Independent Review of Paducah Gaseous Diffusion Plant Freon Release Authorized Limits and Evaluation of Corresponding Radiological Doses

Environmental Science Division

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1 INTRODUCTION

The Portsmouth/Paducah Project Office (PPPO) proposes to use the American National Standard Institute (ANSI)/Health Physics Society (HPS) N13.12 (ANSI 2013) volumetric screening levels (Table 1) as Authorized Limits (ALs) for the release of cryofluorane R-114 (Freon) at the Paducah Gaseous Diffusion Plant (PGDP) in Paducah, Kentucky (PPPO 2020). A review of the proposed ALs document (PPPO 2020) indicated that potential exposure scenarios from the release of Freon are adequately discussed therein.

However, questions arose regarding the assumptions made for the ANSI N13.12 clearance values, and whether or not all pathway doses were adequately considered in the Authorized Limits Request (PPPO 2020). For example, PPPO (2020) used the inverse square rule to estimate dose to the truck driver. A more appropriate evaluation would have considered the material as a cylindrical source for this pathway. In addition, the inverse square rule was inadequately applied to the inhalation and ingestion pathways. Furthermore, while the ANSI N13.12 volumetric clearance values are used in the ALs, questions arose concerning whether the values are appropriate for materials of greater than 1 metric ton, and whether or not the ANSI N13.12 standard could be used for liquids that are sent to an incinerator.

For these reasons, dose modeling was conducted to demonstrate that using ANSI/HPS N13.12 screening levels as ALs for release of PGDP Freon meets the dose criteria set in U.S. Department of Energy (DOE) Order 458.1. This report provides a bounding dose analysis using scenarios described in PPPO (2020) document. Realistic parameters, such as the incinerator characteristics data, are used when available.

TABLE 1 PPPO Proposed ALs

Radionuclide	Volumetric concentration (pCi/g)
Am-241	3
Cs-137	3
Np-237	30
Pu-238	3
Pu-239	3
Pu-240	3
Tc-99	30
Th-228	3
Th-230	3
Th-232	3
U-234	30
U-235	30
U-238	30

Reference: Table 8 in PPPO (2020).

Approximately 8.5 million pounds of Freon is currently stored at the PGDP (PPPO 2020). The PPPO (2020) document identified three vendors (Clean Harbors Aragonite, Clean Harbors El Dorado, and Veolia North America/Port Arthur) that have the capability to incinerate the total quantity of Freon within the allotted 10-year period (PPPO 2020). Table 2 lists the characteristics of these incinerators.

Radiological doses are calculated for 13 radionuclides (listed in Table 1) for multiple receptors involved in different activities associated with the disposal of Freon. The activities considered include shipping Freon in International Organization for Standardization (ISO) containers to incinerators, storing and processing Freon at incinerators, handling dust/waste generated at incinerators, and disposing of dust/waste at a landfill. Many people may receive exposure as a result of different activities, but doses are estimated for a maximally exposed individual (MEI) who is either directly involved in the activity or indirectly exposed. The directly involved individuals could include truck drivers transporting Freon in ISO containers to incinerators, workers involved in storing and processing Freon at incinerators, workers involved in handling dust/waste at incinerators, and workers involved in disposing of dust/waste at a landfill. The non-involved individuals include other workers at the incinerators who are not directly involved in handling or processing Freon, members of the general public (incinerator neighbor) who may be exposed to air released from incinerators, and members of the general public (landfill neighbor) who live near the landfill.

TABLE 2 Incinerator Characteristics

Incinerator	Flow rate, ft ³ /min (m ³ /s)	Stack height, ft (m)	Particulate matter emission, g/m ³	Average uptime (%)	Driver exposure time, h/yr	Nearest neighbor, miles	Average discharge rate, g/s	Total yearly discharge rate, g/yr
Clean Harbors Aragonite	77,800 (36.72)	149 (45.42)	0.028	95	1,162.5	16	0.98	3.08E+07
Clean Harbors El Dorado- SN-44	89,000 (42.0)	199 (60.66)	0.028	90	1,100	3	1.06	3.34E+07
Clean Harbors El Dorado- SN-01	100,568 (47.46)	195 (59.44)	0.028	90	1,100	3	1.20	3.77E+07
Veolia North America	39,248 (18.52)	130 (39.62)	0.0034	85.85	1,212.5	3.5	0.05	1.71E+06

References: PPPO (2020), Whitehurst (2020a–d).

2 DOSE ESTIMATION FOR DIFFERENT ACTIVITIES ASSOCIATED WITH DISPOSAL OF FREON

The potential exposure to various activities involved in transporting, processing, incinerating, and disposal of Freon are analyzed. Four exposure scenarios are discussed below: (1) shipping Freon in ISO containers to incinerators, (2) storing and processing Freon at the incinerators, (3) managing ashes generated from incineration of Freon, and (4) exposure to non-involved workers and public from incinerating Freon.

2.1 SHIPPING FREON IN ISO CONTAINERS TO INCINERATORS

The truck driver transports Freon in ISO containers to incinerators. The ISO container dimensions are shown in Figure 1; it is 2.43 m wide, 2.59 m high, and 6.09 m long (Dihel 2020). The driver is assumed to be 3 m away from the containers while driving the truck. They are assumed to be 1 m away on the side of the truck when they are near the vehicle checking the truck and inspecting ISO containers (PPPO 2020). The driver exposure time is highest for an individual who drives from Paducah to Veolia North America/Port Arthur incinerator; this would involve 1,112.5 hours of driving time and 100 hours near the vehicle while it is parked (total 1,212.5 hours) according to Section 5.2.2 in PPPO (2020). It is assumed 1.5 million pounds of Freon are shipped to an incinerator in 1 year.

FIGURE 1 ISO Tank Container and Receptor Locations (Source: Dihel 2020)

The dose to the truck driver is calculated at the proposed ALs (Table 1) using the RESRAD-BUILD code (Yu et al. 2003) for two source receptor configurations, as shown in Figure 1. It is assumed that the source is a volume source with the dimensions of the ISO container, and that it is filled with Freon at a density of 1.5 g/cm³. It is also assumed that there is no leakage of Freon from the ISO containers when it is being transported from Paducah to the incinerators. Therefore, the truck driver would only be exposed to external radiation dose from radionuclides contained in the ISO containers. The results for transporting Freon to Veolia North America Incinerator (i.e., the longest distance and travel time among three incinerators) are shown in Table 3. The results indicate that the calculated dose to the truck driver from each individual radionuclide is less than 1 mrem/yr; the highest dose is 0.484 mrem/yr, for Np-237. The output of RESRAD-BUILD run results is included in Appendix A. The output also includes a list of all the input parameter values used.

TABLE 3 Direct External Dose for Truck Driver Transporting Freon from Paducah to Veolia North America Incinerator^a

Radionuclide	Truck driver dose for one trip (mrem)			Truck driver dose for 50 trips in a year (mrem)		
	3 m away while driving	1 m away near the vehicle	Total	3 m away while driving	1 m away near the vehicle	Total
Am-241	1.98E-05	1.04E-05	3.02E-05	9.89E-04	5.21E-04	1.51E-03
Cs-137	1.98E-03	1.05E-03	3.04E-03	9.92E-02	5.26E-02	1.52E-01
Np-237	6.32E-03	3.36E-03	9.68E-03	3.16E-01	1.68E-01	4.84E-01
Pu-238	6.05E-08	3.74E-08	9.79E-08	3.02E-06	1.87E-06	4.89E-06
Pu-239	1.52E-07	8.81E-08	2.40E-07	7.59E-06	4.41E-06	1.20E-05
Pu-240	5.87E-08	3.58E-08	9.45E-08	2.93E-06	1.79E-06	4.73E-06
Tc-99	6.22E-07	3.26E-07	9.49E-07	3.11E-05	1.63E-05	4.74E-05
Th-228	4.75E-03	2.53E-03	7.28E-03	2.37E-01	1.27E-01	3.64E-01
Th-230	1.99E-06	1.05E-06	3.04E-06	9.93E-05	5.26E-05	1.52E-04
Th-232	2.39E-04	1.27E-04	3.66E-04	1.20E-02	6.36E-03	1.83E-02
U-234	1.85E-06	1.01E-06	2.87E-06	9.27E-05	5.06E-05	1.43E-04
U-235	4.22E-03	2.22E-03	6.44E-03	2.11E-01	1.11E-01	3.22E-01
U-238	9.37E-04	4.95E-04	1.43E-03	4.69E-02	2.48E-02	7.16E-02

^a Truck driver is potentially exposed to radionuclides contained in Freon transported in ISO containers driving for 1,112.5 hours (22.25 hours/trip) and 100 hours (2 hours/trip) near the ISO container in 1 year (50 trips).

2.2 STORING AND PROCESSING FREON AT INCINERATORS

Dose is calculated for a worker involved in different activities at the incinerators (PPPO 2020, Section 5.2.3). It is assumed that the worker is near the container (1 m away) and spends 127 hours/year in these activities. The dose for 13 radionuclides with concentrations listed in Table 1 is calculated using the RESRAD-BUILD code. The ISO container dimension

and receptor locations are the same as shown in Figure 1. Some key (sensitive) parameters are conservatively assumed for bounding calculations. These include mass loading of 1.0×10^{-4} g/m³ for the inhalation pathway, and a transfer rate of 0.01 g/hr for the ingestion pathway. For calculating air concentration, it is conservatively assumed that the radionuclide concentration in dust particulates is the same as the radionuclide concentration in Freon. In reality, radionuclide concentration in particulates could be higher than in Freon, but a small fraction of the dust in the air may be due to particulates released from Freon; this means that there is a lower concentration of radionuclides in the air than in Freon. The dose results are shown in Table 4. The dose calculated for each radionuclide is less than 1 mrem for handling and processing the ISO container, for a total time of 127 hours in a year. The highest dose is 0.237 mrem/yr for Np-237. The output of the RESRAD-BUILD run results is included in Appendix A. The output also includes a list of all input parameter values used.

