Pu-241	9.956E-05	0.0003	1.613E-04	0.0005	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.376E-04	0.0024
Pu-242	1.044E-04	0.0003	3.920E-02	0.1268	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.671E-03	0.0119
U-234	5.832E-03	0.0189	3.399E-03	0.0110	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.537E-03	0.0147
U-235	1.001E-01	0.3238	6.514E-03	0.0211	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.011E-02	0.0327
U-238	1.512E-02	0.0489	2.819E-03	0.0091	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.584E-03	0.0116
Total	1.244E-01	0.4024	1.339E-01	0.4331	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.085E-02	0.1644

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.838E-02	0.0918
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.096E-05	0.0001
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.408E-02	0.1425
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.072E-02	0.1317
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.984E-04	0.0032
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.298E-02	0.1390
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	1.377E-02	0.0445
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	1.168E-01	0.3776
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	2.152E-02	0.0696
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	3.092E-01	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)	Branch Fraction	DSR(j,t) (mrem/yr)/(pCi/g) t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	1.169E-02	1.165E-02	1.157E-02	1.128E-02	1.051E-02	8.185E-03	3.981E-03	2.825E-04
Am-241	Np-237	1.000E+00	0.000E+00	9.108E-09	2.721E-08	8.939E-08	2.573E-07	7.425E-07	1.491E-06	1.311E-06
Am-241	U-233	1.000E+00	0.000E+00	9.514E-16	8.520E-15	9.306E-14	7.974E-13	7.463E-12	4.114E-11	7.846E-11
Am-241	Th-229	1.000E+00	0.000E+00	9.092E-19	2.446E-17	8.948E-16	2.332E-14	7.637E-13	1.456E-11	1.597E-10
Am-241	ΣDSR(j)		1.169E-02	1.165E-02	1.157E-02	1.128E-02	1.051E-02	8.186E-03	3.982E-03	2.838E-04
Pu-238	Pu-238	1.000E+00	1.417E-03	1.405E-03	1.380E-03	1.296E-03	1.084E-03	5.804E-04	9.652E-05	1.573E-07
Pu-238	U-234	1.000E+00	0.000E+00	3.677E-09	1.090E-08	3.490E-08	9.329E-08	2.095E-07	2.192E-07	3.182E-08
Pu-238	Th-230	1.000E+00	0.000E+00	3.619E-14	3.231E-13	3.490E-12	2.900E-11	2.457E-10	1.091E-09	1.645E-09
Pu-238	Ra-226	1.000E+00	0.000E+00	2.616E-16	7.016E-15	2.539E-13	6.422E-12	1.902E-10	2.828E-09	1.748E-08
Pu-238	Pb-210	1.000E+00	0.000E+00	2.605E-19	2.070E-17	2.394E-15	1.619E-13	1.128E-11	2.496E-10	1.371E-09
Pu-238	ΣDSR(j)		1.417E-03	1.405E-03	1.380E-03	1.296E-03	1.085E-03	5.806E-04	9.674E-05	2.096E-07
Pu-239	Pu-239	1.000E+00	1.514E-03	1.513E-03	1.509E-03	1.498E-03	1.467E-03	1.363E-03	1.094E-03	4.408E-04
Pu-239	U-235	1.000E+00	0.000E+00	1.123E-11	3.358E-11	1.108E-10	3.227E-10	9.704E-10	2.177E-09	2.635E-09
Pu-239	Pa-231	1.000E+00	0.000E+00	3.614E-16	3.239E-15	3.545E-14	3.056E-13	2.920E-12	1.703E-11	3.854E-11
Pu-239	Ac-227	1.000E+00	0.000E+00	1.025E-17	2.708E-16	9.308E-15	2.054E-13	4.195E-12	3.501E-11	9.930E-11
Pu-239	ΣDSR(j)		1.514E-03	1.513E-03	1.509E-03	1.498E-03	1.467E-03	1.363E-03	1.094E-03	4.408E-04
Pu-240	Pu-240	1.000E+00	1.512E-03	1.511E-03	1.507E-03	1.495E-03	1.462E-03	1.350E-03	1.067E-03	4.072E-04
Pu-240	U-236	1.000E+00	0.000E+00	3.651E-11	1.091E-10	3.588E-10	1.036E-09	3.015E-09	6.134E-09	4.879E-09
Pu-240	Th-232	1.000E+00	0.000E+00	1.034E-20	9.281E-20	1.021E-18	8.923E-18	8.954E-17	6.009E-16	2.214E-15
Pu-240	Ra-228	1.000E+00	0.000E+00	2.245E-21	5.704E-20	1.736E-18	2.982E-17	4.366E-16	3.535E-15	1.860E-14
Pu-240	Th-228	1.000E+00	0.000E+00	3.063E-22	2.067E-20	1.463E-18	3.848E-17	6.612E-16	5.547E-15	2.885E-14
Pu-240	ΣDSR(j)		1.512E-03	1.511E-03	1.507E-03	1.495E-03	1.462E-03	1.350E-03	1.067E-03	4.072E-04
Pu-241	Pu-241	1.000E+00	2.441E-05	2.324E-05	2.106E-05	1.493E-05	5.587E-06	1.789E-07	9.531E-12	9.163E-27
Pu-241	Am-241	1.000E+00	0.000E+00	1.826E-05	5.202E-05	1.453E-04	2.756E-04	2.850E-04	1.401E-04	9.941E-06
Pu-241	Np-237	1.000E+00	0.000E+00	7.190E-12	6.249E-11	6.168E-10	4.077E-09	2.003E-08	4.729E-08	4.351E-08
Pu-241	U-233	1.000E+00	0.000E+00	5.027E-19	1.320E-17	4.444E-16	9.321E-15	1.698E-13	1.224E-12	2.567E-12
Pu-241	Th-229	1.000E+00	0.000E+00	3.611E-22	2.861E-20	3.274E-18	2.166E-16	1.498E-14	4.033E-13	5.071E-12
Pu-241	ΣDSR(j)		2.441E-05	4.150E-05	7.308E-05	1.603E-04	2.812E-04	2.852E-04	1.401E-04	9.984E-06
Pu-241	Pu-241	2.450E-05	5.980E-10	5.693E-10	5.160E-10	3.658E-10	1.369E-10	4.383E-12	2.335E-16	2.245E-31
Pu-241	Np-237	2.450E-05	0.000E+00	2.181E-13	6.231E-13	1.761E-12	3.464E-12	4.245E-12	3.613E-12	1.835E-12
Pu-241	U-233	2.450E-05	0.000E+00	2.296E-20	1.996E-19	1.971E-18	1.305E-17	6.465E-17	1.559E-16	1.352E-16
Pu-241	Th-229	2.450E-05	0.000E+00	2.202E-23	5.794E-22	1.964E-20	4.206E-19	8.282E-18	7.589E-17	3.815E-16
Pu-241	ΣDSR(j)		5.980E-10	5.695E-10	5.166E-10	3.676E-10	1.403E-10	8.629E-12	3.613E-12	1.836E-12
Pu-242	Pu-242	1.000E+00	1.438E-03	1.437E-03	1.434E-03	1.424E-03	1.395E-03	1.298E-03	1.047E-03	4.298E-04
Pu-242	U-238	1.000E+00	0.000E+00	4.575E-13	1.368E-12	4.508E-12	1.309E-11	3.892E-11	8.443E-11	8.923E-11
Pu-242	U-234	1.000E+00	0.000E+00	2.863E-19	2.565E-18	2.808E-17	2.420E-16	2.309E-15	1.342E-14	2.969E-14
Pu-242	Th-230	1.000E+00	0.000E+00	1.876E-24	5.047E-23	1.847E-21	4.814E-20	1.577E-18	2.991E-17	2.984E-16
Pu-242	Ra-226	1.000E+00	0.000E+00	3.881E-27	8.178E-25	1.002E-22	7.872E-21	8.725E-19	5.189E-17	2.067E-15
Pu-242	Pb-210	1.000E+00	0.000E+00	0.000E+00	1.742E-27	7.612E-25	1.618E-22	4.367E-20	4.093E-18	1.542E-16
Pu-242	ΣDSR(j)		1.438E-03	1.437E-03	1.434E-03	1.424E-03	1.395E-03	1.298E-03	1.047E-03	4.298E-04

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

Parent (i)	Product (j)	Branch Fraction	DSR(j,t) (mrem/yr)/(pCi/g) t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
U-234	U-234	1.000E+00	1.305E-03	1.301E-03	1.294E-03	1.269E-03	1.202E-03	9.904E-04	5.659E-04	6.939E-05
U-234	Th-230	1.000E+00	0.000E+00	2.560E-08	7.654E-08	2.522E-07	7.326E-07	2.181E-06	4.754E-06	5.099E-06
U-234	Ra-226	1.000E+00	0.000E+00	2.773E-10	2.488E-09	2.734E-08	2.385E-07	2.377E-06	1.571E-05	5.856E-05
U-234	Pb-210	1.000E+00	0.000E+00	3.674E-13	9.733E-12	3.375E-10	7.620E-09	1.644E-07	1.469E-06	4.629E-06
U-234	ÖDSR(j)		1.305E-03	1.301E-03	1.294E-03	1.270E-03	1.203E-03	9.952E-04	5.878E-04	1.377E-04
U-235	U-235	1.000E+00	1.142E-02	1.139E-02	1.134E-02	1.115E-02	1.065E-02	9.040E-03	5.650E-03	1.017E-03
U-235	Pa-231	1.000E+00	0.000E+00	7.336E-07	2.189E-06	7.158E-06	2.033E-05	5.597E-05	9.644E-05	4.060E-05
U-235	Ac-227	1.000E+00	0.000E+00	3.112E-08	2.723E-07	2.744E-06	1.902E-05	9.987E-05	2.197E-04	1.097E-04
U-235	ÖDSR(j)		1.142E-02	1.139E-02	1.134E-02	1.116E-02	1.068E-02	9.196E-03	5.967E-03	1.168E-03
U-238	U-238	1.000E+00	2.954E-03	2.946E-03	2.932E-03	2.881E-03	2.740E-03	2.298E-03	1.385E-03	2.150E-04
U-238	U-234	1.000E+00	0.000E+00	3.689E-09	1.101E-08	3.599E-08	1.022E-07	2.808E-07	4.815E-07	1.970E-07
U-238	Th-230	1.000E+00	0.000E+00	3.627E-14	3.251E-13	3.562E-12	3.080E-11	2.977E-10	1.798E-09	4.739E-09
U-238	Ra-226	1.000E+00	0.000E+00	2.619E-16	7.049E-15	2.579E-13	6.721E-12	2.200E-10	4.177E-09	4.350E-08
U-238	Pb-210	1.000E+00	0.000E+00	2.516E-19	2.080E-17	2.424E-15	1.681E-13	1.280E-11	3.590E-10	3.362E-09
U-238	ÖDSR(j)		2.954E-03	2.946E-03	2.932E-03	2.881E-03	2.740E-03	2.299E-03	1.385E-03	2.152E-04

Branch Fraction is the cumulative factor for the j'th principal radionuclide daughter: CUMBRF(j) = BRF(1)*BRF(2)* ... BRF(j).
The DSR includes contributions from associated (half-life µ 0.5 yr) daughters.