TABLE 4 Total Dose (mrem) for ISO Container Handling and Processing Worker at Incinerator Facility^a

Radionuclide	External exposure (mrem)	Inhalation (mrem)	Ingestion (mrem)	Total Dose (mrem)
Am-241	6.61E-04	1.62E-02	2.82E-03	1.97E-02
Cs-137	6.68E-02	6.60E-06	1.83E-04	6.70E-02
Np-237	2.13E-01	8.46E-03	1.55E-02	2.37E-01
Pu-238	2.38E-06	1.86E-02	3.24E-03	2.19E-02
Pu-239	5.60E-06	2.03E-02	3.52E-03	2.38E-02
Pu-240	2.28E-06	2.03E-02	3.52E-03	2.38E-02
Tc-99	2.07E-05	2.20E-06	9.02E-05	1.13E-04
Th-228	1.61E-01	6.77E-03	1.01E-03	1.69E-01
Th-230	6.68E-05	1.69E-02	2.96E-03	1.99E-02
Th-232	8.07E-03	1.86E-02	3.24E-03	2.99E-02
U-234	6.42E-05	1.59E-03	6.91E-03	8.56E-03
U-235	1.41E-01	1.44E-03	6.63E-03	1.49E-01
U-238	3.15E-02	1.35E-03	6.34E-03	3.92E-02

^a External dose calculations use dose coefficients based on the International Commission on Radiation Protection (ICRP) (1991) methodology from Federal Guidance Report (FGR) 12 (Eckerman and Ryman 1993); internal dose calculations use those from ICRP (1996) for an adult member of the public. External dose is calculated using RESRAD-BUILD. The receptor spends a total of 127 hours (Section 5.2.3 of PPPO 2020) handling and processing ISO container at the incinerator. An inhalation rate of 1.2 m³/hr and a mass loading of 1E-4 g/m³ are used to estimate inhalation dose. An ingestion transfer rate of 0.01 g/hr is used to estimate ingestion dose. Mass loading, inhalation rate, and ingestion transfer rates are taken from ANSI N13.12 2013 Standard (ANSI 2013), and ANSI N13.12 1999 Standard (ANSI 1999).

2.2.1 Managing Ashes Generated from Incineration of Freon

Dose is calculated for the worker involved in activities related to processing the ashes generated at the incinerator. We assume that the baghouse worker/processor loads the dust/ash bags and transports and disposes of them at a landfill. The dust bags are changed every year and it is conservatively assumed that all radionuclides contained in Freon are all captured in the dust/ash bags. To estimate external dose from the baghouse, it is assumed that the dust/ash bag is cylindrical in shape with a length of 100 cm and a radius of 34 cm, and that the material density of the dust collected is 1.4 g/cm³ (Cheng et al. 2000). Dose coefficients based on the ICRP (1991) methodology from FGR 12 (Eckerman and Ryman 1993) are used in external dose calculations and those from ICRP (1996) for an adult member of the public are used for internal dose calculations. External dose is calculated using the RESRAD-BUILD computer code. It assumes that the worker is 2 m away from the dust/ash bag and spends 18 hours (6 hours per cell × 3 cells) in 1 year handling bags at the El Dorado facility (Whitehurst 2020a). For inhalation dose calculations, it assumed that inhalation rate is 1.2 m³/hr and mass loading is 1 × 10⁻⁴ g/m³, and airborne particulate filtration efficiency is 99.97% (i.e., the dust/ash bag handlers wear full-face air-purifying respirators with MERSORB-P100 cartridges; Whitehurst 2020b). The inhaled air concentration is reduced to 0.03% and no ingestion dose is calculated because workers use personal protective equipment (PPE). The parameter values for inhalation rate and mass loading used are from ANSI N13.12 (ANSI 2013), 1999 Standard (ANSI 1999). The doses to the baghouse worker/processor are listed in Table 5. The total dose to the baghouse worker/processor from each radionuclide is less than 1 mrem/yr. The highest dose is 0.986 mrem/yr for Np-237. The output of RESRAD-BUILD run results is included in Appendix A. The output also includes a list of all input parameter values used.

TABLE 5 Incinerator Baghouse Worker/Processor Pathway Doses^a

Radionuclide	Concentration in the baghouse (pCi/g)	Baghouse worker air concentration (pCi/m ³)	Inhalation dose (mrem/yr)	External dose (mrem/yr)	Total dose (mrem/yr)
Am-241	4.01E+03	1.20E-04	1.85E-03	3.19E-03	5.04E-03
Cs-137	4.01E+03	1.20E-04	7.50E-07	3.00E-01	3.00E-01
Np-237	4.01E+04	1.20E-03	9.62E-03	9.76E-01	9.86E-01
Pu-238	4.01E+03	1.20E-04	2.12E-03	1.10E-05	2.13E-03
Pu-239	4.01E+03	1.20E-04	2.31E-03	2.52E-05	2.33E-03
Pu-240	4.01E+03	1.20E-04	2.31E-03	1.06E-05	2.32E-03
Tc-99	4.01E+04	1.20E-03	2.50E-06	9.77E-05	1.00E-04
Th-228	4.01E+03	1.20E-04	7.70E-04	7.21E-01	7.22E-01
Th-230	4.01E+03	1.20E-04	1.92E-03	3.03E-04	2.23E-03
Th-232	4.01E+03	1.20E-04	2.12E-03	3.61E-02	3.82E-02
U-234	4.01E+04	1.20E-03	1.81E-03	3.05E-04	2.11E-03
U-235	4.01E+04	1.20E-03	1.64E-03	6.54E-01	6.56E-01
U-238	4.01E+04	1.20E-03	1.54E-03	1.43E-01	1.45E-01

Footnote continued on next page.

TABLE 5 (Cont.)

^a It is assumed that baghouses are changed every year and that the radionuclides in Freon processed during this time are captured in the baghouses. Baghouse characteristics: cylindrical in shape with length = 100 cm, radius = 34 cm, and material density of the dust collected = 1.4 g/cm³ (data taken from *RESRAD-RECYCLE Manual*, Cheng et al. 2000). Dose coefficients are based on ICRP (1991) methodology from FGR 12 (Eckerman and Ryman 1993) for external dose calculations; those from ICRP (1996) for an adult member of the public are used for internal dose calculations. External and internal doses are calculated using RESRAD-BUILD computer code. Receptor is 2 m away from the dust/ash bags and spends 18 hours (6 hours per cell × 3 cells) in 1 year handling baghouse at the El Dorado facility (Whitehurst 2020a). Inhalation rate = 1.2 m³/hr and mass loading = 1 × 10⁻⁴ g/m³, airborne particulate filtration efficiency is 99.97% (employees wear full-face air-purifying respirators with MERSORB-P100 cartridges; Whitehurst 2020b) are used for inhalation dose estimation. There is no ingestion dose because workers use PPE. Mass loading is from ANSI N13.12 (ANSI 2013), 1999 Standard (ANSI 1999).

2.3 EXPOSURE TO NON-INVOLVED WORKERS AND GENERAL PUBLIC

Three potential scenarios/receptors are considered: (1) non-involved incinerator worker or general public near the incinerator, (2) general public near the disposal facility where the incinerator ashes/sludge are disposed of, and (3) general public accidentally drinking effluent water from incinerator emission system washing/cleaning. For scenario/receptor 3, at all three incinerators that Freon is going to be shipped to, emission system effluent water is not directly released to waterways. It is disposed of eventually to ground or landfill. Therefore, we do not analyze the effects of directly drinking effluent water. If the effluent water containing all radionuclides is disposed of in a landfill, it is covered in scenario 2 because that scenario assumes all radionuclides from the incinerator are deposited at the landfill. The dose estimations for scenarios 1 and 2 are discussed below.

2.3.1 Scenario 1: Radionuclides Exhausted from the Incinerator Stack, thereby Exposing MEI (PPPO 2020, Section 5.2.4)

For scenario 1, dose is estimated for two receptors: a non-involved worker at the incinerator who is not directly involved in incineration of Freon, and a member of the public near the incinerator facility.

To calculate the bounding potential inhalation dose for the non-involved worker at an incinerator, we use the Aragonite Incinerator because the particulate emission from this incinerator results in the maximum MEI dose. It is assumed that a non-involved worker is located 100–1,000 m away from the air release point (stack). The worker is present at that location for 2,000 hours in 1 year (PPPO 2020, Section 5.2.4).

It is assumed that 1.5 million pounds of Freon at the ALs (Table 1) is processed each year for 6 years at the Aragonite incinerator. To estimate the average particulate release rate, it is assumed that particulate emission occurs from the incinerator at the incinerator's permit limit for particulates: $2.8 \times 10^{-2} \text{ g/m}^3$ from a stack at a height of 149 feet (~45 m). Flow rate is 77,840 acfm (actual cubic feet per minute). The particulate released mass is <5% of the processed mass at the incinerator (processed Freon mass is 680 million g/yr and particulate released mass is 30.8 million g/yr from the Aragonite stack). For calculating radionuclide concentrations in the released particulates no reliable data is available; it is conservatively assumed that released particulates have the same radionuclide concentrations as in the Freon fed to the incinerator. Released mass per unit time is converted to activity released per unit time using the proposed ALs for each radionuclide. The conversion used is $1 \text{ ft}^3 = 0.0283168 \text{ m}^3$. Table 6 shows the yearly radionuclide release rate.

Release of radionuclides from incinerators to the atmosphere will undergo downwind transport and mixing processes. They will be removed by deposition (both wet and dry) on the ground and by radioactive decay.

The RESRAD-OFFSITE code is used to calculate the non-involved worker dose. The dose is estimated from direct external exposure from deposited material, inhalation pathway, and soil ingestion of deposited particulates in soil at a receptor location (~900 m away from the stack) that gives the maximum dose. The location that results in maximum dose is found by multiple runs of RESRAD-OFFSITE code. To model stack release, primary contaminated area is set at 1 m^2 and release height is set at 45 m (equal to the stack height). Wind with a speed of 0.89 m/s in neutral stability Class D is assumed to blow toward the receptor, and the receptor is present at that location for 2,000 hours.

The dose results for the non-involved incinerator worker are listed in Table 6. The calculated dose to this worker from each individual radionuclide is less than 1 mrem/yr. The highest dose is 0.196 mrem/yr for Np-237. The output of the RESRAD-OFFSITE run results is included in Appendix B. The output also includes a list of all input parameter values used.

TABLE 6 Non-involved Incinerator Worker Inhalation Dose from Air Effluent Release at Aragonite^a

Radionuclide	Yearly radionuclide release rate (pCi/yr)	Ground external (mrem/yr)	Inhalation (mrem/yr)	Soil ingestion (mrem/yr)	Total (mrem/yr)
Am-241	9.24E+07	2.81E-07	3.76E-02	2.20E-07	3.76E-02
Cs-137	9.24E+07	2.86E-05	1.53E-05	1.87E-08	4.39E-05
Np-237	9.24E+08	1.01E-04	1.96E-01	1.67E-06	1.96E-01
Pu-238	9.24E+07	1.26E-09	4.31E-02	3.47E-07	4.31E-02
Pu-239	9.24E+07	2.76E-09	4.70E-02	3.87E-07	4.70E-02
Pu-240	9.24E+07	1.25E-09	4.70E-02	3.87E-07	4.70E-02

TABLE 6 (Cont.)

Radionuclide	Yearly radionuclide release rate (pCi/yr)	Ground external (mrem/yr)	Inhalation (mrem/yr)	Soil ingestion (mrem/yr)	Total (mrem/yr)
Tc-99	9.24E+08	1.64E-10	5.09E-05	1.38E-10	5.09E-05
Th-228	9.24E+07	3.26E-05	1.71E-02	8.51E-08	1.71E-02
Th-230	9.24E+07	1.41E-07	3.92E-02	3.27E-07	3.92E-02
Th-232	9.24E+07	2.81E-05	4.31E-02	7.02E-07	4.31E-02
U-234	9.24E+08	3.24E-08	3.68E-02	6.60E-07	3.68E-02
U-235	9.24E+08	6.31E-05	3.33E-02	6.38E-07	3.34E-02
U-238	9.24E+08	1.33E-05	3.14E-02	6.52E-07	3.14E-02

^a It is assumed that a non-involved worker is located at a distance (~900 m) where ground air concentration reaches its maximum value from the stack release at a height of 45 m. The receptor spends 2,000 hours outdoors and is exposed to deposited material on the ground and the contamination in the air. RESRAD-OFFSITE code is used. To model stack release in RESRAD-OFFSITE, it is assumed that the primary contaminated area = 1 m², and release height is equal to the stack height, 45 m. To estimate the yearly average radionuclide release rate, it is assumed particulate emission occurs from the incinerator at 2.8×10^{-2} g/m³. The incinerator is operational 95% of the time. Flow rate is 77,840 acfm. Conversions used 1 ft³ = 0.0283168 m³. The inhalation rate in RESRAD-OFFSITE code is increased to 10,512 m³/yr to match 1.2 m³/h inhalation rate for the worker.

Dose is also calculated for a member of the public located 5 km (about 3 miles) away from the incinerator (see Table 2). It is assumed that 1.5 million lb. of Freon at the ALs (Table 1) is processed each year for 6 years at the El Dorado incinerator. The released activity is <6% of the processed activity at the incinerator (processed freon mass is 680 million g/yr and particulate released mass is 37.7 million g/yr from the El Dorado SN-01 stack). For calculating radionuclide concentrations in the released particulates, because no reliable data are available, it is conservatively assumed that the released particulates have the same radionuclide concentrations as in the Freon fed to the incinerator.

RESRAD-OFFSITE code (Yu et al. 2019) is used in this dose estimation. The dose is estimated from direct external exposure from deposited material, inhalation pathway, and incidental ingestion of deposited particulates in soil. To model stack release, the RESRAD-OFFSITE input for the primary contaminated area is set at 1 m² and the release height is set at 59.44 m (i.e., the stack height).

Table 7 shows the estimated maximum yearly dose for a member of the public located 5 km (about 3 miles) from the incinerator (incinerator neighbor). Results are shown for the El Dorado-SN-01 stack release because releases there are the highest among three incinerators that Freon is planned to be shipped to, and it has the nearest resident. The highest dose is 0.0463 mrem/yr for Np-237. The output of RESRAD-OFFSITE run results is included in Appendix B. The output also includes a list of all input parameter values used.

TABLE 7 Incinerator (El Dorado SN-01) Neighbor Dose Estimation^a

Radionuclide	Yearly radionuclide release rate (pCi/yr)	Dose by Pathways ^a			
		Ground external (mrem/yr)	Inhalation (mrem/yr)	Soil ingestion (mrem/yr)	Total (mrem/yr)
Am-241	1.13E+08	8.77E-08	8.88E-03	8.66E-08	8.88E-03
Cs-137	1.13E+08	1.12E-05	3.61E-06	7.35E-09	1.48E-05
Np-237	1.13E+09	3.90E-05	4.63E-02	6.58E-07	4.63E-02
Pu-238	1.13E+08	3.96E-10	1.02E-02	1.36E-07	1.02E-02
Pu-239	1.13E+08	8.64E-10	1.11E-02	1.52E-07	1.11E-02
Pu-240	1.13E+08	3.94E-10	1.11E-02	1.52E-07	1.11E-02
Tc-99	1.13E+09	5.13E-11	1.20E-05	5.41E-11	1.20E-05
Th-228	1.13E+08	1.27E-05	4.04E-03	3.35E-08	4.05E-03
Th-230	1.13E+08	5.43E-08	9.25E-03	1.29E-07	9.25E-03
Th-232	1.13E+08	1.10E-05	1.02E-02	2.76E-07	1.02E-02
U-234	1.13E+09	1.02E-08	8.70E-03	2.60E-07	8.70E-03
U-235	1.13E+09	2.00E-05	7.87E-03	2.51E-07	7.89E-03
U-238	1.13E+09	5.18E-06	7.41E-03	2.56E-07	7.41E-03

^a It is assumed that the incinerator neighbor is located 5 km away from the incinerator and is exposed to effluent release. The receptor spends 50% of their time inside a dwelling and 25% time outdoors and is exposed to deposited material on the ground and the contamination in the air. RESRAD-OFFSITE code is used. To estimate the yearly average radionuclide release rate, we assume that particulate emission occurs from the incinerator at 2.8×10^{-2} g/m³. The incinerator is operational 90% of the time. Flow rate is 100,568 acfm. Conversions used 1 ft³ = 0.0283168 m³.

2.3.2 Scenario 2: All radionuclides Are Captured in the Emission Controls or Collected in the Incinerator Ash and Subsequently Disposed of in a Landfill, Resulting in Exposure to a Landfill Neighbor (PPPO 2020, Section 5.2.4)

Dose is calculated for a member of the public living in a dwelling 50 m away from the landfill. It is assumed, based on professional judgement, that the landfill area is 40,000 m² with a depth of 2 m; disposal will occur over a period of 6 years and may be at different areas and at different depths at a landfill; baghouse dust, ash, slag, or any other waste generated at the incinerator may get mixed with other materials deposited at a landfill. RESRAD-OFFSITE is used in this dose estimation. The total dose from all relevant exposure pathways in the operational phase of the landfill is calculated for a 50-year time frame and after the operational phase (1,000-year time frame). The landfill may have liners that would reduce water infiltration. Because there is a lack of data for any specific landfill, all RESRAD-OFFSITE defaults are used except for the site layout. When the landfill is closed, cover material may be placed on top, further reducing water infiltration and radionuclide leaching. Neither liners nor covers are included in these calculations.

Table 8 shows the maximum estimated dose in the time frame of 1,000 years, for the landfill neighbor scenario (a person living in a dwelling 50 m away from the landfill) by pathways and total. The calculated total dose for each radionuclide is less than 1 mrem/yr. The highest dose is 0.468 mrem/yr for Tc-99.