Single Radionuclide Soil Guidelines G(i,t) in pCi/g
Basic Radiation Dose Limit = 15 mrem/yr

Nuclide (i)	t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	1.283E+03	1.287E+03	1.297E+03	1.329E+03	1.427E+03	1.832E+03	3.767E+03	5.286E+04
Pu-238	1.058E+04	1.068E+04	1.087E+04	1.157E+04	1.383E+04	2.584E+04	1.551E+05	7.155E+07
Pu-239	9.906E+03	9.917E+03	9.937E+03	1.001E+04	1.022E+04	1.101E+04	1.371E+04	3.403E+04
Pu-240	9.919E+03	9.930E+03	9.953E+03	1.003E+04	1.026E+04	1.111E+04	1.405E+04	3.684E+04
Pu-241	6.146E+05	3.614E+05	2.053E+05	9.359E+04	5.335E+04	5.259E+04	1.070E+05	1.502E+06
Pu-242	1.043E+04	1.044E+04	1.046E+04	1.054E+04	1.075E+04	1.156E+04	1.432E+04	3.490E+04
U-234	1.150E+04	1.153E+04	1.159E+04	1.181E+04	1.247E+04	1.507E+04	2.552E+04	1.089E+05
U-235	1.314E+03	1.317E+03	1.323E+03	1.344E+03	1.404E+03	1.631E+03	2.514E+03	1.285E+04
U-238	5.079E+03	5.091E+03	5.117E+03	5.207E+03	5.474E+03	6.526E+03	1.083E+04	6.970E+04

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

Nuclide (i)	Initial pCi/g	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Am-241	1.000E+02	0.000E+00	1.169E-02	1.283E+03	1.169E-02	1.283E+03
Pu-238	1.000E+02	0.000E+00	1.417E-03	1.058E+04	1.417E-03	1.058E+04
Pu-239	1.000E+02	0.000E+00	1.514E-03	9.906E+03	1.514E-03	9.906E+03
Pu-240	1.000E+02	0.000E+00	1.512E-03	9.919E+03	1.512E-03	9.919E+03
Pu-241	1.000E+02	56.20 þ 0.06	3.124E-04	4.802E+04	2.441E-05	6.146E+05
Pu-242	1.000E+02	0.000E+00	1.438E-03	1.043E+04	1.438E-03	1.043E+04
U-234	1.000E+02	0.000E+00	1.305E-03	1.150E+04	1.305E-03	1.150E+04
U-235	1.000E+02	0.000E+00	1.142E-02	1.314E+03	1.142E-02	1.314E+03
U-238	1.000E+02	0.000E+00	2.954E-03	5.079E+03	2.954E-03	5.079E+03

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

Nuclide (j)	Parent (i)	BRF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	1.169E+00	1.165E+00	1.157E+00	1.128E+00	1.051E+00	8.185E-01	3.981E-01	2.825E-02
Am-241	Pu-241	1.000E+00	0.000E+00	1.826E-03	5.202E-03	1.453E-02	2.756E-02	2.850E-02	1.401E-02	9.941E-04
Am-241	ÖDOSE(j):		1.169E+00	1.167E+00	1.162E+00	1.143E+00	1.078E+00	8.470E-01	4.121E-01	2.924E-02
Np-237	Am-241	1.000E+00	0.000E+00	9.108E-07	2.721E-06	8.939E-06	2.573E-05	7.425E-05	1.491E-04	1.311E-04
Np-237	Pu-241	1.000E+00	0.000E+00	7.190E-10	6.249E-09	6.168E-08	4.077E-07	2.003E-06	4.729E-06	4.351E-06
Np-237	Pu-241	2.450E-05	0.000E+00	2.181E-11	6.231E-11	1.761E-10	3.464E-10	4.245E-10	3.613E-10	1.835E-10
Np-237	ÖDOSE(j):		0.000E+00	9.115E-07	2.727E-06	9.000E-06	2.613E-05	7.625E-05	1.539E-04	1.355E-04
U-233	Am-241	1.000E+00	0.000E+00	9.514E-14	8.520E-13	9.306E-12	7.974E-11	7.463E-10	4.114E-09	7.846E-09
U-233	Pu-241	1.000E+00	0.000E+00	5.027E-17	1.320E-15	4.444E-14	9.321E-13	1.698E-11	1.224E-10	2.567E-10
U-233	Pu-241	2.450E-05	0.000E+00	2.296E-18	1.996E-17	1.971E-16	1.305E-15	6.465E-15	1.559E-14	1.352E-14
U-233	ÖDOSE(j):		0.000E+00	9.519E-14	8.534E-13	9.350E-12	8.068E-11	7.633E-10	4.236E-09	8.103E-09
Th-229	Am-241	1.000E+00	0.000E+00	9.092E-17	2.446E-15	8.948E-14	2.332E-12	7.637E-11	1.456E-09	1.597E-08
Th-229	Pu-241	1.000E+00	0.000E+00	3.611E-20	2.861E-18	3.274E-16	2.166E-14	1.498E-12	4.033E-11	5.071E-10
Th-229	Pu-241	2.450E-05	0.000E+00	2.202E-21	5.794E-20	1.964E-18	4.206E-17	8.282E-16	7.589E-15	3.815E-14
Th-229	ÖDOSE(j):		0.000E+00	9.095E-17	2.449E-15	8.981E-14	2.354E-12	7.787E-11	1.496E-09	1.647E-08
Pu-238	Pu-238	1.000E+00	1.417E-01	1.405E-01	1.380E-01	1.296E-01	1.084E-01	5.804E-02	9.652E-03	1.573E-05
U-234	Pu-238	1.000E+00	0.000E+00	3.677E-07	1.090E-06	3.490E-06	9.329E-06	2.095E-05	2.192E-05	3.182E-06
U-234	Pu-242	1.000E+00	0.000E+00	2.863E-17	2.565E-16	2.808E-15	2.420E-14	2.309E-13	1.342E-12	2.969E-12
U-234	U-234	1.000E+00	1.305E-01	1.301E-01	1.294E-01	1.269E-01	1.202E-01	9.904E-02	5.659E-02	6.939E-03
U-234	U-238	1.000E+00	0.000E+00	3.689E-07	1.101E-06	3.599E-06	1.022E-05	2.808E-05	4.815E-05	1.970E-05
U-234	ÖDOSE(j):		1.305E-01	1.301E-01	1.294E-01	1.269E-01	1.202E-01	9.909E-02	5.666E-02	6.962E-03
Th-230	Pu-238	1.000E+00	0.000E+00	3.619E-12	3.231E-11	3.490E-10	2.900E-09	2.457E-08	1.091E-07	1.645E-07
Th-230	Pu-242	1.000E+00	0.000E+00	1.876E-22	5.047E-21	1.847E-19	4.814E-18	1.577E-16	2.991E-15	2.984E-14
Th-230	U-234	1.000E+00	0.000E+00	2.560E-06	7.654E-06	2.522E-05	7.326E-05	2.181E-04	4.754E-04	5.099E-04
Th-230	U-238	1.000E+00	0.000E+00	3.627E-12	3.251E-11	3.562E-10	3.080E-09	2.977E-08	1.798E-07	4.739E-07
Th-230	ÖDOSE(j):		0.000E+00	2.560E-06	7.654E-06	2.522E-05	7.326E-05	2.181E-04	4.756E-04	5.105E-04
Ra-226	Pu-238	1.000E+00	0.000E+00	2.616E-14	7.016E-13	2.539E-11	6.422E-10	1.902E-08	2.828E-07	1.748E-06
Ra-226	Pu-242	1.000E+00	0.000E+00	3.881E-25	8.178E-23	1.002E-20	7.872E-19	8.725E-17	5.189E-15	2.067E-13
Ra-226	U-234	1.000E+00	0.000E+00	2.773E-08	2.488E-07	2.734E-06	2.385E-05	2.377E-04	1.571E-03	5.856E-03
Ra-226	U-238	1.000E+00	0.000E+00	2.619E-14	7.049E-13	2.579E-11	6.721E-10	2.200E-08	4.177E-07	4.350E-06
Ra-226	ÖDOSE(j):		0.000E+00	2.773E-08	2.488E-07	2.734E-06	2.385E-05	2.378E-04	1.572E-03	5.862E-03
Pb-210	Pu-238	1.000E+00	0.000E+00	2.605E-17	2.070E-15	2.394E-13	1.619E-11	1.128E-09	2.496E-08	1.371E-07
Pb-210	Pu-242	1.000E+00	0.000E+00	0.000E+00	1.742E-25	7.612E-23	1.618E-20	4.367E-18	4.093E-16	1.542E-14
Pb-210	U-234	1.000E+00	0.000E+00	3.674E-11	9.733E-10	3.375E-08	7.620E-07	1.644E-05	1.469E-04	4.629E-04
Pb-210	U-238	1.000E+00	0.000E+00	2.516E-17	2.080E-15	2.424E-13	1.681E-11	1.280E-09	3.590E-08	3.362E-07
Pb-210	ÖDOSE(j):		0.000E+00	3.674E-11	9.733E-10	3.375E-08	7.620E-07	1.645E-05	1.470E-04	4.634E-04
Pu-239	Pu-239	1.000E+00	1.514E-01	1.513E-01	1.509E-01	1.498E-01	1.467E-01	1.363E-01	1.094E-01	4.408E-02
U-235	Pu-239	1.000E+00	0.000E+00	1.123E-09	3.358E-09	1.108E-08	3.227E-08	9.704E-08	2.177E-07	2.635E-07
U-235	U-235	1.000E+00	1.142E+00	1.139E+00	1.134E+00	1.115E+00	1.065E+00	9.040E-01	5.650E-01	1.017E-01
U-235	ÖDOSE(j):		1.142E+00	1.139E+00	1.134E+00	1.115E+00	1.065E+00	9.040E-01	5.650E-01	1.017E-01

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

Nuclide (j)	Parent (i)	BRF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pa-231	Pu-239	1.000E+00	0.000E+00	3.614E-14	3.239E-13	3.545E-12	3.056E-11	2.920E-10	1.703E-09	3.854E-09
Pa-231	U-235	1.000E+00	0.000E+00	7.336E-05	2.189E-04	7.158E-04	2.033E-03	5.597E-03	9.644E-03	4.060E-03
Pa-231	ðDOSE(j):		0.000E+00	7.336E-05	2.189E-04	7.158E-04	2.033E-03	5.597E-03	9.644E-03	4.060E-03
Ac-227	Pu-239	1.000E+00	0.000E+00	1.025E-15	2.708E-14	9.308E-13	2.054E-11	4.195E-10	3.501E-09	9.930E-09
Ac-227	U-235	1.000E+00	0.000E+00	3.112E-06	2.723E-05	2.744E-04	1.902E-03	9.987E-03	2.197E-02	1.097E-02
Ac-227	ðDOSE(j):		0.000E+00	3.112E-06	2.723E-05	2.744E-04	1.902E-03	9.987E-03	2.197E-02	1.097E-02
Pu-240	Pu-240	1.000E+00	1.512E-01	1.511E-01	1.507E-01	1.495E-01	1.462E-01	1.350E-01	1.067E-01	4.072E-02
U-236	Pu-240	1.000E+00	0.000E+00	3.651E-09	1.091E-08	3.588E-08	1.036E-07	3.015E-07	6.134E-07	4.879E-07
Th-232	Pu-240	1.000E+00	0.000E+00	1.034E-18	9.281E-18	1.021E-16	8.923E-16	8.954E-15	6.009E-14	2.214E-13
Ra-228	Pu-240	1.000E+00	0.000E+00	2.245E-19	5.704E-18	1.736E-16	2.982E-15	4.366E-14	3.535E-13	1.860E-12
Th-228	Pu-240	1.000E+00	0.000E+00	3.063E-20	2.067E-18	1.463E-16	3.848E-15	6.612E-14	5.547E-13	2.885E-12
Pu-241	Pu-241	1.000E+00	2.441E-03	2.324E-03	2.106E-03	1.493E-03	5.587E-04	1.789E-05	9.531E-10	9.163E-25
Pu-241	Pu-241	2.450E-05	5.980E-08	5.693E-08	5.160E-08	3.658E-08	1.369E-08	4.383E-10	2.335E-14	0.000E+00
Pu-241	ðDOSE(j):		2.441E-03	2.324E-03	2.106E-03	1.493E-03	5.587E-04	1.789E-05	9.532E-10	9.163E-25
Pu-242	Pu-242	1.000E+00	1.438E-01	1.437E-01	1.434E-01	1.424E-01	1.395E-01	1.298E-01	1.047E-01	4.298E-02
U-238	Pu-242	1.000E+00	0.000E+00	4.575E-11	1.368E-10	4.508E-10	1.309E-09	3.892E-09	8.443E-09	8.923E-09
U-238	U-238	1.000E+00	2.954E-01	2.946E-01	2.932E-01	2.881E-01	2.740E-01	2.298E-01	1.385E-01	2.150E-02
U-238	ðDOSE(j):		2.954E-01	2.946E-01	2.932E-01	2.881E-01	2.740E-01	2.298E-01	1.385E-01	2.150E-02