TABLE 8 Landfill Neighbor Scenario Dose for Different Exposure Pathways^a

Radionuclide	Time of peak total dose (yr)	Dose by Pathways (mrem/yr)								Total
		Direct radiation	Inhalation	Ingestion of fish	Plant	Meat	Milk	Soil	Drinking water	
Am-241	778	1.53E-05	1.08E-04	6.88E-09	1.05E-02	7.58E-05	1.09E-05	1.41E-05	2.55E-02	3.62E-02
Cs-137	0	2.11E-03	2.86E-07	2.61E-07	8.85E-08	1.12E-07	6.91E-08	4.65E-11	0.00E+00	2.11E-03
Np-237	2	5.99E-03	3.71E-03	3.54E-05	8.06E-06	3.44E-07	3.83E-09	1.99E-08	0.00E+00	9.74E-03
Pu-238	0	1.83E-08	8.13E-04	2.40E-07	1.52E-06	6.50E-09	1.52E-10	8.31E-10	0.00E+00	8.15E-04
Pu-239	14	1.41E-07	8.89E-04	3.57E-06	1.70E-06	8.36E-09	1.80E-10	2.61E-08	0.00E+00	8.94E-04
Pu-240	9	2.41E-08	8.89E-04	3.01E-06	1.69E-06	7.90E-09	1.75E-10	1.72E-08	0.00E+00	8.94E-04
Tc-99	17	1.54E-06	4.94E-07	6.81E-14	1.31E-01	1.71E-03	5.98E-02	1.53E-06	2.76E-01	4.68E-01
Th-228	0	4.62E-03	2.72E-04	1.60E-08	8.00E-07	3.42E-09	4.00E-10	4.00E-10	0.00E+00	4.89E-03
Th-230	1,000	9.19E-04	7.64E-04	3.25E-04	1.06E-05	8.61E-07	5.41E-07	1.68E-06	1.44E-06	2.02E-03
Th-232	1,000	9.19E-03	1.26E-03	3.19E-04	2.85E-04	1.10E-05	1.09E-05	6.30E-06	8.62E-04	1.11E-02
U-234	1,000	2.19E-05	6.93E-05	7.63E-06	2.79E-03	1.37E-04	8.63E-04	7.95E-06	6.70E-03	1.06E-02
U-235	1,000	8.04E-04	9.38E-05	7.02E-07	3.67E-03	7.59E-04	8.39E-04	1.10E-05	8.72E-03	1.49E-02
U-238	1,000	1.93E-04	4.21E-05	1.34E-07	2.77E-03	1.36E-04	8.57E-04	7.83E-06	6.66E-03	1.07E-02

^a Pathway doses are listed at the time when the maximum total dose occurs.

3 CONCLUSIONS

The PPPO request for ALs used simplistic calculations to determine public exposure. This independent review performed a more detailed analysis of the exposure pathways associated with the incineration of the Freon for the same receptors and scenarios described in PPPO (2020). Bounding doses were calculated to verify compliance with DOE O 458.1 dose criteria. Radiological doses were calculated for 13 radionuclides at the proposed AL concentrations for multiple receptors involved in different activities associated with the disposal of Freon. The dose was estimated for a maximally exposed truck driver transporting Freon in ISO containers to incinerators, maximally exposed workers involved in storing and processing Freon at the incinerator, maximally exposed workers involved in handling dust/waste at the incinerator, and workers disposing of dust/waste at a landfill. The doses were also estimated for the maximally exposed non-involved workers at the incinerator not directly involved in handling or processing Freon, a member of the general public (incinerator neighbor) who may be exposed to the air release from the incinerator, and a member of the general public (landfill neighbor) who may be exposed to activity disposed in a landfill. The estimated doses were all less than 1 mrem/yr for each radionuclide at the proposed ALs, meeting the DOE O 458.1 dose requirements. Therefore, setting the ALs at the ANSI N13.12 (ANSI 2013) concentration limits for these 13 radionuclides as shown in Table 1 is reasonable and recommended.

4 REFERENCES

ANSI (American National Standards Institute, Inc.), 2013, *American National Standard – Surface and Volume Radioactivity Standards for Clearance*, ANSI/HPS N13.12-2013. Approved May 6.

ANSI, 1999, *American National Standard – Surface and Volume Radioactivity Standards for Clearance*, ANSI/HPS N13.12-1999. Approved August 31, 1999.

Cheng, J.J., B. Kassas, C. Yu, D. LePoire, J. Arnish, E.S. Dovel, S. Y. Chen, W.A. Williams, A. Wallo, and H. Peterson, 2000, *RESRAD-RECYCLE: A Computer Model for Analyzing the Radiological Doses and Risks Resulting from the Recycling of Radioactive Scrap Metals and the Reuse of Surface-Contaminated Material and Equipment*, ANL/EAD-3, November.

Dihel, D., 2020, personal communication from Dihel (Enterprise Technical Assistance Services) to C. Yu (Argonne National Laboratory), April 22.

Eckerman, K.F., and J.C. Ryman, 1993, *External Exposure to Radionuclides in Air, Water, and Soil, Exposure to Dose Coefficients for General Application, Based on the 1987 Federal Radiation Protection Guidance*, EPA 402-R-93-076, Federal Guidance Report 12, prepared by Oak Ridge National Laboratory, Oak Ridge, Tenn., for U.S. Environmental Protection Agency, Office of Radiation and Indoor Air, Washington, D.C.

ICRP (International Commission on Radiological Protection) 1991, *1990 Recommendations of the International Commission on Radiological Protection*, Publication 60, Annals of the ICRP, 21(1-3), Pergamon Press, New York, N.Y.

ICRP, 1996, *Age-Dependent Doses to Members of the Public from Intake of Radionuclides: Part 5—Compilation of Ingestion and Inhalation Dose Coefficients*, Publication 72, Annals of the ICRP, Vol. 26(1), Pergamon Press, New York, N.Y.

PPPO (Portsmouth/Paducah Project Office), 2020, *Authorized limits request for volumetric release limits for R-114 (Freon) at the Paducah Gaseous Diffusion Plant Paducah, Kentucky*, U.S. Department of Energy, Lexington, Kentucky, March.

Whitehurst, G., 2020a, personal communication from Whitehurst (Portsmouth/Paducah Project Office) to C. Yu (Argonne National Laboratory), May 5.

Whitehurst, G., 2020b, personal communication from Whitehurst (Portsmouth/Paducah Project Office) to C. Yu (Argonne National Laboratory), May 6.

Whitehurst, G., 2020c, personal communication from Whitehurst (Portsmouth/Paducah Project Office) to C. Yu (Argonne National Laboratory), May 8.

Whitehurst, G., 2020d, personal communication from Whitehurst (Portsmouth/Paducah Project Office) to C. Yu (Argonne National Laboratory), May 12.

Yu, C., D.J. LePoire, J.-J. Cheng, E. Gnanapragasam, S. Kamboj, J. Arnish, B.M. Biwer, A.J. Zielen, W.A. Williams, A. Wallo III, and H.T. Peterson, Jr., 2003, *User's Manual for RESRAD-BUILD Version 3*, ANL/EAD/03-1, June.

Yu, C., E. Gnanapragasam, J.-J. Cheng, D. LePoire, S. Kamboj, and C. Wang 2020, *User's Manual for RESRAD-OFFSITE Code Version 4*, NUREG/CR-7268, ANL/EVS/TM-19/2, February.

APPENDIX A:
RESRAD-BUILD RUN RESULTS FOR TRUCK DRIVER, INTERNATIONAL
ORGANIZATION FOR STANDARDIZATION CONTAINER HANDLING WORKER,
AND BAGHOUSE WORKER SCENARIOS

RESRAD-BUILD code was used to analyze the truck driver, International Organization for Standardization (ISO) container handling worker, and baghouse worker scenarios. The results are provided in this appendix in the form of reports generated from different scenario runs from RESRAD-BUILD code.

A.1 RESRAD-BUILD RESULTS FOR TRUCK DRIVER SCENARIO

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 1 **
Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)
Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld

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=====	=====
RESRAD-BUILD Table of Contents	=====
=====	=====
=====	

RESRAD-BUILD Input Parameters.....	2
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Source Information.....	4
For time = 0.00E+00 yr	
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Full Summary.....	14

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 2 **
Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)
Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld

=====	
=====	
=====	=====
RESRAD-BUILD Input Parameters	=====
=====	=====
=====	

Number of Sources :	2
Number of Receptors:	2
Total Time :	3.650000E+02 days
Fraction Inside :	1.000000E+00

=====	Receptor Information	=====
-------	----------------------	-------

== Receptor-Source Shielding Relationship ==

==== Building Information =====

===== Source Information =====

A-2

Porosity :1.00E-01
 Eff. Diffusion [m2/s] :2.00E-05
 Emanation Fractions(1):0.00E+00
 (2):0.00E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: ICRP 72 (Adult))

		Ingestion	Inhalation	Submersion	External
	[pCi/g]	[mrem/pCi]	[mrem/pCi]	[mrem/yr/ (pCi/m3)]	[mrem/yr/ [pCi/g]
PU-238	3.000E+00	8.510E-04	4.070E-01	4.088E-07	1.166E-04
AM-241	3.000E+00	7.400E-04	3.552E-01	7.872E-05	3.719E-02
PU-240	3.000E+00	9.250E-04	4.440E-01	3.995E-07	1.129E-04
PU-239	3.000E+00	9.250E-04	4.440E-01	4.065E-07	2.635E-04
U-238	3.000E+01	1.791E-04	2.963E-02	2.091E-04	1.557E-01
NP-237	3.000E+01	4.102E-04	1.850E-01	1.101E-03	1.012E+00
U-234	3.000E+01	1.813E-04	3.478E-02	7.136E-07	3.439E-04
U-236	0.000E+00	1.739E-04	3.219E-02	4.508E-07	1.781E-04
U-235	3.000E+01	1.752E-04	3.145E-02	8.074E-04	6.918E-01
TH-230	3.000E+00	7.770E-04	3.700E-01	1.729E-06	1.071E-03
U-233	0.000E+00	1.887E-04	3.552E-02	1.659E-06	1.265E-03
PA-231	0.000E+00	2.627E-03	5.180E-01	1.834E-04	1.762E-01
TH-232	3.000E+00	8.510E-04	4.070E-01	8.456E-07	4.560E-04
RA-226	0.000E+00	1.037E-03	3.526E-02	9.769E-03	1.060E+01
TH-229	0.000E+00	2.269E-03	9.481E-01	1.624E-03	1.480E+00
RA-228	0.000E+00	2.555E-03	5.929E-02	5.240E-03	5.662E+00
AC-227	0.000E+00	4.473E-03	2.104E+00	2.034E-03	1.869E+00
TH-228	3.000E+00	5.301E-04	1.614E-01	8.921E-03	9.672E+00
PB-210	0.000E+00	2.558E-03	2.106E-02	3.534E-05	7.457E-03
PO-210	0.000E+00	4.440E-03	1.591E-02	4.544E-08	4.934E-05

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 5 **

Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)

Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld

CS-137	3.000E+00	4.810E-05	1.443E-04	2.981E-03	3.201E+00
TC-99	3.000E+01	2.368E-06	4.810E-05	3.352E-06	1.086E-04

Source: 2

Location:: Room : 1 x: 0.00 y: 0.00 z: 0.00[m]
 Geometry:: Type: Volume Length[m]:6.09E+00 Width[m]:2.59E+00 Direction: x
 Pathway ::
 Direct Ingestion Rate: 0.000E+00 [gm/hr]
 Fraction released to air: 0.000E+00

Containment :: Number of Regions: 1 Contaminated Region: 1
 Region : 1
 Thickness [cm] :2.43E+02
 Density [g/cm3] :1.50E+00
 Material :Concrete
 Erosion Rate [cm/day] :0.00E+00
 Porosity :1.00E-01
 Eff. Diffusion [m2/s] :2.00E-05
 Emanation Fractions(1):0.00E+00
 (2):0.00E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: ICRP 72 (Adult))

		Ingestion	Inhalation	Submersion	External
	[pCi/g]	[mrem/pCi]	[mrem/pCi]	[mrem/yr/ (pCi/m3)]	[mrem/yr/ [pCi/g]
PU-238	3.000E+00	8.510E-04	4.070E-01	4.088E-07	1.166E-04

AM-241	3.000E+00	7.400E-04	3.552E-01	7.872E-05	3.719E-02
PU-240	3.000E+00	9.250E-04	4.440E-01	3.995E-07	1.129E-04
PU-239	3.000E+00	9.250E-04	4.440E-01	4.065E-07	2.635E-04
U-238	3.000E+01	1.791E-04	2.963E-02	2.091E-04	1.557E-01
NP-237	3.000E+01	4.102E-04	1.850E-01	1.101E-03	1.012E+00
U-234	3.000E+01	1.813E-04	3.478E-02	7.136E-07	3.439E-04
U-236	0.000E+00	1.739E-04	3.219E-02	4.508E-07	1.781E-04
U-235	3.000E+01	1.752E-04	3.145E-02	8.074E-04	6.918E-01
TH-230	3.000E+00	7.770E-04	3.700E-01	1.729E-06	1.071E-03
U-233	0.000E+00	1.887E-04	3.552E-02	1.659E-06	1.265E-03
PA-231	0.000E+00	2.627E-03	5.180E-01	1.834E-04	1.762E-01
TH-232	3.000E+00	8.510E-04	4.070E-01	8.456E-07	4.560E-04
RA-226	0.000E+00	1.037E-03	3.526E-02	9.769E-03	1.060E+01
TH-229	0.000E+00	2.269E-03	9.481E-01	1.624E-03	1.480E+00
RA-228	0.000E+00	2.555E-03	5.929E-02	5.240E-03	5.662E+00
AC-227	0.000E+00	4.473E-03	2.104E+00	2.034E-03	1.869E+00
TH-228	3.000E+00	5.301E-04	1.614E-01	8.921E-03	9.672E+00
PB-210	0.000E+00	2.558E-03	2.106E-02	3.534E-05	7.457E-03
PO-210	0.000E+00	4.440E-03	1.591E-02	4.544E-08	4.934E-05
CS-137	3.000E+00	4.810E-05	1.443E-04	2.981E-03	3.201E+00

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 6 **
 Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld

TC-99	3.000E+01	2.368E-06	4.810E-05	3.352E-06	1.086E-04
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** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 7 **
 Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld
 Evaluation Time: 0.00000000E+00 years

```

=====
=====
=====
Assessment for Time: 1
Time =0.00E+00 yr
=====
=====
=====

```

===== Source Information =====

Source: 1
 Location:: Room : 1 x: 0.00 y: 0.00 z: 0.00 [m]
 Geometry:: Type: Volume Length[m]:2.43E+00 Width[m]:2.59E+00 Direction: x
 Pathway ::
 Direct Ingestion Rate : 0.000E+00 [gm/hr]
 Fraction released to air: 0.000E+00

Containment :: Number of Regions: 1 Contaminated Region: 1
 Region : 1
 Thickness [cm] :6.09E+02
 Fraction Contaminated :1.00E+00
 Density [g/cm3] :1.50E+00

Contamination::	Nuclide	Concentration [pCi/g]
	PU-238	3.000E+00
	AM-241	3.000E+00
	PU-240	3.000E+00
	PU-239	3.000E+00
	U-238	3.000E+01
	NP-237	3.000E+01
	U-234	3.000E+01
	U-236	0.000E+00

U-235	3.000E+01
TH-230	3.000E+00
U-233	0.000E+00
PA-231	0.000E+00
TH-232	3.000E+00
RA-226	0.000E+00
TH-229	0.000E+00
RA-228	0.000E+00
AC-227	0.000E+00
TH-228	3.000E+00
PB-210	0.000E+00

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 8 **
 Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld
 Evaluation Time: 0.00000000E+00 years

PO-210	0.000E+00
CS-137	3.000E+00
TC-99	3.000E+01

Source: 2

Location:: Room : 1 x: 0.00 y: 0.00 z: 0.00 [m]
 Geometry:: Type: Volume Length[m]:6.09E+00 Width[m]:2.59E+00 Direction: x
 Pathway ::
 Direct Ingestion Rate : 0.000E+00 [gm/hr]
 Fraction released to air: 0.000E+00

Containment :: Number of Regions: 1 Contaminated Region: 1
 Region : 1
 Thickness [cm] :2.43E+02
 Fraction Contaminated :1.00E+00
 Density [g/cm3] :1.50E+00

Contamination::	Nuclide	Concentration [pCi/g]
	PU-238	3.000E+00
	AM-241	3.000E+00
	PU-240	3.000E+00
	PU-239	3.000E+00
	U-238	3.000E+01
	NP-237	3.000E+01
	U-234	3.000E+01
	U-236	0.000E+00
	U-235	3.000E+01
	TH-230	3.000E+00
	U-233	0.000E+00
	PA-231	0.000E+00
	TH-232	3.000E+00
	RA-226	0.000E+00
	TH-229	0.000E+00
	RA-228	0.000E+00
	AC-227	0.000E+00
	TH-228	3.000E+00
	PB-210	0.000E+00
	PO-210	0.000E+00
	CS-137	3.000E+00
	TC-99	3.000E+01

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 9 **
 Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld
 Evaluation Time: 0.00000000E+00 years

RESRAD-BUILD Dose Tables

Source Contributions to Receptor Doses

[mrem]

	Source 1	Source 2	Total
Receptor 1	9.23E-01	1.80E+00	2.72E+00
Receptor 2	3.66E-01	4.88E-01	8.54E-01
Total	1.29E+00	2.29E+00	3.58E+00

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 10 **
 Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld
 Evaluation Time: 0.00000000E+00 years

Pathway Detail of Doses

[mrem]

Source: 1

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	9.23E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	3.66E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total	1.29E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Source: 2

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	1.80E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	4.88E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total	2.29E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 11 **
 Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld
 Evaluation Time: 0.00000000E+00 years

Nuclide Detail of Doses

[mrem]

Source: 1

Nuclide	Receptor 1	Receptor 2	Total
PU-238	3.03E-06	1.48E-06	4.51E-06
U-234	1.31E-11	5.51E-12	1.86E-11
TH-230	1.25E-16	5.05E-17	1.75E-16
RA-226	1.48E-16	5.81E-17	2.06E-16
PB-210	5.42E-22	2.22E-22	7.65E-22
PO-210	1.04E-24	4.12E-25	1.45E-24
AM-241	9.89E-04	4.01E-04	1.39E-03
NP-237	5.12E-09	2.04E-09	7.16E-09
U-233	8.98E-18	3.61E-18	1.26E-17
TH-229	2.51E-19	9.96E-20	3.51E-19
PU-240	2.93E-06	1.42E-06	4.35E-06

U-236	7.02E-14	3.09E-14	1.01E-13
TH-232	2.96E-24	1.21E-24	4.17E-24
RA-228	1.25E-21	4.91E-22	1.74E-21
TH-228	1.38E-22	5.42E-23	1.93E-22
PU-239	7.60E-06	3.39E-06	1.10E-05
U-235	1.04E-11	4.13E-12	1.45E-11
PA-231	1.94E-17	7.72E-18	2.71E-17
AC-227	1.60E-18	6.35E-19	2.23E-18
U-238	4.68E-02	1.85E-02	6.54E-02
U-234	1.31E-10	5.53E-11	1.86E-10
TH-230	1.25E-15	5.06E-16	1.76E-15
RA-226	1.48E-15	5.82E-16	2.06E-15
PB-210	5.43E-21	2.23E-21	7.66E-21
PO-210	1.04E-23	4.12E-24	1.46E-23
NP-237	3.17E-01	1.26E-01	4.43E-01
U-233	8.32E-10	3.35E-10	1.17E-09
TH-229	3.10E-11	1.23E-11	4.33E-11
U-234	9.27E-05	3.91E-05	1.32E-04
TH-230	1.33E-09	5.37E-10	1.87E-09
RA-226	2.09E-09	8.23E-10	2.91E-09
PB-210	9.59E-15	3.93E-15	1.35E-14
PO-210	2.13E-17	8.42E-18	2.97E-17
U-235	2.10E-01	8.39E-02	2.94E-01
PA-231	5.91E-07	2.35E-07	8.27E-07
AC-227	6.48E-08	2.58E-08	9.06E-08
TH-230	2.95E-05	1.19E-05	4.15E-05
RA-226	6.97E-05	2.74E-05	9.72E-05
PB-210	4.26E-10	1.75E-10	6.00E-10
PO-210	1.13E-12	4.44E-13	1.57E-12
TH-232	1.22E-05	5.00E-06	1.72E-05
RA-228	1.01E-02	3.99E-03	1.41E-02
TH-228	1.83E-03	7.17E-04	2.55E-03