BRF(i) is the branch fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	BRF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
ááááááá	ááááááá	áááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá
Am-241	Am-241	1.000E+00	1.000E+02	9.969E+01	9.908E+01	9.697E+01	9.117E+01	7.349E+01	3.968E+01	4.592E+00
Am-241	Pu-241	1.000E+00	0.000E+00	1.563E-01	4.455E-01	1.249E+00	2.391E+00	2.559E+00	1.397E+00	1.616E-01
Am-241	ðS(j):		1.000E+02	9.985E+01	9.953E+01	9.822E+01	9.356E+01	7.604E+01	4.108E+01	4.754E+00
Np-237	Am-241	1.000E+00	0.000E+00	3.233E-05	9.664E-05	3.181E-04	9.204E-04	2.708E-03	5.771E-03	6.785E-03
Np-237	Pu-241	1.000E+00	0.000E+00	2.553E-08	2.220E-07	2.195E-06	1.459E-05	7.306E-05	1.830E-04	2.252E-04
Np-237	Pu-241	2.450E-05	0.000E+00	7.743E-10	2.213E-09	6.265E-09	1.239E-08	1.548E-08	1.398E-08	9.497E-09
Np-237	ðS(j):		0.000E+00	3.236E-05	9.687E-05	3.203E-04	9.350E-04	2.781E-03	5.954E-03	7.010E-03
U-233	Am-241	1.000E+00	0.000E+00	7.068E-11	6.337E-10	6.945E-09	6.011E-08	5.830E-07	3.585E-06	1.151E-05
U-233	Pu-241	1.000E+00	0.000E+00	3.735E-14	9.816E-13	3.317E-11	7.026E-10	1.326E-08	1.067E-07	3.767E-07
U-233	Pu-241	2.450E-05	0.000E+00	1.706E-15	1.484E-14	1.471E-13	9.835E-13	5.050E-12	1.358E-11	1.984E-11
U-233	ðS(j):		0.000E+00	7.072E-11	6.347E-10	6.978E-09	6.081E-08	5.962E-07	3.692E-06	1.189E-05
Th-229	Am-241	1.000E+00	0.000E+00	2.226E-15	5.992E-14	2.196E-12	5.756E-11	1.923E-09	3.896E-08	5.775E-07
Th-229	Pu-241	1.000E+00	0.000E+00	8.842E-19	7.008E-17	8.036E-15	5.347E-13	3.772E-11	1.079E-09	1.834E-08
Th-229	Pu-241	2.450E-05	0.000E+00	5.392E-20	1.419E-18	4.822E-17	1.038E-15	2.085E-14	2.031E-13	1.380E-12
Th-229	ðS(j):		0.000E+00	2.227E-15	6.000E-14	2.204E-12	5.810E-11	1.961E-09	4.004E-08	5.959E-07
Pu-238	Pu-238	1.000E+00	1.000E+02	9.916E+01	9.751E+01	9.193E+01	7.769E+01	4.310E+01	8.009E+00	2.214E-02
U-234	Pu-238	1.000E+00	0.000E+00	2.820E-04	8.370E-04	2.688E-03	7.258E-03	1.690E-02	1.974E-02	4.852E-03
U-234	Pu-242	1.000E+00	0.000E+00	2.195E-14	1.969E-13	2.163E-12	1.883E-11	1.863E-10	1.209E-09	4.527E-09
U-234	U-234	1.000E+00	1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.348E+01	7.988E+01	5.098E+01	1.058E+01
U-234	U-238	1.000E+00	0.000E+00	2.829E-04	8.448E-04	2.772E-03	7.951E-03	2.265E-02	4.337E-02	3.004E-02
U-234	ðS(j):		1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.350E+01	7.992E+01	5.104E+01	1.062E+01
Th-230	Pu-238	1.000E+00	0.000E+00	1.271E-09	1.136E-08	1.232E-07	1.034E-06	9.079E-06	4.501E-05	1.148E-04
Th-230	Pu-242	1.000E+00	0.000E+00	6.590E-20	1.775E-18	6.516E-17	1.716E-15	5.826E-14	1.234E-12	2.082E-11
Th-230	U-234	1.000E+00	0.000E+00	8.992E-04	2.691E-03	8.901E-03	2.611E-02	8.058E-02	1.961E-01	3.558E-01
Th-230	U-238	1.000E+00	0.000E+00	1.274E-09	1.143E-08	1.257E-07	1.098E-06	1.100E-05	7.417E-05	3.307E-04
Th-230	ðS(j):		0.000E+00	8.992E-04	2.691E-03	8.901E-03	2.611E-02	8.060E-02	1.962E-01	3.562E-01
Ra-226	Pu-238	1.000E+00	0.000E+00	1.837E-13	4.928E-12	1.785E-10	4.527E-09	1.354E-07	2.080E-06	1.594E-05
Ra-226	Pu-242	1.000E+00	0.000E+00	2.725E-24	5.744E-22	7.046E-20	5.549E-18	6.211E-16	3.817E-14	1.885E-12
Ra-226	U-234	1.000E+00	0.000E+00	1.947E-07	1.747E-06	1.922E-05	1.681E-04	1.692E-03	1.156E-02	5.342E-02
Ra-226	U-238	1.000E+00	0.000E+00	1.839E-13	4.951E-12	1.813E-10	4.737E-09	1.566E-07	3.072E-06	3.968E-05
Ra-226	ðS(j):		0.000E+00	1.947E-07	1.747E-06	1.922E-05	1.681E-04	1.692E-03	1.156E-02	5.348E-02
Pb-210	Pu-238	1.000E+00	0.000E+00	1.419E-15	1.129E-13	1.310E-11	8.949E-10	6.462E-08	1.597E-06	1.486E-05
Pb-210	Pu-242	1.000E+00	0.000E+00	0.000E+00	9.502E-24	4.166E-21	8.944E-19	2.502E-16	2.619E-14	1.671E-12
Pb-210	U-234	1.000E+00	0.000E+00	2.002E-09	5.308E-08	1.847E-06	4.212E-05	9.423E-04	9.401E-03	5.015E-02
Pb-210	U-238	1.000E+00	0.000E+00	1.371E-15	1.134E-13	1.327E-11	9.291E-10	7.332E-08	2.298E-06	3.642E-05
Pb-210	ðS(j):		0.000E+00	2.002E-09	5.308E-08	1.847E-06	4.212E-05	9.424E-04	9.405E-03	5.020E-02
Pu-239	Pu-239	1.000E+00	1.000E+02	9.995E+01	9.984E+01	9.946E+01	9.838E+01	9.470E+01	8.493E+01	5.803E+01
U-235	Pu-239	1.000E+00	0.000E+00	9.835E-08	2.942E-07	9.712E-07	2.834E-06	8.578E-06	1.966E-05	2.749E-05
U-235	U-235	1.000E+00	1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.349E+01	7.991E+01	5.102E+01	1.061E+01
U-235	ðS(j):		1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.349E+01	7.991E+01	5.102E+01	1.061E+01

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Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	BRF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pa-231	Pu-239	1.000E+00	0.000E+00	1.040E-12	9.330E-12	1.025E-10	8.916E-10	8.811E-09	5.700E-08	2.109E-07
Pa-231	U-235	1.000E+00	0.000E+00	2.111E-03	6.305E-03	2.069E-02	5.933E-02	1.689E-01	3.228E-01	2.222E-01
Pa-231	ÕS(j):		0.000E+00	2.111E-03	6.305E-03	2.069E-02	5.933E-02	1.689E-01	3.228E-01	2.222E-01
Ac-227	Pu-239	1.000E+00	0.000E+00	1.094E-14	2.892E-13	9.966E-12	2.215E-10	4.650E-09	4.214E-08	1.768E-07
Ac-227	U-235	1.000E+00	0.000E+00	3.321E-05	2.908E-04	2.939E-03	2.052E-02	1.107E-01	2.645E-01	1.954E-01
Ac-227	ÕS(j):		0.000E+00	3.321E-05	2.908E-04	2.939E-03	2.052E-02	1.107E-01	2.645E-01	1.954E-01
Pu-240	Pu-240	1.000E+00	1.000E+02	9.994E+01	9.981E+01	9.938E+01	9.815E+01	9.397E+01	8.299E+01	5.371E+01
U-236	Pu-240	1.000E+00	0.000E+00	2.956E-06	8.843E-06	2.918E-05	8.508E-05	2.568E-04	5.836E-04	7.868E-04
Th-232	Pu-240	1.000E+00	0.000E+00	7.295E-17	6.553E-16	7.233E-15	6.387E-14	6.644E-13	4.983E-12	3.116E-11
Ra-228	Pu-240	1.000E+00	0.000E+00	2.845E-18	7.231E-17	2.203E-15	3.794E-14	5.607E-13	4.689E-12	3.044E-11
Th-228	Pu-240	1.000E+00	0.000E+00	2.415E-19	1.630E-17	1.155E-15	3.048E-14	5.295E-13	4.612E-12	3.033E-11
Pu-241	Pu-241	1.000E+00	1.000E+02	9.525E+01	8.642E+01	6.148E+01	2.323E+01	7.711E-01	4.585E-05	7.435E-20
Pu-241	Pu-241	2.450E-05	2.450E-03	2.334E-03	2.117E-03	1.506E-03	5.693E-04	1.889E-05	1.123E-09	1.822E-24
Pu-241	ÕS(j):		1.000E+02	9.525E+01	8.642E+01	6.148E+01	2.323E+01	7.711E-01	4.585E-05	7.435E-20
Pu-242	Pu-242	1.000E+00	1.000E+02	9.995E+01	9.984E+01	9.948E+01	9.846E+01	9.496E+01	8.562E+01	5.961E+01
U-238	Pu-242	1.000E+00	0.000E+00	1.549E-08	4.635E-08	1.530E-07	4.466E-07	1.353E-06	3.111E-06	4.404E-06
U-238	U-238	1.000E+00	1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.349E+01	7.991E+01	5.102E+01	1.061E+01
U-238	ÕS(j):		1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.349E+01	7.991E+01	5.102E+01	1.061E+01

BRF(i) is the branch fraction of the parent nuclide.