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 12 **

Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)

Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld

Evaluation Time: 0.00000000E+00 years

TH-228	2.37E-01	9.29E-02	3.30E-01
CS-137	9.92E-02	3.92E-02	1.38E-01
TC-99	3.11E-05	1.24E-05	4.35E-05

Source: 2

Nuclide	Receptor 1	Receptor 2	Total
PU-238	5.65E-06	1.87E-06	7.53E-06
U-234	2.50E-11	7.13E-12	3.21E-11
TH-230	2.41E-16	6.58E-17	3.06E-16
RA-226	2.90E-16	7.84E-17	3.68E-16
PB-210	1.04E-21	2.87E-22	1.32E-21
PO-210	2.04E-24	5.52E-25	2.59E-24
AM-241	1.90E-03	5.20E-04	2.42E-03
NP-237	9.96E-09	2.70E-09	1.27E-08
U-233	1.74E-17	4.76E-18	2.22E-17
TH-229	4.89E-19	1.33E-19	6.22E-19

PU-240	5.49E-06	1.80E-06	7.29E-06
U-236	1.33E-13	3.97E-14	1.73E-13
TH-232	5.67E-24	1.57E-24	7.24E-24
RA-228	2.44E-21	6.61E-22	3.10E-21
TH-228	2.72E-22	7.36E-23	3.45E-22

PU-239	1.46E-05	4.40E-06	1.90E-05
U-235	2.01E-11	5.45E-12	2.55E-11
PA-231	3.78E-17	1.02E-17	4.80E-17
AC-227	3.11E-18	8.42E-19	3.95E-18

U-238	9.14E-02	2.48E-02	1.16E-01
U-234	2.51E-10	7.15E-11	3.22E-10
TH-230	2.41E-15	6.59E-16	3.07E-15
RA-226	2.90E-15	7.85E-16	3.69E-15
PB-210	1.04E-20	2.88E-21	1.33E-20
PO-210	2.04E-23	5.53E-24	2.59E-23

NP-237	6.16E-01	1.67E-01	7.83E-01
U-233	1.61E-09	4.41E-10	2.05E-09
TH-229	6.05E-11	1.64E-11	7.69E-11

U-234	1.77E-04	5.05E-05	2.28E-04
TH-230	2.56E-09	7.00E-10	3.26E-09
RA-226	4.10E-09	1.11E-09	5.21E-09
PB-210	1.83E-14	5.08E-15	2.34E-14
PO-210	4.17E-17	1.13E-17	5.30E-17

U-235	4.08E-01	1.11E-01	5.19E-01
PA-231	1.15E-06	3.12E-07	1.46E-06
AC-227	1.26E-07	3.42E-08	1.60E-07

TH-230	5.69E-05	1.56E-05	7.24E-05
RA-226	1.37E-04	3.70E-05	1.74E-04
PB-210	8.15E-10	2.26E-10	1.04E-09
PO-210	2.20E-12	5.96E-13	2.80E-12

TH-232	2.34E-05	6.48E-06	2.99E-05
RA-228	1.98E-02	5.37E-03	2.52E-02

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 13 **
Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)
Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld
Evaluation Time: 0.00000000E+00 years

TH-228	3.59E-03	9.73E-04	4.57E-03
TH-228	4.66E-01	1.26E-01	5.92E-01
CS-137	1.94E-01	5.25E-02	2.46E-01
TC-99	6.00E-05	1.63E-05	7.63E-05

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:56:34 Page: 14 **
Title : RESRAD-BUILD Truck Driver (S1R1 and S2R2)
Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\Truck-driver-only.bld
Full Summary

=====	
=====	
==	==
== RESRAD-BUILD Dose (Time) Tables ==	==
==	==
=====	
=====	

Receptor Dose Received for the Exposure Duration	
(mrem)	
Evaluation Time [yr]	
	0.00E+00
1	2.72E+00
2	8.54E-01

Receptor Dose/Yr Averaged Over Exposure Duration	
(mrem/yr)	
Evaluation Time [yr]	
	0.00E+00
1	2.73E+00
2	8.55E-01

Note: The Receptor 1 dose for an individual radionuclide from Source 1 gives the truck driver dose in a year while driving (Table 3 in the main report). The Receptor 2 dose for an individual radionuclide from Source 2 gives the truck driver dose in a year while 1 m away from the vehicle (Table 3 in the main report).

A.2 RESRAD-BUILD RESULTS FOR ISO CONTAINER HANDLING WORKER SCENARIO

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 10:58:22 Page: 1 **
 Title : RESRAD-BUILD ISO Container Handler
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\ISO-Container-handling.bld

RESRAD-BUILD Table of Contents	
RESRAD-BUILD Input Parameters.....	2
Building Information.....	3
Source Information.....	4
For time = 0.00E+00 yr	
Time Specific Parameters.....	6
Receptor-Source Dose Summary.....	8
Dose by Pathway Detail.....	9
Dose by Nuclide Detail.....	10
Full Summary.....	12

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 10:58:22 Page: 2 **
 Title : RESRAD-BUILD ISO Container Handler
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\ISO-Container-handling.bld

RESRAD-BUILD Input Parameters	
RESRAD-BUILD Input Parameters.....	2
Building Information.....	3
Source Information.....	4
For time = 0.00E+00 yr	
Time Specific Parameters.....	6
Receptor-Source Dose Summary.....	8
Dose by Pathway Detail.....	9
Dose by Nuclide Detail.....	10
Full Summary.....	12

Receptor Information							
Receptor	Room	x [m]	y [m]	z [m]	FracTime	Inhalation [m3/day]	Ingestion (Dust) [m2/hr]
1	1	1.000	0.000	0.000	0.014	1.80E+01	1.00E-04

Receptor	Source	Density [g/cm3]	Thickness [cm]	Material
1	1	2.40E+00	0.00E+00	Concrete

===== Building Information =====

```

Height[m]          Air Exchanges [m3/hr]
Area [m2]
*****
*                  *
*                  *
*                  *
*                  *
H1:   2.500         Room  1          <=Q01: 7.20E+01
*                  *                  Q10  :  7.20E+01
*   LAMBDA: 8.00E-01          *
Area 36.000         *
*                  *
*****

```

===== Source Information =====

```

      Containment ::      Number of Regions:      1 Contaminated Region:      1
Region           :      1

```


Thickness [cm] :2.43E+02
 Density [g/cm3] :1.50E+00
 Material :Concrete
 Erosion Rate [cm/day] :0.00E+00
 Porosity :1.00E-01
 Eff. Diffusion [m2/s] :2.00E-05
 Emanation Fractions(1):0.00E+00
 (2):0.00E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: ICRP 72 (Adult))

	[pCi/g]	Ingestion [mrem/pCi]	Inhalation [mrem/pCi]	Submersion [mrem/yr/ (pCi/m3)]	External [mrem/yr/ [pCi/g]
PU-238	3.000E+00	8.510E-04	4.070E-01	4.088E-07	1.166E-04
AM-241	3.000E+00	7.400E-04	3.552E-01	7.872E-05	3.719E-02
PU-240	3.000E+00	9.250E-04	4.440E-01	3.995E-07	1.129E-04
PU-239	3.000E+00	9.250E-04	4.440E-01	4.065E-07	2.635E-04
U-238	3.000E+01	1.791E-04	2.963E-02	2.091E-04	1.557E-01
NP-237	3.000E+01	4.102E-04	1.850E-01	1.101E-03	1.012E+00
U-234	3.000E+01	1.813E-04	3.478E-02	7.136E-07	3.439E-04
U-236	0.000E+00	1.739E-04	3.219E-02	4.508E-07	1.781E-04
U-235	3.000E+01	1.752E-04	3.145E-02	8.074E-04	6.918E-01
TH-230	3.000E+00	7.770E-04	3.700E-01	1.729E-06	1.071E-03
U-233	0.000E+00	1.887E-04	3.552E-02	1.659E-06	1.265E-03
PA-231	0.000E+00	2.627E-03	5.180E-01	1.834E-04	1.762E-01
TH-232	3.000E+00	8.510E-04	4.070E-01	8.456E-07	4.560E-04
RA-226	0.000E+00	1.037E-03	3.526E-02	9.769E-03	1.060E+01
TH-229	0.000E+00	2.269E-03	9.481E-01	1.624E-03	1.480E+00
RA-228	0.000E+00	2.555E-03	5.929E-02	5.240E-03	5.662E+00
AC-227	0.000E+00	4.473E-03	2.104E+00	2.034E-03	1.869E+00
TH-228	3.000E+00	5.301E-04	1.614E-01	8.921E-03	9.672E+00
PB-210	0.000E+00	2.558E-03	2.106E-02	3.534E-05	7.457E-03
PO-210	0.000E+00	4.440E-03	1.591E-02	4.544E-08	4.934E-05