ATTACHMENT VI
RESRAD SUMMARY OUTPUT FOR THE OFFICE WORKER TIER I (15 MREM) ACTION LEVELS

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Dose Conversion Factor (and Related) Parameter Summary
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.720E+00	6.720E+00	DCF2(1)
B-1	Am-241	4.440E-01	4.440E-01	DCF2(2)
B-1	Np-237+D	5.400E-01	5.400E-01	DCF2(3)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(4)
B-1	Pb-210+D	2.320E-02	2.320E-02	DCF2(5)
B-1	Pu-238	2.880E-01	3.920E-01	DCF2(6)
B-1	Pu-239	3.080E-01	4.290E-01	DCF2(7)
B-1	Pu-240	3.080E-01	4.290E-01	DCF2(8)
B-1	Pu-241+D	4.960E-03	8.250E-03	DCF2(9)
B-1	Pu-242	2.930E-01	4.110E-01	DCF2(11)
B-1	Ra-226+D	8.600E-03	8.600E-03	DCF2(12)
B-1	Ra-228+D	5.080E-03	5.080E-03	DCF2(13)
B-1	Th-228+D	3.450E-01	3.450E-01	DCF2(14)
B-1	Th-229+D	2.160E+00	2.160E+00	DCF2(15)
B-1	Th-230	3.260E-01	3.260E-01	DCF2(16)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(17)
B-1	U-233	1.350E-01	1.350E-01	DCF2(18)
B-1	U-234	1.320E-01	1.320E-01	DCF2(19)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(20)
B-1	U-236	1.250E-01	1.250E-01	DCF2(21)
B-1	U-238+D	1.180E-01	1.180E-01	DCF2(22)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Ac-227+D	1.480E-02	1.480E-02	DCF3(1)
D-1	Am-241	3.640E-03	3.640E-03	DCF3(2)
D-1	Np-237+D	4.440E-03	4.440E-03	DCF3(3)
D-1	Pa-231	1.060E-02	1.060E-02	DCF3(4)
D-1	Pb-210+D	7.270E-03	7.270E-03	DCF3(5)
D-1	Pu-238	4.960E-05	3.200E-03	DCF3(6)
D-1	Pu-239	5.180E-05	3.540E-03	DCF3(7)
D-1	Pu-240	5.180E-05	3.540E-03	DCF3(8)
D-1	Pu-241+D	7.660E-07	6.850E-05	DCF3(9)
D-1	Pu-242	4.920E-05	3.360E-03	DCF3(11)
D-1	Ra-226+D	1.330E-03	1.330E-03	DCF3(12)
D-1	Ra-228+D	1.440E-03	1.440E-03	DCF3(13)
D-1	Th-228+D	8.080E-04	8.080E-04	DCF3(14)
D-1	Th-229+D	4.030E-03	4.030E-03	DCF3(15)
D-1	Th-230	5.480E-04	5.480E-04	DCF3(16)
D-1	Th-232	2.730E-03	2.730E-03	DCF3(17)
D-1	U-233	2.890E-04	2.890E-04	DCF3(18)
D-1	U-234	2.830E-04	2.830E-04	DCF3(19)
D-1	U-235+D	2.670E-04	2.670E-04	DCF3(20)
D-1	U-236	2.690E-04	2.690E-04	DCF3(21)
D-1	U-238+D	2.690E-04	2.690E-04	DCF3(22)
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)

Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-34	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,1)
D-34	Am-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-05	5.000E-05	RTF(2,2)
D-34	Am-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-06	2.000E-06	RTF(2,3)
D-34				
D-34	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(3,1)
D-34	Np-237+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(3,2)
D-34	Np-237+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(3,3)
D-34				
D-34	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(4,1)
D-34	Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(4,2)
D-34	Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(4,3)
D-34				
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(5,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(5,3)
D-34				
D-34	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(6,1)
D-34	Pu-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(6,2)
D-34	Pu-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(6,3)
D-34				
D-34	Pu-239 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
D-34	Pu-239 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(7,2)
D-34	Pu-239 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(7,3)
D-34				
D-34	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,1)
D-34	Pu-240 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(8,2)
D-34	Pu-240 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(8,3)
D-34				
D-34	Pu-241+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(9,1)
D-34	Pu-241+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(9,2)
D-34	Pu-241+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(9,3)
D-34				
D-34	Pu-242 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,1)
D-34	Pu-242 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(11,2)
D-34	Pu-242 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-06	1.000E-06	RTF(11,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(12,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(12,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(12,3)
D-34				
D-34	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,1)
D-34	Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(13,2)
D-34	Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(13,3)
D-34				
D-34	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(14,1)
D-34	Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(14,2)
D-34	Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(14,3)
D-34				

Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-34	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(15,1)
D-34	Th-229+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(15,2)
D-34	Th-229+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(15,3)
D-34				
D-34	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,1)
D-34	Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(16,2)
D-34	Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(16,3)
D-34				
D-34	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,1)
D-34	Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(17,2)
D-34	Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(17,3)
D-34				
D-34	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(18,1)
D-34	U-233 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(18,2)
D-34	U-233 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(18,3)
D-34				
D-34	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(19,1)
D-34	U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(19,2)
D-34	U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(19,3)
D-34				
D-34	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,1)
D-34	U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(20,2)
D-34	U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(20,3)
D-34				
D-34	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,1)
D-34	U-236 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(21,2)
D-34	U-236 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(21,3)
D-34				
D-34	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,1)
D-34	U-238+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(22,2)
D-34	U-238+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(22,3)
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	Am-241 , fish	3.000E+01	3.000E+01	BIOFAC(2,1)
D-5	Am-241 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC(2,2)
D-5				
D-5	Np-237+D , fish	3.000E+01	3.000E+01	BIOFAC(3,1)
D-5	Np-237+D , crustacea and mollusks	4.000E+02	4.000E+02	BIOFAC(3,2)
D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(4,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(4,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(5,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(5,2)
D-5				
D-5	Pu-238 , fish	3.000E+01	3.000E+01	BIOFAC(6,1)
D-5	Pu-238 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(6,2)

Dose Conversion Factor (and Related) Parameter Summary (continued)
File: CLASSY.BIN

Menu	Parameter	Current Value	Default	Parameter Name
D-5	Pu-239 , fish	3.000E+01	3.000E+01	BIOFAC(7,1)
D-5	Pu-239 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(7,2)
D-5				
D-5	Pu-240 , fish	3.000E+01	3.000E+01	BIOFAC(8,1)
D-5	Pu-240 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(8,2)
D-5				
D-5	Pu-241+D , fish	3.000E+01	3.000E+01	BIOFAC(9,1)
D-5	Pu-241+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(9,2)
D-5				
D-5	Pu-242 , fish	3.000E+01	3.000E+01	BIOFAC(11,1)
D-5	Pu-242 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(11,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(12,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(12,2)
D-5				
D-5	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFAC(13,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(13,2)
D-5				
D-5	Th-228+D , fish	1.000E+02	1.000E+02	BIOFAC(14,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(14,2)
D-5				
D-5	Th-229+D , fish	1.000E+02	1.000E+02	BIOFAC(15,1)
D-5	Th-229+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(15,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(16,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(16,2)
D-5				
D-5	Th-232 , fish	1.000E+02	1.000E+02	BIOFAC(17,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(17,2)
D-5				
D-5	U-233 , fish	1.000E+01	1.000E+01	BIOFAC(18,1)
D-5	U-233 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(18,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(19,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(19,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(20,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(20,2)
D-5				
D-5	U-236 , fish	1.000E+01	1.000E+01	BIOFAC(21,1)
D-5	U-236 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(21,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(22,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(22,2)

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Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	4.000E+04	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	1.500E-01	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	not used	1.000E+02	---	LCZPAQ
R011	Basic radiation dose limit (mrem/yr)	1.500E+01	3.000E+01	---	BRDL
R011	Time since placement of material (yr)	0.000E+00	0.000E+00	---	TI
R011	Times for calculations (yr)	1.000E+00	1.000E+00	---	T(2)
R011	Times for calculations (yr)	3.000E+00	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+01	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+01	3.000E+01	---	T(5)
R011	Times for calculations (yr)	1.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	3.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	1.000E+03	1.000E+03	---	T(8)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Am-241	1.000E+02	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Pu-238	1.000E+02	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g): Pu-239	1.000E+02	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g): Pu-240	1.000E+02	0.000E+00	---	S1(8)
R012	Initial principal radionuclide (pCi/g): Pu-241	1.000E+02	0.000E+00	---	S1(9)
R012	Initial principal radionuclide (pCi/g): Pu-242	1.000E+02	0.000E+00	---	S1(11)
R012	Initial principal radionuclide (pCi/g): U-234	1.000E+02	0.000E+00	---	S1(19)
R012	Initial principal radionuclide (pCi/g): U-235	1.000E+02	0.000E+00	---	S1(20)
R012	Initial principal radionuclide (pCi/g): U-238	1.000E+02	0.000E+00	---	S1(22)
R012	Concentration in groundwater (pCi/L): Am-241	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L): Pu-238	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L): Pu-239	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L): Pu-240	not used	0.000E+00	---	W1(8)
R012	Concentration in groundwater (pCi/L): Pu-241	not used	0.000E+00	---	W1(9)
R012	Concentration in groundwater (pCi/L): Pu-242	not used	0.000E+00	---	W1(11)
R012	Concentration in groundwater (pCi/L): U-234	not used	0.000E+00	---	W1(19)
R012	Concentration in groundwater (pCi/L): U-235	not used	0.000E+00	---	W1(20)
R012	Concentration in groundwater (pCi/L): U-238	not used	0.000E+00	---	W1(22)
R013	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	not used	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.800E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	7.490E-05	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	3.000E-01	4.000E-01	---	TPCZ
R013	Contaminated zone effective porosity	1.000E-01	2.000E-01	---	EPCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	4.450E+01	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	1.040E+01	5.300E+00	---	BCZ
R013	Humidity in air (g/cm**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	9.200E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	3.810E-01	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	0.000E+00	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	4.000E-03	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	not used	1.000E+06	---	WAREA

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R013	Accuracy for water/soil computations	not used	1.000E-03	Zero shows Simpson's rule.	EPS
R014	Density of saturated zone (g/cm**3)	1.800E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	3.000E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	1.000E-01	2.000E-01	---	EPSZ
R014	Saturated zone hydraulic conductivity (m/yr)	4.450E+01	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	1.500E-01	2.000E-02	---	HGWT
R014	Saturated zone b parameter	5.300E+00	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)	ND	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	2.500E+02	2.500E+02	---	UW
R015	Number of unsaturated zone strata	not used	1	---	NS
R015	Unsat. zone 1, thickness (m)	not used	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	not used	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	not used	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	not used	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	not used	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	not used	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for Am-241				
R016	Contaminated zone (cm**3/g)	7.600E+01	2.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.477E-03	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R016	Distribution coefficients for Pu-238				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+03	---	DCNUCU(6,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+03	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.155E-04	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for Pu-239				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+03	---	DCNUCU(7,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+03	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.155E-04	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for Pu-240				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+03	---	DCNUCU(8,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+03	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.155E-04	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 Pu-241				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(9)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+03	---	DCNUCU(9,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+03	---	DCNUCS(9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.155E-04	ALEACH(9)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(9)
R016	Distribution coefficients for Pu-242				
R016	Contaminated zone (cm**3/g)	2.180E+02	2.000E+03	---	DCNUCC(11)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+03	---	DCNUCU(11,1
R016	Saturated zone (cm**3/g)	not used	2.000E+03	---	DCNUCS(11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.155E-04	ALEACH(11)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(11)
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(19)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(19,1
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(19)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(19)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(19)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(20)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(20,1
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(20)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(20)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(20)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(22)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(22,1
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(22)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(22)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(22)
R016	Distribution coefficients for daughter Ac-227				
R016	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	not used	2.000E+01	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	not used	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.588E-03	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for daughter Np-237				
R016	Contaminated zone (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCU(3,1)
R016	Saturated zone (cm**3/g)	-1.000E+00	-1.000E+00	2.036E+02	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.520E-04	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for daughter Pa-231				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(4,1)
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for daughter Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	not used	1.000E+02	---	DCNUCU(5,1)
R016	Saturated zone (cm**3/g)	not used	1.000E+02	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.123E-03	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for daughter Ra-226				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(12)
R016	Unsaturated zone 1 (cm**3/g)	not used	7.000E+01	---	DCNUCU(12,1)
R016	Saturated zone (cm**3/g)	not used	7.000E+01	---	DCNUCS(12)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.603E-03	ALEACH(12)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(12)
R016	Distribution coefficients for daughter Ra-228				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(13)
R016	Unsaturated zone 1 (cm**3/g)	not used	7.000E+01	---	DCNUCU(13,1)
R016	Saturated zone (cm**3/g)	not used	7.000E+01	---	DCNUCS(13)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.603E-03	ALEACH(13)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(13)
R016	Distribution coefficients for daughter Th-228				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(14)
R016	Unsaturated zone 1 (cm**3/g)	not used	6.000E+04	---	DCNUCU(14,1)
R016	Saturated zone (cm**3/g)	not used	6.000E+04	---	DCNUCS(14)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.874E-06	ALEACH(14)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(14)
R016	Distribution coefficients for daughter Th-229				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(15)
R016	Unsaturated zone 1 (cm**3/g)	not used	6.000E+04	---	DCNUCU(15,1)
R016	Saturated zone (cm**3/g)	not used	6.000E+04	---	DCNUCS(15)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.874E-06	ALEACH(15)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(15)
R016	Distribution coefficients for daughter Th-230				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(16)
R016	Unsaturated zone 1 (cm**3/g)	not used	6.000E+04	---	DCNUCU(16,1)
R016	Saturated zone (cm**3/g)	not used	6.000E+04	---	DCNUCS(16)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.874E-06	ALEACH(16)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(16)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for daughter Th-232				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(17)
R016	Unsaturated zone 1 (cm**3/g)	not used	6.000E+04	---	DCNUCU(17,1)
R016	Saturated zone (cm**3/g)	not used	6.000E+04	---	DCNUCS(17)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.874E-06	ALEACH(17)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(17)
R016	Distribution coefficients for daughter U-233				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(18)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(18,1)
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(18)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(18)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(18)
R016	Distribution coefficients for daughter U-236				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(21)
R016	Unsaturated zone 1 (cm**3/g)	not used	5.000E+01	---	DCNUCU(21,1)
R016	Saturated zone (cm**3/g)	not used	5.000E+01	---	DCNUCS(21)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.243E-03	ALEACH(21)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(21)
R017	Inhalation rate (m**3/yr)	1.660E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	2.600E-05	2.000E-04	---	MLINH
R017	Dilution length for airborne dust, inhalation (m)	3.000E+00	3.000E+00	---	LM
R017	Exposure duration	2.500E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	1.000E+00	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	1.700E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	1.000E+00	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	0.000E+00	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	1 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)	1.250E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	not used	5.100E+02	---	DWI
R018	Contamination fraction of drinking water	not used	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
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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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	not used	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	not used	1.000E+00	---	STOR_T(2)
STOR	Milk	not used	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	not used	2.000E+01	---	STOR_T(4)
STOR	Fish	not used	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	not used	7.000E+00	---	STOR_T(6)
STOR	Well water	not used	1.000E+00	---	STOR_T(7)
STOR	Surface water	not used	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	not used	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR
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 annual wind speed (m/sec)	not used	2.000E+00	---	WIND
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)