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 10:58:22 Page: 5 **

Title : RESRAD-BUILD ISO Container Handler

Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\ISO-Container-handling.bld

CS-137	3.000E+00	4.810E-05	1.443E-04	2.981E-03	3.201E+00
TC-99	3.000E+01	2.368E-06	4.810E-05	3.352E-06	1.086E-04

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 10:58:22 Page: 6 **

Title : RESRAD-BUILD ISO Container Handler

Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\ISO-Container-handling.bld

Evaluation Time: 0.00000000E+00 years

```

=====
=====
Assessment for Time: 1
Time =0.00E+00 yr
=====
=====

```

===== Source Information =====

Source: 1

Location:: Room : 1 x: 0.00 y: 0.00 z: 0.00 [m]
 Geometry:: Type: Volume Length[m]:6.09E+00 Width[m]:2.59E+00 Direction: x
 Pathway ::
 Direct Ingestion Rate : 0.000E+00 [gm/hr]
 Fraction released to air: 0.000E+00

Containment :: Number of Regions: 1 Contaminated Region: 1
 Region : 1
 Thickness [cm] : 2.43E+02
 Fraction Contaminated : 1.00E+00
 Density [g/cm3] : 1.50E+00

Contamination::	Nuclide	Concentration [pCi/g]
	PU-238	3.000E+00
	AM-241	3.000E+00
	PU-240	3.000E+00
	PU-239	3.000E+00
	U-238	3.000E+01
	NP-237	3.000E+01
	U-234	3.000E+01
	U-236	0.000E+00
	U-235	3.000E+01
	TH-230	3.000E+00
	U-233	0.000E+00
	PA-231	0.000E+00
	TH-232	3.000E+00
	RA-226	0.000E+00
	TH-229	0.000E+00
	RA-228	0.000E+00
	AC-227	0.000E+00
	TH-228	3.000E+00
	PB-210	0.000E+00

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 10:58:22 Page: 7 **
 Title : RESRAD-BUILD ISO Container Handler
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\ISO-Container-handling.bld
 Evaluation Time: 0.00000000E+00 years

PO-210	0.000E+00
CS-137	3.000E+00
TC-99	3.000E+01

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 10:58:22 Page: 8 **
 Title : RESRAD-BUILD ISO Container Handler
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\ISO-Container-handling.bld
 Evaluation Time: 0.00000000E+00 years

RESRAD-BUILD Dose Tables

Source Contributions to Receptor Doses

[mrem]

	Source	Total
	1	
Receptor 1	6.21E-01	6.21E-01
Total	6.21E-01	6.21E-01

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 10:58:22 Page: 9 **
 Title : RESRAD-BUILD ISO Container Handler
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\ISO-Container-handling.bld
 Evaluation Time: 0.00000000E+00 years

Pathway Detail of Doses

[mrem]

Source: 1						
Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	6.21E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total	6.21E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 10:58:22 Page: 10 **
 Title : RESRAD-BUILD ISO Container Handler
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\ISO-Container-handling.bld
 Evaluation Time: 0.00000000E+00 years

Nuclide Detail of Doses

[mrem]

Source: 1		
Nuclide	Receptor	Total
	1	
PU-238	2.38E-06	2.38E-06
U-234	9.06E-12	9.06E-12
TH-230	8.37E-17	8.37E-17
RA-226	9.97E-17	9.97E-17
PB-210	3.66E-22	3.66E-22

[illegible]

Note: The Receptor 1 dose for an individual radionuclide from Source 1 gives the ISO container handling and processing worker's external dose in a year (Table 4 in the main report).

A.3 RESRAD-BUILD RESULTS FOR INCINERATOR BAGHOUSE WORKER/PROCESSOR SCENARIO

```

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:53:57  Page:   1  **
Title : RESRAD-BUILD Baghouse worker
Input File : C:\RESRAD Family\BUILD\3.8.7.0 beta\baghouse-worker-rev.bld

```

RESRAD-BUILD Table of Contents	
RESRAD-BUILD Input Parameters.....	2
Building Information.....	3
Source Information.....	4
For time = 0.00E+00 yr	
Time Specific Parameters.....	6
Receptor-Source Dose Summary.....	8
Dose by Pathway Detail.....	9
Dose by Nuclide Detail.....	10
Full Summary.....	12

```
** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:53:57 Page: 2 **
Title : RESRAD-BUILD Baghouse worker
Input File : C:\RESRAD Family\BUILD\3.8.7.0 beta\baghouse-worker-rev.bld
```

RESRAD-BUILD Input Parameters

Receptor Information

Receptor-Source Shielding Relationship

==== Building Information =====

===== Source Information =====

A-16

Direct Ingestion Rate: 0.000E+00 [gm/hr]
Fraction released to air: 0.000E+00

Containment :: Number of Regions: 1 Contaminated Region: 1
Region : 1
Thickness [cm] :1.00E+02
Density [g/cm3] :1.40E+00
Material :Concrete
Erosion Rate [cm/day] :0.00E+00
Porosity :1.00E-01
Eff. Diffusion [m2/s] :2.00E-05
Emanation Fractions(1):0.00E+00
(2):0.00E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: ICRP 72 (Adult))

	[pCi/g]	Ingestion [mrem/pCi]	Inhalation [mrem/pCi]	Submersion [mrem/yr/ (pCi/m3)]	External [mrem/yr/ [pCi/g]
PU-238	4.010E+03	8.510E-04	4.070E-01	4.088E-07	1.166E-04
AM-241	4.010E+03	7.400E-04	3.552E-01	7.872E-05	3.719E-02
PU-240	4.010E+03	9.250E-04	4.440E-01	3.995E-07	1.129E-04
PU-239	4.010E+03	9.250E-04	4.440E-01	4.065E-07	2.635E-04
U-238	4.010E+04	1.791E-04	2.963E-02	2.091E-04	1.557E-01
NP-237	4.010E+04	4.102E-04	1.850E-01	1.101E-03	1.012E+00
U-234	4.010E+04	1.813E-04	3.478E-02	7.136E-07	3.439E-04
U-236	0.000E+00	1.739E-04	3.219E-02	4.508E-07	1.781E-04
U-235	4.010E+04	1.752E-04	3.145E-02	8.074E-04	6.918E-01
TH-230	4.010E+03	7.770E-04	3.700E-01	1.729E-06	1.071E-03
U-233	0.000E+00	1.887E-04	3.552E-02	1.659E-06	1.265E-03
PA-231	0.000E+00	2.627E-03	5.180E-01	1.834E-04	1.762E-01
TH-232	4.010E+03	8.510E-04	4.070E-01	8.456E-07	4.560E-04
RA-226	0.000E+00	1.037E-03	3.526E-02	9.769E-03	1.060E+01
TH-229	0.000E+00	2.269E-03	9.481E-01	1.624E-03	1.480E+00
RA-228	0.000E+00	2.555E-03	5.929E-02	5.240E-03	5.662E+00
AC-227	0.000E+00	4.473E-03	2.104E+00	2.034E-03	1.869E+00
TH-228	4.010E+03	5.301E-04	1.614E-01	8.921E-03	9.672E+00
PB-210	0.000E+00	2.558E-03	2.106E-02	3.534E-05	7.457E-03
PO-210	0.000E+00	4.440E-03	1.591E-02	4.544E-08	4.934E-05

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:53:57 Page: 5 **

Title : RESRAD-BUILD Baghouse worker

Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\baghouse-worker-rev.bld

CS-137	4.010E+03	4.810E-05	1.443E-04	2.981E-03	3.201E+00
TC-99	4.010E+04	2.368E-06	4.810E-05	3.352E-06	1.086E-04

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:53:57 Page: 6 **

Title : RESRAD-BUILD Baghouse worker

Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\baghouse-worker-rev.bld

Evaluation Time: 0.00000000E+00 years

Assessment for Time: 1
Time =0.00E+00 yr

Source Information

Source: 1

Location:: Room : 1 x: 0.00 y: 0.00 z: 0.00 [m]
 Geometry:: Type: Volume Area:3.63E-01 [m2] Direction: z
 Pathway ::
 Direct Ingestion Rate : 0.000E+00 [gm/hr]
 Fraction released to air: 0.000E+00

Containment :: Number of Regions: 1 Contaminated Region: 1
 Region : 1
 Thickness [cm] :1.00E+02
 Fraction Contaminated :1.00E+00
 Density [g/cm3] :1.40E+00

Contamination::	Nuclide	Concentration [pCi/g]
	PU-238	4.010E+03
	AM-241	4.010E+03
	PU-240	4.010E+03
	PU-239	4.010E+03
	U-238	4.010E+04
	NP-237	4.010E+04
	U-234	4.010E+04
	U-236	0.000E+00
	U-235	4.010E+04
	TH-230	4.010E+03
	U-233	0.000E+00
	PA-231	0.000E+00
	TH-232	4.010E+03
	RA-226	0.000E+00
	TH-229	0.000E+00
	RA-228	0.000E+00
	AC-227	0.000E+00
	TH-228	4.010E+03
	PB-210	0.000E+00

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:53:57 Page: 7 **
 Title : RESRAD-BUILD Baghouse worker
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\baghouse-worker-rev.bld
 Evaluation Time: 0.00000000E+00 years

PO-210	0.000E+00
CS-137	4.010E+03
TC-99	4.010E+04

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:53:57 Page: 8 **
 Title : RESRAD-BUILD Baghouse worker
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\baghouse-worker-rev.bld
 Evaluation Time: 0.00000000E+00 years

RESRAD-BUILD Dose Tables

Source Contributions to Receptor Doses

[mrem]

	Source	Total
	1	
Receptor 1	2.83E+00	2.83E+00
Total	2.83E+00	2.83E+00

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:53:57 Page: 9 **
 Title : RESRAD-BUILD Baghouse worker
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\baghouse-worker-rev.bld
 Evaluation Time: 0.00000000E+00 years