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	suppressed
8 -- soil ingestion	active
9 -- radon	suppressed

Summary : Office worker surface soil exposure at the 15 millirem level
File : \RES561\PUBLIC\OFFICE15.DAT

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	40000.00 square meters	Am-241	1.000E+02
Thickness:	0.15 meters	Pu-238	1.000E+02
Cover Depth:	0.00 meters	Pu-239	1.000E+02
		Pu-240	1.000E+02
		Pu-241	1.000E+02
		Pu-242	1.000E+02
		U-234	1.000E+02
		U-235	1.000E+02
		U-238	1.000E+02

Total Dose TDOSE(t), mrem/yr
Basic Radiation Dose Limit = 15 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	2.967E+01	2.960E+01	2.946E+01	2.896E+01	2.753E+01	2.304E+01	1.424E+01	3.036E+00
M(t):	1.978E+00	1.973E+00	1.964E+00	1.931E+00	1.836E+00	1.536E+00	9.492E-01	2.024E-01

Maximum TDOSE(t): 2.967E+01 mrem/yr at t = 0.000E+00 years

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract
Am-241	7.306E-01	0.0246	1.888E+00	0.0636	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.550E+00	0.1533
Pu-238	2.549E-03	0.0001	1.225E+00	0.0413	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.200E-02	0.0021
Pu-239	4.845E-03	0.0002	1.310E+00	0.0441	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.475E-02	0.002
Pu-240	2.482E-03	0.0001	1.310E+00	0.0441	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.475E-02	0.0022
Pu-241	3.122E-04	0.0000	2.109E-02	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.575E-04	0.0000
Pu-242	2.159E-03	0.0001	1.246E+00	0.0420	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.150E-02	0.002
U-234	6.693E-03	0.0002	5.613E-01	0.0189	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.537E-01	0.011
U-235	1.238E+01	0.4173	5.230E-01	0.0176	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.337E-01	0.0112
U-238	2.128E+00	0.0717	5.018E-01	0.0169	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.363E-01	0.011
Total	1.526E+01	0.5143	8.585E+00	0.2893	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.828E+00	0.1964

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
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.169E+00	0.2416
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.289E+00	0.0434
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.379E+00	0.0465
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.377E+00	0.0464
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.236E-02	0.0008
Pu-242	0.000E+00	0.0000	0.000E+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+00	0.0441
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	9.217E-01	0.0311
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	1.324E+01	0.4462
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	2.966E+00	0.0999
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	2.967E+01	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.
Am-241	7.284E-01	0.0246	1.881E+00	0.0636	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.534E+00	0.153
Pu-238	2.528E-03	0.0001	1.214E+00	0.0410	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.145E-02	0.002
Pu-239	4.843E-03	0.0002	1.308E+00	0.0442	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.468E-02	0.002
Pu-240	2.480E-03	0.0001	1.308E+00	0.0442	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.468E-02	0.002
Pu-241	1.439E-03	0.0000	2.303E-02	0.0008	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.019E-03	0.0003
Pu-242	2.158E-03	0.0001	1.245E+00	0.0420	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.144E-02	0.0021
U-234	6.679E-03	0.0002	5.598E-01	0.0189	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.528E-01	0.0119
U-235	1.235E+01	0.4174	5.217E-01	0.0176	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.331E-01	0.0113
U-238	2.123E+00	0.0717	5.004E-01	0.0169	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.353E-01	0.0113
Total	1.523E+01	0.5144	8.561E+00	0.2892	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.815E+00	0.1964

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

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.143E+00	0.2413
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.278E+00	0.0432
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.378E+00	0.0465
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.375E+00	0.0465
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.249E-02	0.0011
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.308E+00	0.0442
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	9.192E-01	0.0311
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	1.321E+01	0.4462
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	2.958E+00	0.0999
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	2.960E+01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	frac
Am-241	7.239E-01	0.0246	1.868E+00	0.0634	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.501E+00	0.1528
Pu-238	2.486E-03	0.0001	1.192E+00	0.0405	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.037E-02	0.0020
Pu-239	4.837E-03	0.0002	1.306E+00	0.0443	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.455E-02	0.00
Pu-240	2.477E-03	0.0001	1.305E+00	0.0443	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.453E-02	0.00
Pu-241	3.525E-03	0.0001	2.660E-02	0.0009	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.107E-02	0.0007
Pu-242	2.156E-03	0.0001	1.242E+00	0.0422	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.131E-02	0.00
U-234	6.652E-03	0.0002	5.567E-01	0.0189	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.509E-01	0.01
U-235	1.230E+01	0.4175	5.192E-01	0.0176	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.319E-01	0.0113
U-238	2.113E+00	0.0717	4.977E-01	0.0169	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.335E-01	0.0113
Total	1.516E+01	0.5145	8.513E+00	0.2890	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.789E+00	0.19

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	frac
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.093E+00	0.24
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.255E+00	0.04
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.375E+00	0.0467
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.372E+00	0.0466
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.119E-02	0.00
Pu-242	0.000E+00	0.0000	0.000E+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+00	0.04
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	9.142E-01	0.0310
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	1.315E+01	0.44
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	2.944E+00	0.09
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	2.946E+01	1.0000

*Sum of all water independent and dependent pathways.

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	7.086E-01	0.0245	1.822E+00	0.0629	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.390E+00	0.1516
Pu-238	2.344E-03	0.0001	1.120E+00	0.0387	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.672E-02	0.0020
Pu-239	4.818E-03	0.0002	1.296E+00	0.0448	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.408E-02	0.0022
Pu-240	2.466E-03	0.0001	1.295E+00	0.0447	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.403E-02	0.0022
Pu-241	9.318E-03	0.0003	3.636E-02	0.0013	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.713E-02	0.0020
Pu-242	2.148E-03	0.0001	1.233E+00	0.0426	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.088E-02	0.0021
U-234	6.579E-03	0.0002	5.462E-01	0.0189	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.442E-01	0.0119
U-235	1.211E+01	0.4180	5.108E-01	0.0176	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.280E-01	0.0113
U-238	2.078E+00	0.0718	4.882E-01	0.0169	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.272E-01	0.0113
Total	1.492E+01	0.5152	8.348E+00	0.2883	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.692E+00	0.1966

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.920E+00	0.2390
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.179E+00	0.0407
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.365E+00	0.0471
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.362E+00	0.0470
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.028E-01	0.0036
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.296E+00	0.0448
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	8.970E-01	0.0310
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	1.294E+01	0.4470
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	2.894E+00	0.0999
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	2.896E+01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract
Am-241	6.664E-01	0.0242	1.696E+00	0.0616	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.086E+00	0.1484
Pu-238	1.981E-03	0.0001	9.372E-01	0.0340	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.747E-02	0.0017
Pu-239	4.762E-03	0.0002	1.269E+00	0.0461	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.275E-02	0.002
Pu-240	2.436E-03	0.0001	1.266E+00	0.0460	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.260E-02	0.0023
Pu-241	1.755E-02	0.0006	4.929E-02	0.0018	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.074E-01	0.0039
Pu-242	2.126E-03	0.0001	1.208E+00	0.0439	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.965E-02	0.002
U-234	6.545E-03	0.0002	5.172E-01	0.0188	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.259E-01	0.011
U-235	1.157E+01	0.4203	4.906E-01	0.0178	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.188E-01	0.0116
U-238	1.983E+00	0.0720	4.621E-01	0.0168	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.097E-01	0.011
Total	1.426E+01	0.5178	7.896E+00	0.2868	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.381E+00	0.1954

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.448E+00	0.2341
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.866E-01	0.0358
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.337E+00	0.0485
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.331E+00	0.0484
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.742E-01	0.0061
Pu-242	0.000E+00	0.0000	0.000E+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+00	0.0461
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	8.497E-01	0.0309
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	1.238E+01	0.4497
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	2.755E+00	0.1001
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	2.753E+01	1.0000

*Sum of all water independent and dependent pathways.

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	5.377E-01	0.0233	1.318E+00	0.0572	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.177E+00	0.1379
Pu-238	1.100E-03	0.0000	5.016E-01	0.0218	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.545E-02	0.0011
Pu-239	4.572E-03	0.0002	1.178E+00	0.0512	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.826E-02	0.0025
Pu-240	2.332E-03	0.0001	1.169E+00	0.0508	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.781E-02	0.0025
Pu-241	1.872E-02	0.0008	4.606E-02	0.0020	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.106E-01	0.0048
Pu-242	2.050E-03	0.0001	1.124E+00	0.0488	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.548E-02	0.0024
U-234	8.183E-03	0.0004	4.271E-01	0.0185	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.691E-01	0.0117
U-235	9.894E+00	0.4295	4.358E-01	0.0189	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.941E-01	0.0128
U-238	1.683E+00	0.0731	3.810E-01	0.0165	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.553E-01	0.0111
Total	1.215E+01	0.5275	6.581E+00	0.2857	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.303E+00	0.1868

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

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.033E+00	0.2185
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.281E-01	0.0229
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.241E+00	0.0539
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.229E+00	0.0534
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.754E-01	0.0076
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.182E+00	0.0513
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	7.043E-01	0.0306
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	1.062E+01	0.4612
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	2.320E+00	0.1007
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	2.304E+01	1.0000

*Sum of all water independent and dependent pathways.

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract
Am-241	2.914E-01	0.0205	6.371E-01	0.0447	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.535E+00	0.1078
Pu-238	2.086E-04	0.0000	8.348E-02	0.0059	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.281E-03	0.0003
Pu-239	4.059E-03	0.0003	9.457E-01	0.0664	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.676E-02	0.003
Pu-240	2.059E-03	0.0001	9.241E-01	0.0649	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.569E-02	0.003
Pu-241	1.025E-02	0.0007	2.242E-02	0.0016	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.403E-02	0.0038
Pu-242	1.848E-03	0.0001	9.070E-01	0.0637	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.477E-02	0.003
U-234	2.213E-02	0.0016	2.456E-01	0.0172	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.553E-01	0.010
U-235	6.312E+00	0.4434	3.061E-01	0.0215	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.227E-01	0.0156
U-238	1.049E+00	0.0737	2.179E-01	0.0153	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.460E-01	0.0102
Total	7.693E+00	0.5403	4.289E+00	0.3013	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.255E+00	0.1584

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
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.464E+00	0.173
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.797E-02	0.006
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.966E-01	0.0700
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.718E-01	0.0683
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.671E-02	0.006
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.536E-01	0.0670
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	4.231E-01	0.0297
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	6.841E+00	0.4805
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	1.413E+00	0.0993
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	1.424E+01	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.
Am-241	3.441E-02	0.0113	4.349E-02	0.0143	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.048E-01	0.0345
Pu-238	2.180E-05	0.0000	1.502E-04	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.667E-05	0.0000
Pu-239	2.515E-03	0.0008	3.805E-01	0.1253	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.881E-02	0.0062
Pu-240	1.317E-03	0.0004	3.522E-01	0.1160	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.741E-02	0.0057
Pu-241	1.209E-03	0.0004	1.530E-03	0.0005	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.688E-03	0.0012
Pu-242	1.268E-03	0.0004	3.718E-01	0.1225	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.836E-02	0.0060
U-234	7.081E-02	0.0233	3.224E-02	0.0106	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.269E-02	0.0075
U-235	1.216E+00	0.4005	6.179E-02	0.0204	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.057E-02	0.0167
U-238	1.836E-01	0.0605	2.674E-02	0.0088	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.792E-02	0.0059
Total	1.511E+00	0.4978	1.270E+00	0.4185	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.543E-01	0.0838

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.
Am-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.827E-01	0.0602
Pu-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.887E-04	0.0001
Pu-239	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.018E-01	0.1324
Pu-240	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.709E-01	0.1222
Pu-241	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.427E-03	0.0021
Pu-242	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.915E-01	0.1289
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	1.257E-01	0.0414
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	1.328E+00	0.4376
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	2.282E-01	0.0752
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	3.036E+00	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)	Branch Fraction	DSR(j,t) (mrem/yr)/(pCi/g) t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	7.169E-02	7.143E-02	7.093E-02	6.920E-02	6.448E-02	5.032E-02	2.462E-02	1.814E-03
Am-241	Np-237	1.000E+00	0.000E+00	8.289E-08	2.477E-07	8.141E-07	2.347E-06	6.811E-06	1.390E-05	1.301E-05
Am-241	U-233	1.000E+00	0.000E+00	6.770E-15	6.063E-14	6.622E-13	5.675E-12	5.314E-11	2.932E-10	5.626E-10
Am-241	Th-229	1.000E+00	0.000E+00	8.866E-18	2.386E-16	8.730E-15	2.278E-13	7.489E-12	1.444E-10	1.656E-09
Am-241	ÕDSR(j)		7.169E-02	7.143E-02	7.093E-02	6.920E-02	6.448E-02	5.033E-02	2.464E-02	1.827E-03
Pu-238	Pu-238	1.000E+00	1.289E-02	1.278E-02	1.255E-02	1.179E-02	9.866E-03	5.280E-03	8.781E-04	1.432E-06
Pu-238	U-234	1.000E+00	0.000E+00	2.598E-08	7.704E-08	2.466E-07	6.591E-07	1.481E-06	1.549E-06	2.254E-07
Pu-238	Th-230	1.000E+00	0.000E+00	2.658E-13	2.373E-12	2.563E-11	2.130E-10	1.805E-09	8.016E-09	1.212E-08
Pu-238	Ra-226	1.000E+00	0.000E+00	3.132E-15	8.402E-14	3.041E-12	7.692E-11	2.279E-09	3.391E-08	2.104E-07
Pu-238	Pb-210	1.000E+00	0.000E+00	1.317E-18	1.047E-16	1.211E-14	8.189E-13	5.706E-11	1.264E-09	6.975E-09
Pu-238	ÕDSR(j)		1.289E-02	1.278E-02	1.255E-02	1.179E-02	9.866E-03	5.281E-03	8.797E-04	1.887E-06
Pu-239	Pu-239	1.000E+00	1.379E-02	1.378E-02	1.375E-02	1.365E-02	1.337E-02	1.241E-02	9.966E-03	4.018E-03
Pu-239	U-235	1.000E+00	0.000E+00	1.302E-10	3.895E-10	1.285E-09	3.744E-09	1.128E-08	2.540E-08	3.114E-08
Pu-239	Pa-231	1.000E+00	0.000E+00	2.262E-15	2.028E-14	2.220E-13	1.915E-12	1.833E-11	1.077E-10	2.520E-10
Pu-239	Ac-227	1.000E+00	0.000E+00	8.684E-17	2.294E-15	7.888E-14	1.742E-12	3.573E-11	3.017E-10	9.009E-10
Pu-239	ÕDSR(j)		1.379E-02	1.378E-02	1.375E-02	1.365E-02	1.337E-02	1.241E-02	9.966E-03	4.018E-03
Pu-240	Pu-240	1.000E+00	1.377E-02	1.375E-02	1.372E-02	1.362E-02	1.331E-02	1.229E-02	9.718E-03	3.709E-03
Pu-240	U-236	1.000E+00	0.000E+00	2.575E-10	7.694E-10	2.530E-09	7.303E-09	2.126E-08	4.327E-08	3.446E-08
Pu-240	Th-232	1.000E+00	0.000E+00	7.579E-20	6.802E-19	7.481E-18	6.540E-17	6.562E-16	4.404E-15	1.623E-14
Pu-240	Ra-228	1.000E+00	0.000E+00	2.652E-20	6.740E-19	2.051E-17	3.525E-16	5.164E-15	4.190E-14	2.219E-13
Pu-240	Th-228	1.000E+00	0.000E+00	3.674E-21	2.479E-19	1.755E-17	4.617E-16	7.936E-15	6.663E-14	3.475E-13
Pu-240	ÕDSR(j)		1.377E-02	1.375E-02	1.372E-02	1.362E-02	1.331E-02	1.229E-02	9.718E-03	3.709E-03
Pu-241	Pu-241	1.000E+00	2.236E-04	2.129E-04	1.930E-04	1.368E-04	5.119E-05	1.639E-06	8.737E-11	8.418E-26
Pu-241	Am-241	1.000E+00	0.000E+00	1.120E-04	3.190E-04	8.913E-04	1.691E-03	1.752E-03	8.666E-04	6.384E-05
Pu-241	Np-237	1.000E+00	0.000E+00	6.544E-11	5.689E-10	5.618E-09	3.719E-08	1.837E-07	4.409E-07	4.317E-07
Pu-241	U-233	1.000E+00	0.000E+00	3.577E-18	9.393E-17	3.163E-15	6.634E-14	1.209E-12	8.723E-12	1.841E-11
Pu-241	Th-229	1.000E+00	0.000E+00	3.521E-21	2.790E-19	3.194E-17	2.116E-15	1.469E-13	4.001E-12	5.261E-11
Pu-241	ÕDSR(j)		2.236E-04	3.249E-04	5.119E-04	1.028E-03	1.742E-03	1.754E-03	8.671E-04	6.427E-05
Pu-241	Pu-241	2.450E-05	5.478E-09	5.216E-09	4.727E-09	3.351E-09	1.254E-09	4.016E-11	2.141E-15	2.062E-30
Pu-241	Np-237	2.450E-05	0.000E+00	1.985E-12	5.672E-12	1.603E-11	3.160E-11	3.894E-11	3.368E-11	1.821E-11
Pu-241	U-233	2.450E-05	0.000E+00	1.634E-19	1.420E-18	1.402E-17	9.286E-17	4.603E-16	1.111E-15	9.693E-16
Pu-241	Th-229	2.450E-05	0.000E+00	2.148E-22	5.651E-21	1.917E-19	4.108E-18	8.122E-17	7.528E-16	3.957E-15
Pu-241	ÕDSR(j)		5.478E-09	5.218E-09	4.733E-09	3.367E-09	1.286E-09	7.911E-11	3.369E-11	1.822E-11
Pu-242	Pu-242	1.000E+00	1.310E-02	1.308E-02	1.306E-02	1.296E-02	1.270E-02	1.182E-02	9.536E-03	3.915E-03
Pu-242	U-238	1.000E+00	0.000E+00	4.593E-12	1.374E-11	4.528E-11	1.316E-10	3.927E-10	8.610E-10	9.466E-10
Pu-242	U-234	1.000E+00	0.000E+00	2.023E-18	1.812E-17	1.984E-16	1.709E-15	1.632E-14	9.485E-14	2.103E-13
Pu-242	Th-230	1.000E+00	0.000E+00	1.378E-23	3.706E-22	1.356E-20	3.535E-19	1.158E-17	2.198E-16	2.199E-15
Pu-242	Ra-226	1.000E+00	0.000E+00	4.647E-26	9.794E-24	1.200E-21	9.429E-20	1.045E-17	6.224E-16	2.487E-14
Pu-242	Pb-210	1.000E+00	0.000E+00	0.000E+00	8.813E-27	3.851E-24	8.184E-22	2.210E-19	2.072E-17	7.846E-16
Pu-242	ÕDSR(j)		1.310E-02	1.308E-02	1.306E-02	1.296E-02	1.270E-02	1.182E-02	9.536E-03	3.915E-03

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

Parent (i)	Product (j)	Branch Fraction	DSR(j,t) (mrem/yr)/(pCi/g) t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
U-234	U-234	1.000E+00	9.217E-03	9.192E-03	9.142E-03	8.968E-03	8.489E-03	6.998E-03	4.000E-03	4.916E-04
U-234	Th-230	1.000E+00	0.000E+00	1.880E-07	5.620E-07	1.852E-06	5.380E-06	1.602E-05	3.493E-05	3.757E-05
U-234	Ra-226	1.000E+00	0.000E+00	3.321E-09	2.979E-08	3.274E-07	2.857E-06	2.848E-05	1.884E-04	7.047E-04
U-234	Pb-210	1.000E+00	0.000E+00	1.859E-12	4.923E-11	1.707E-09	3.854E-08	8.320E-07	7.438E-06	2.355E-05
U-234	ÕDSR(j)		9.217E-03	9.192E-03	9.142E-03	8.970E-03	8.497E-03	7.043E-03	4.231E-03	1.257E-03
U-235	U-235	1.000E+00	1.324E-01	1.321E-01	1.315E-01	1.294E-01	1.235E-01	1.050E-01	6.591E-02	1.202E-02
U-235	Pa-231	1.000E+00	0.000E+00	4.592E-06	1.370E-05	4.482E-05	1.274E-04	3.514E-04	6.097E-04	2.655E-04
U-235	Ac-227	1.000E+00	0.000E+00	2.636E-07	2.306E-06	2.326E-05	1.614E-04	8.506E-04	1.894E-03	9.954E-04
U-235	ÕDSR(j)		1.324E-01	1.321E-01	1.315E-01	1.294E-01	1.238E-01	1.062E-01	6.841E-02	1.328E-02
U-238	U-238	1.000E+00	2.966E-02	2.958E-02	2.944E-02	2.894E-02	2.755E-02	2.319E-02	1.412E-02	2.281E-03
U-238	U-234	1.000E+00	0.000E+00	2.606E-08	7.775E-08	2.542E-07	7.220E-07	1.984E-06	3.403E-06	1.396E-06
U-238	Th-230	1.000E+00	0.000E+00	2.663E-13	2.387E-12	2.616E-11	2.262E-10	2.186E-09	1.321E-08	3.492E-08
U-238	Ra-226	1.000E+00	0.000E+00	3.137E-15	8.441E-14	3.088E-12	8.050E-11	2.636E-09	5.009E-08	5.235E-07
U-238	Pb-210	1.000E+00	0.000E+00	1.273E-18	1.052E-16	1.226E-14	8.502E-13	6.474E-11	1.818E-09	1.710E-08
U-238	ÕDSR(j)		2.966E-02	2.958E-02	2.944E-02	2.894E-02	2.755E-02	2.320E-02	1.413E-02	2.282E-03

Branch Fraction is the cumulative factor for the j'th principal radionuclide daughter: CUMBRF(j) = BRF(1)*BRF(2)* ... BRF(j).
The DSR includes contributions from associated (half-life µ 0.5 yr) daughters.

Single Radionuclide Soil Guidelines G(i,t) in pCi/g
Basic Radiation Dose Limit = 15 mrem/yr

Nuclide (i)	t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	2.092E+02	2.100E+02	2.115E+02	2.168E+02	2.326E+02	2.981E+02	6.088E+02	8.210E+03
Pu-238	1.164E+03	1.174E+03	1.195E+03	1.272E+03	1.520E+03	2.840E+03	1.705E+04	7.950E+06
Pu-239	1.088E+03	1.089E+03	1.091E+03	1.099E+03	1.122E+03	1.209E+03	1.505E+03	3.733E+03
Pu-240	1.089E+03	1.091E+03	1.093E+03	1.102E+03	1.127E+03	1.220E+03	1.543E+03	4.044E+03
Pu-241	6.708E+04	4.617E+04	2.930E+04	1.459E+04	8.610E+03	8.551E+03	1.730E+04	2.334E+05
Pu-242	1.145E+03	1.147E+03	1.149E+03	1.157E+03	1.181E+03	1.270E+03	1.573E+03	3.832E+03
U-234	1.627E+03	1.632E+03	1.641E+03	1.672E+03	1.765E+03	2.130E+03	3.546E+03	1.193E+04
U-235	1.133E+02	1.136E+02	1.141E+02	1.159E+02	1.211E+02	1.412E+02	2.193E+02	1.129E+03
U-238	5.058E+02	5.070E+02	5.095E+02	5.183E+02	5.444E+02	6.467E+02	1.062E+03	6.572E+03

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

Nuclide (i)	Initial pCi/g	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Am-241	1.000E+02	0.000E+00	7.169E-02	2.092E+02	7.169E-02	2.092E+02
Pu-238	1.000E+02	0.000E+00	1.289E-02	1.164E+03	1.289E-02	1.164E+03
Pu-239	1.000E+02	0.000E+00	1.379E-02	1.088E+03	1.379E-02	1.088E+03
Pu-240	1.000E+02	0.000E+00	1.377E-02	1.089E+03	1.377E-02	1.089E+03
Pu-241	1.000E+02	55.69 þ 0.06	1.923E-03	7.801E+03	2.236E-04	6.708E+04
Pu-242	1.000E+02	0.000E+00	1.310E-02	1.145E+03	1.310E-02	1.145E+03
U-234	1.000E+02	0.000E+00	9.217E-03	1.627E+03	9.217E-03	1.627E+03
U-235	1.000E+02	0.000E+00	1.324E-01	1.133E+02	1.324E-01	1.133E+02
U-238	1.000E+02	0.000E+00	2.966E-02	5.058E+02	2.966E-02	5.058E+02

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

Nuclide (j)	Parent (i)	BRF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	7.169E+00	7.143E+00	7.093E+00	6.920E+00	6.448E+00	5.032E+00	2.462E+00	1.814E-01
Am-241	Pu-241	1.000E+00	0.000E+00	1.120E-02	3.190E-02	8.913E-02	1.691E-01	1.752E-01	8.666E-02	6.384E-03
Am-241	ÕDOSE(j):		7.169E+00	7.155E+00	7.125E+00	7.009E+00	6.617E+00	5.207E+00	2.549E+00	1.878E-01
Np-237	Am-241	1.000E+00	0.000E+00	8.289E-06	2.477E-05	8.141E-05	2.347E-04	6.811E-04	1.390E-03	1.301E-03
Np-237	Pu-241	1.000E+00	0.000E+00	6.544E-09	5.689E-08	5.618E-07	3.719E-06	1.837E-05	4.409E-05	4.317E-05
Np-237	Pu-241	2.450E-05	0.000E+00	1.985E-10	5.672E-10	1.603E-09	3.160E-09	3.894E-09	3.368E-09	1.821E-09
Np-237	ÕDOSE(j):		0.000E+00	8.296E-06	2.483E-05	8.198E-05	2.384E-04	6.994E-04	1.434E-03	1.344E-03
U-233	Am-241	1.000E+00	0.000E+00	6.770E-13	6.063E-12	6.622E-11	5.675E-10	5.314E-09	2.932E-08	5.626E-08
U-233	Pu-241	1.000E+00	0.000E+00	3.577E-16	9.393E-15	3.163E-13	6.634E-12	1.209E-10	8.723E-10	1.841E-09
U-233	Pu-241	2.450E-05	0.000E+00	1.634E-17	1.420E-16	1.402E-15	9.286E-15	4.603E-14	1.111E-13	9.693E-14
U-233	ÕDOSE(j):		0.000E+00	6.774E-13	6.073E-12	6.654E-11	5.742E-10	5.434E-09	3.019E-08	5.810E-08
Th-229	Am-241	1.000E+00	0.000E+00	8.866E-16	2.386E-14	8.730E-13	2.278E-11	7.489E-10	1.444E-08	1.656E-07
Th-229	Pu-241	1.000E+00	0.000E+00	3.521E-19	2.790E-17	3.194E-15	2.116E-13	1.469E-11	4.001E-10	5.261E-09
Th-229	Pu-241	2.450E-05	0.000E+00	2.148E-20	5.651E-19	1.917E-17	4.108E-16	8.122E-15	7.528E-14	3.957E-13
Th-229	ÕDOSE(j):		0.000E+00	8.870E-16	2.389E-14	8.763E-13	2.299E-11	7.636E-10	1.484E-08	1.709E-07
Pu-238	Pu-238	1.000E+00	1.289E+00	1.278E+00	1.255E+00	1.179E+00	9.866E-01	5.280E-01	8.781E-02	1.432E-04
U-234	Pu-238	1.000E+00	0.000E+00	2.598E-06	7.704E-06	2.466E-05	6.591E-05	1.481E-04	1.549E-04	2.254E-05
U-234	Pu-242	1.000E+00	0.000E+00	2.023E-16	1.812E-15	1.984E-14	1.709E-13	1.632E-12	9.485E-12	2.103E-11
U-234	U-234	1.000E+00	9.217E-01	9.192E-01	9.142E-01	8.968E-01	8.489E-01	6.998E-01	4.000E-01	4.916E-02
U-234	U-238	1.000E+00	0.000E+00	2.606E-06	7.775E-06	2.542E-05	7.220E-05	1.984E-04	3.403E-04	1.396E-04
U-234	ÕDOSE(j):		9.217E-01	9.192E-01	9.142E-01	8.968E-01	8.490E-01	7.002E-01	4.005E-01	4.932E-02
Th-230	Pu-238	1.000E+00	0.000E+00	2.658E-11	2.373E-10	2.563E-09	2.130E-08	1.805E-07	8.016E-07	1.212E-06
Th-230	Pu-242	1.000E+00	0.000E+00	1.378E-21	3.706E-20	1.356E-18	3.535E-17	1.158E-15	2.198E-14	2.199E-13
Th-230	U-234	1.000E+00	0.000E+00	1.880E-05	5.620E-05	1.852E-04	5.380E-04	1.602E-03	3.493E-03	3.757E-03
Th-230	U-238	1.000E+00	0.000E+00	2.663E-11	2.387E-10	2.616E-09	2.262E-08	2.186E-07	1.321E-06	3.492E-06
Th-230	ÕDOSE(j):		0.000E+00	1.880E-05	5.620E-05	1.852E-04	5.380E-04	1.602E-03	3.495E-03	3.761E-03
Ra-226	Pu-238	1.000E+00	0.000E+00	3.132E-13	8.402E-12	3.041E-10	7.692E-09	2.279E-07	3.391E-06	2.104E-05
Ra-226	Pu-242	1.000E+00	0.000E+00	4.647E-24	9.794E-22	1.200E-19	9.429E-18	1.045E-15	6.224E-14	2.487E-12
Ra-226	U-234	1.000E+00	0.000E+00	3.321E-07	2.979E-06	3.274E-05	2.857E-04	2.848E-03	1.884E-02	7.047E-02
Ra-226	U-238	1.000E+00	0.000E+00	3.137E-13	8.441E-12	3.088E-10	8.050E-09	2.636E-07	5.009E-06	5.235E-05
Ra-226	ÕDOSE(j):		0.000E+00	3.321E-07	2.979E-06	3.275E-05	2.857E-04	2.849E-03	1.885E-02	7.055E-02
Pb-210	Pu-238	1.000E+00	0.000E+00	1.317E-16	1.047E-14	1.211E-12	8.189E-11	5.706E-09	1.264E-07	6.975E-07
Pb-210	Pu-242	1.000E+00	0.000E+00	0.000E+00	8.813E-25	3.851E-22	8.184E-20	2.210E-17	2.072E-15	7.846E-14
Pb-210	U-234	1.000E+00	0.000E+00	1.859E-10	4.923E-09	1.707E-07	3.854E-06	8.320E-05	7.438E-04	2.355E-03
Pb-210	U-238	1.000E+00	0.000E+00	1.273E-16	1.052E-14	1.226E-12	8.502E-11	6.474E-09	1.818E-07	1.710E-06
Pb-210	ÕDOSE(j):		0.000E+00	1.859E-10	4.923E-09	1.707E-07	3.855E-06	8.321E-05	7.441E-04	2.357E-03
Pu-239	Pu-239	1.000E+00	1.379E+00	1.378E+00	1.375E+00	1.365E+00	1.337E+00	1.241E+00	9.966E-01	4.018E-01
U-235	Pu-239	1.000E+00	0.000E+00	1.302E-08	3.895E-08	1.285E-07	3.744E-07	1.128E-06	2.540E-06	3.114E-06
U-235	U-235	1.000E+00	1.324E+01	1.321E+01	1.315E+01	1.294E+01	1.235E+01	1.050E+01	6.591E+00	1.202E+00
U-235	ÕDOSE(j):		1.324E+01	1.321E+01	1.315E+01	1.294E+01	1.235E+01	1.050E+01	6.591E+00	1.202E+00

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

Nuclide (j)	Parent (i)	BRF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
ááááááá	ááááááá	áááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá	ááááááááá
Pa-231	Pu-239	1.000E+00	0.000E+00	2.262E-13	2.028E-12	2.220E-11	1.915E-10	1.833E-09	1.077E-08	2.520E-08
Pa-231	U-235	1.000E+00	0.000E+00	4.592E-04	1.370E-03	4.482E-03	1.274E-02	3.514E-02	6.097E-02	2.655E-02
Pa-231	ðDOSE(j):		0.000E+00	4.592E-04	1.370E-03	4.482E-03	1.274E-02	3.514E-02	6.097E-02	2.655E-02
Ac-227	Pu-239	1.000E+00	0.000E+00	8.684E-15	2.294E-13	7.888E-12	1.742E-10	3.573E-09	3.017E-08	9.009E-08
Ac-227	U-235	1.000E+00	0.000E+00	2.636E-05	2.306E-04	2.326E-03	1.614E-02	8.506E-02	1.894E-01	9.954E-02
Ac-227	ðDOSE(j):		0.000E+00	2.636E-05	2.306E-04	2.326E-03	1.614E-02	8.506E-02	1.894E-01	9.954E-02
Pu-240	Pu-240	1.000E+00	1.377E+00	1.375E+00	1.372E+00	1.362E+00	1.331E+00	1.229E+00	9.718E-01	3.709E-01
U-236	Pu-240	1.000E+00	0.000E+00	2.575E-08	7.694E-08	2.530E-07	7.303E-07	2.126E-06	4.327E-06	3.446E-06
Th-232	Pu-240	1.000E+00	0.000E+00	7.579E-18	6.802E-17	7.481E-16	6.540E-15	6.562E-14	4.404E-13	1.623E-12
Ra-228	Pu-240	1.000E+00	0.000E+00	2.652E-18	6.740E-17	2.051E-15	3.525E-14	5.164E-13	4.190E-12	2.219E-11
Th-228	Pu-240	1.000E+00	0.000E+00	3.674E-19	2.479E-17	1.755E-15	4.617E-14	7.936E-13	6.663E-12	3.475E-11
Pu-241	Pu-241	1.000E+00	2.236E-02	2.129E-02	1.930E-02	1.368E-02	5.119E-03	1.639E-04	8.737E-09	8.418E-24
Pu-241	Pu-241	2.450E-05	5.478E-07	5.216E-07	4.727E-07	3.351E-07	1.254E-07	4.016E-09	2.141E-13	1.923E-28
Pu-241	ðDOSE(j):		2.236E-02	2.129E-02	1.930E-02	1.368E-02	5.119E-03	1.639E-04	8.737E-09	8.418E-24
Pu-242	Pu-242	1.000E+00	1.310E+00	1.308E+00	1.306E+00	1.296E+00	1.270E+00	1.182E+00	9.536E-01	3.915E-01
U-238	Pu-242	1.000E+00	0.000E+00	4.593E-10	1.374E-09	4.528E-09	1.316E-08	3.927E-08	8.610E-08	9.466E-08
U-238	U-238	1.000E+00	2.966E+00	2.958E+00	2.944E+00	2.894E+00	2.755E+00	2.319E+00	1.412E+00	2.281E-01
U-238	ðDOSE(j):		2.966E+00	2.958E+00	2.944E+00	2.894E+00	2.755E+00	2.319E+00	1.412E+00	2.281E-01
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BRF(i) is the branch fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	BRF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	1.000E+02	9.969E+01	9.908E+01	9.697E+01	9.117E+01	7.349E+01	3.968E+01	4.592E+00
Am-241	Pu-241	1.000E+00	0.000E+00	1.563E-01	4.455E-01	1.249E+00	2.391E+00	2.559E+00	1.397E+00	1.616E-01
Am-241	δS(j):		1.000E+02	9.985E+01	9.953E+01	9.822E+01	9.356E+01	7.604E+01	4.108E+01	4.754E+00
Np-237	Am-241	1.000E+00	0.000E+00	3.233E-05	9.664E-05	3.181E-04	9.204E-04	2.708E-03	5.771E-03	6.785E-03
Np-237	Pu-241	1.000E+00	0.000E+00	2.553E-08	2.220E-07	2.195E-06	1.459E-05	7.306E-05	1.830E-04	2.252E-04
Np-237	Pu-241	2.450E-05	0.000E+00	7.743E-10	2.213E-09	6.265E-09	1.239E-08	1.548E-08	1.398E-08	9.497E-09
Np-237	δS(j):		0.000E+00	3.236E-05	9.687E-05	3.203E-04	9.350E-04	2.781E-03	5.954E-03	7.010E-03
U-233	Am-241	1.000E+00	0.000E+00	7.068E-11	6.337E-10	6.945E-09	6.011E-08	5.830E-07	3.585E-06	1.151E-05
U-233	Pu-241	1.000E+00	0.000E+00	3.735E-14	9.816E-13	3.317E-11	7.026E-10	1.326E-08	1.067E-07	3.767E-07
U-233	Pu-241	2.450E-05	0.000E+00	1.706E-15	1.484E-14	1.471E-13	9.835E-13	5.050E-12	1.358E-11	1.984E-11
U-233	δS(j):		0.000E+00	7.072E-11	6.347E-10	6.978E-09	6.081E-08	5.962E-07	3.692E-06	1.189E-05
Th-229	Am-241	1.000E+00	0.000E+00	2.226E-15	5.992E-14	2.196E-12	5.756E-11	1.923E-09	3.896E-08	5.775E-07
Th-229	Pu-241	1.000E+00	0.000E+00	8.842E-19	7.008E-17	8.036E-15	5.347E-13	3.772E-11	1.079E-09	1.834E-08
Th-229	Pu-241	2.450E-05	0.000E+00	5.392E-20	1.419E-18	4.822E-17	1.038E-15	2.085E-14	2.031E-13	1.380E-12
Th-229	δS(j):		0.000E+00	2.227E-15	6.000E-14	2.204E-12	5.810E-11	1.961E-09	4.004E-08	5.959E-07
Pu-238	Pu-238	1.000E+00	1.000E+02	9.916E+01	9.751E+01	9.193E+01	7.769E+01	4.310E+01	8.009E+00	2.214E-02
U-234	Pu-238	1.000E+00	0.000E+00	2.820E-04	8.370E-04	2.688E-03	7.258E-03	1.690E-02	1.974E-02	4.852E-03
U-234	Pu-242	1.000E+00	0.000E+00	2.195E-14	1.969E-13	2.163E-12	1.883E-11	1.863E-10	1.209E-09	4.527E-09
U-234	U-234	1.000E+00	1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.348E+01	7.988E+01	5.098E+01	1.058E+01
U-234	U-238	1.000E+00	0.000E+00	2.829E-04	8.448E-04	2.772E-03	7.951E-03	2.265E-02	4.337E-02	3.004E-02
U-234	δS(j):		1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.350E+01	7.992E+01	5.104E+01	1.062E+01
Th-230	Pu-238	1.000E+00	0.000E+00	1.271E-09	1.136E-08	1.232E-07	1.034E-06	9.079E-06	4.501E-05	1.148E-04
Th-230	Pu-242	1.000E+00	0.000E+00	6.590E-20	1.775E-18	6.516E-17	1.716E-15	5.826E-14	1.234E-12	2.082E-11
Th-230	U-234	1.000E+00	0.000E+00	8.992E-04	2.691E-03	8.901E-03	2.611E-02	8.058E-02	1.961E-01	3.558E-01
Th-230	U-238	1.000E+00	0.000E+00	1.274E-09	1.143E-08	1.257E-07	1.098E-06	1.100E-05	7.417E-05	3.307E-04
Th-230	δS(j):		0.000E+00	8.992E-04	2.691E-03	8.901E-03	2.611E-02	8.060E-02	1.962E-01	3.562E-01
Ra-226	Pu-238	1.000E+00	0.000E+00	1.837E-13	4.928E-12	1.785E-10	4.527E-09	1.354E-07	2.080E-06	1.594E-05
Ra-226	Pu-242	1.000E+00	0.000E+00	2.725E-24	5.744E-22	7.046E-20	5.549E-18	6.211E-16	3.817E-14	1.885E-12
Ra-226	U-234	1.000E+00	0.000E+00	1.947E-07	1.747E-06	1.922E-05	1.681E-04	1.692E-03	1.156E-02	5.342E-02
Ra-226	U-238	1.000E+00	0.000E+00	1.839E-13	4.951E-12	1.813E-10	4.737E-09	1.566E-07	3.072E-06	3.968E-05
Ra-226	δS(j):		0.000E+00	1.947E-07	1.747E-06	1.922E-05	1.681E-04	1.692E-03	1.156E-02	5.348E-02
Pb-210	Pu-238	1.000E+00	0.000E+00	1.419E-15	1.129E-13	1.310E-11	8.949E-10	6.462E-08	1.597E-06	1.486E-05
Pb-210	Pu-242	1.000E+00	0.000E+00	0.000E+00	9.502E-24	4.166E-21	8.944E-19	2.502E-16	2.619E-14	1.671E-12
Pb-210	U-234	1.000E+00	0.000E+00	2.002E-09	5.308E-08	1.847E-06	4.212E-05	9.423E-04	9.401E-03	5.015E-02
Pb-210	U-238	1.000E+00	0.000E+00	1.371E-15	1.134E-13	1.327E-11	9.291E-10	7.332E-08	2.298E-06	3.642E-05
Pb-210	δS(j):		0.000E+00	2.002E-09	5.308E-08	1.847E-06	4.212E-05	9.424E-04	9.405E-03	5.020E-02
Pu-239	Pu-239	1.000E+00	1.000E+02	9.995E+01	9.984E+01	9.946E+01	9.838E+01	9.470E+01	8.493E+01	5.803E+01
U-235	Pu-239	1.000E+00	0.000E+00	9.835E-08	2.942E-07	9.712E-07	2.834E-06	8.578E-06	1.966E-05	2.749E-05
U-235	U-235	1.000E+00	1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.349E+01	7.991E+01	5.102E+01	1.061E+01
U-235	δS(j):		1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.349E+01	7.991E+01	5.102E+01	1.061E+01

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	BRF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pa-231	Pu-239	1.000E+00	0.000E+00	1.040E-12	9.330E-12	1.025E-10	8.916E-10	8.811E-09	5.700E-08	2.109E-07
Pa-231	U-235	1.000E+00	0.000E+00	2.111E-03	6.305E-03	2.069E-02	5.933E-02	1.689E-01	3.228E-01	2.222E-01
Pa-231	ðS(j):		0.000E+00	2.111E-03	6.305E-03	2.069E-02	5.933E-02	1.689E-01	3.228E-01	2.222E-01
Ac-227	Pu-239	1.000E+00	0.000E+00	1.094E-14	2.892E-13	9.966E-12	2.215E-10	4.650E-09	4.214E-08	1.768E-07
Ac-227	U-235	1.000E+00	0.000E+00	3.321E-05	2.908E-04	2.939E-03	2.052E-02	1.107E-01	2.645E-01	1.954E-01
Ac-227	ðS(j):		0.000E+00	3.321E-05	2.908E-04	2.939E-03	2.052E-02	1.107E-01	2.645E-01	1.954E-01
Pu-240	Pu-240	1.000E+00	1.000E+02	9.994E+01	9.981E+01	9.938E+01	9.815E+01	9.397E+01	8.299E+01	5.371E+01
U-236	Pu-240	1.000E+00	0.000E+00	2.956E-06	8.843E-06	2.918E-05	8.508E-05	2.568E-04	5.836E-04	7.868E-04
Th-232	Pu-240	1.000E+00	0.000E+00	7.295E-17	6.553E-16	7.233E-15	6.387E-14	6.644E-13	4.983E-12	3.116E-11
Ra-228	Pu-240	1.000E+00	0.000E+00	2.845E-18	7.231E-17	2.203E-15	3.794E-14	5.607E-13	4.689E-12	3.044E-11
Th-228	Pu-240	1.000E+00	0.000E+00	2.415E-19	1.630E-17	1.155E-15	3.048E-14	5.295E-13	4.612E-12	3.033E-11
Pu-241	Pu-241	1.000E+00	1.000E+02	9.525E+01	8.642E+01	6.148E+01	2.323E+01	7.711E-01	4.585E-05	7.435E-20
Pu-241	Pu-241	2.450E-05	2.450E-03	2.334E-03	2.117E-03	1.506E-03	5.693E-04	1.889E-05	1.123E-09	1.822E-24
Pu-241	ðS(j):		1.000E+02	9.525E+01	8.642E+01	6.148E+01	2.323E+01	7.711E-01	4.585E-05	7.435E-20
Pu-242	Pu-242	1.000E+00	1.000E+02	9.995E+01	9.984E+01	9.948E+01	9.846E+01	9.496E+01	8.562E+01	5.961E+01
U-238	Pu-242	1.000E+00	0.000E+00	1.549E-08	4.635E-08	1.530E-07	4.466E-07	1.353E-06	3.111E-06	4.404E-06
U-238	U-238	1.000E+00	1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.349E+01	7.991E+01	5.102E+01	1.061E+01
U-238	ðS(j):		1.000E+02	9.978E+01	9.933E+01	9.778E+01	9.349E+01	7.991E+01	5.102E+01	1.061E+01

BRF(i) is the branch fraction of the parent nuclide.