Pathway Detail of Doses

[mrem]

Source: 1

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.83E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total	2.83E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:53:57 Page: 10 **
 Title : RESRAD-BUILD Baghouse worker
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\baghouse-worker-rev.bld
 Evaluation Time: 0.00000000E+00 years

Nuclide Detail of Doses

[mrem]

Source: 1

Nuclide	Receptor	Total
	1	
PU-238	1.10E-05	1.10E-05
U-234	4.30E-11	4.30E-11
TH-230	3.98E-16	3.98E-16
RA-226	4.43E-16	4.43E-16
PB-210	1.77E-21	1.77E-21
PO-210	3.15E-24	3.15E-24
AM-241	3.19E-03	3.19E-03
NP-237	1.58E-08	1.58E-08
U-233	2.81E-17	2.81E-17
TH-229	7.69E-19	7.69E-19
PU-240	1.06E-05	1.06E-05
U-236	2.38E-13	2.38E-13
TH-232	9.53E-24	9.53E-24
RA-228	3.75E-21	3.75E-21
TH-228	4.20E-22	4.20E-22
PU-239	2.52E-05	2.52E-05
U-235	3.22E-11	3.22E-11
PA-231	5.97E-17	5.97E-17
AC-227	4.91E-18	4.91E-18
U-238	1.43E-01	1.43E-01
U-234	4.31E-10	4.31E-10
TH-230	3.98E-15	3.98E-15
RA-226	4.43E-15	4.43E-15
PB-210	1.77E-20	1.77E-20
PO-210	3.15E-23	3.15E-23
NP-237	9.76E-01	9.76E-01
U-233	2.60E-09	2.60E-09
TH-229	9.51E-11	9.51E-11
U-234	3.05E-04	3.05E-04
TH-230	4.23E-09	4.23E-09
RA-226	6.27E-09	6.27E-09
PB-210	3.12E-14	3.12E-14
PO-210	6.44E-17	6.44E-17

U-235	6.54E-01	6.54E-01
PA-231	1.82E-06	1.82E-06
AC-227	1.99E-07	1.99E-07
TH-230	9.40E-05	9.40E-05
RA-226	2.09E-04	2.09E-04
PB-210	1.39E-09	1.39E-09
PO-210	3.40E-12	3.40E-12
TH-232	3.93E-05	3.93E-05
RA-228	3.05E-02	3.05E-02
TH-228	5.56E-03	5.56E-03

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:53:57 Page: 11 **
 Title : RESRAD-BUILD Baghouse worker
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\baghouse-worker-rev.bld
 Evaluation Time: 0.00000000E+00 years

TH-228	7.21E-01	7.21E-01
CS-137	3.00E-01	3.00E-01
TC-99	9.77E-05	9.77E-05

** RESRAD-BUILD Dose Program Output, Version 3.8.7.0 Beta 06/05/20 09:53:57 Page: 12 **
 Title : RESRAD-BUILD Baghouse worker
 Input File : C:\RESRAD_Family\BUILD\3.8.7.0_beta\baghouse-worker-rev.bld
 Full Summary

RESRAD-BUILD Dose (Time) Tables

Receptor Dose Received for the Exposure Duration
 (mrem)

	Evaluation Time [yr]
	0.00E+00
1	2.83E+00

Receptor Dose/Yr Averaged Over Exposure Duration
 (mrem/yr)

	Evaluation Time [yr]
	0.00E+00
1	2.84E+00

Note: The Receptor 1 dose for an individual radionuclide from Source 1 gives the incinerator baghouse worker/processor external dose in a year (Table 5 in the main report).

APPENDIX B:
**RESRAD-OFFSITE RUN RESULTS FOR NON-INVOLVED WORKER,
INCINERATOR NEIGHBOR, AND LANDFILL NEIGHBOR SCENARIOS**

RESRAD-OFFSITE code was used to analyze the non-involved worker, incinerator neighbor, and landfill neighbor scenarios. The results are provided in this appendix in the form of reports generated from different scenario runs from RESRAD-OFFSITE code.

B.1 RESRAD-OFFSITE RESULTS FOR THE INCINERATOR NEIGHBOR SCENARIO

To run the non-involved worker scenario, the AIRFLUXIN.DAT file was changed to match the estimated radionuclide's yearly release rate from the Aragonite incinerator.

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Parent Dose Report
Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

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Parent Dose Report
Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Dose Conversion Factor (and Related) Parameter Summary

Current Library: ICRP 60
Default Library: ICRP 60

0 Menu	Parameter	Current Value	Default	Parameter Name
DCSF	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
DCSF	Ac-225 (Source: ICRP 60)	5.775E-02	5.775E-02	DCFEXT(1)
DCSF	Ac-227 (Source: ICRP 60)	4.485E-04	4.485E-04	DCFEXT(2)
DCSF	Ac-228 (Source: ICRP 60)	5.662E+00	5.662E+00	DCFEXT(3)
DCSF	Am-241 (Source: ICRP 60)	3.719E-02	3.719E-02	DCFEXT(4)
DCSF	At-217 (Source: ICRP 60)	1.654E-03	1.654E-03	DCFEXT(5)
DCSF	At-218 (Source: ICRP 60)	4.878E-03	4.878E-03	DCFEXT(6)

DCSF	Ba-137m	(Source: ICRP 60)	3.383E+00	3.383E+00	DCFEXT (7)
DCSF	Bi-210	(Source: ICRP 60)	5.476E-03	5.476E-03	DCFEXT (8)
DCSF	Bi-211	(Source: ICRP 60)	2.373E-01	2.373E-01	DCFEXT (9)
DCSF	Bi-212	(Source: ICRP 60)	1.114E+00	1.114E+00	DCFEXT (10)
DCSF	Bi-213	(Source: ICRP 60)	7.158E-01	7.158E-01	DCFEXT (11)
DCSF	Bi-214	(Source: ICRP 60)	9.325E+00	9.325E+00	DCFEXT (12)
DCSF	Cs-137	(Source: ICRP 60)	8.372E-04	8.372E-04	DCFEXT (13)
DCSF	Fr-221	(Source: ICRP 60)	1.413E-01	1.413E-01	DCFEXT (14)
DCSF	Fr-223	(Source: ICRP 60)	1.813E-01	1.813E-01	DCFEXT (15)
DCSF	Np-237	(Source: ICRP 60)	6.971E-02	6.971E-02	DCFEXT (16)
DCSF	Pa-231	(Source: ICRP 60)	1.762E-01	1.762E-01	DCFEXT (17)
DCSF	Pa-233	(Source: ICRP 60)	9.419E-01	9.419E-01	DCFEXT (18)
DCSF	Pa-234	(Source: ICRP 60)	1.088E+01	1.088E+01	DCFEXT (19)
DCSF	Pa-234m	(Source: ICRP 60)	9.867E-02	9.867E-02	DCFEXT (20)
DCSF	Pb-209	(Source: ICRP 60)	7.550E-04	7.550E-04	DCFEXT (21)
DCSF	Pb-210	(Source: ICRP 60)	1.981E-03	1.981E-03	DCFEXT (22)
DCSF	Pb-211	(Source: ICRP 60)	2.915E-01	2.915E-01	DCFEXT (23)
DCSF	Pb-212	(Source: ICRP 60)	6.466E-01	6.466E-01	DCFEXT (24)
DCSF	Pb-214	(Source: ICRP 60)	1.243E+00	1.243E+00	DCFEXT (25)
DCSF	Po-210	(Source: ICRP 60)	4.934E-05	4.934E-05	DCFEXT (26)
DCSF	Po-211	(Source: ICRP 60)	4.485E-02	4.485E-02	DCFEXT (27)
DCSF	Po-212	(Source: ICRP 60)	0.000E+00	0.000E+00	DCFEXT (28)
DCSF	Po-213	(Source: ICRP 60)	0.000E+00	0.000E+00	DCFEXT (29)
DCSF	Po-214	(Source: ICRP 60)	4.840E-04	4.840E-04	DCFEXT (30)
DCSF	Po-215	(Source: ICRP 60)	9.456E-04	9.456E-04	DCFEXT (31)
DCSF	Po-216	(Source: ICRP 60)	9.830E-05	9.830E-05	DCFEXT (32)
DCSF	Po-218	(Source: ICRP 60)	5.326E-05	5.326E-05	DCFEXT (33)
DCSF	Pu-238	(Source: ICRP 60)	1.166E-04	1.166E-04	DCFEXT (34)
DCSF	Pu-239	(Source: ICRP 60)	2.635E-04	2.635E-04	DCFEXT (35)
DCSF	Pu-240	(Source: ICRP 60)	1.129E-04	1.129E-04	DCFEXT (36)
DCSF	Ra-223	(Source: ICRP 60)	5.532E-01	5.532E-01	DCFEXT (37)
DCSF	Ra-224	(Source: ICRP 60)	4.728E-02	4.728E-02	DCFEXT (38)
DCSF	Ra-225	(Source: ICRP 60)	8.634E-03	8.634E-03	DCFEXT (39)
DCSF	Ra-226	(Source: ICRP 60)	2.915E-02	2.915E-02	DCFEXT (40)
DCSF	Ra-228	(Source: ICRP 60)	0.000E+00	0.000E+00	DCFEXT (41)
DCSF	Rn-219	(Source: ICRP 60)	2.859E-01	2.859E-01	DCFEXT (42)
DCSF	Rn-220	(Source: ICRP 60)	2.130E-03	2.130E-03	DCFEXT (43)
DCSF	Rn-222	(Source: ICRP 60)	2.186E-03	2.186E-03	DCFEXT (44)

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

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

Current Library: ICRP 60

Default Library: ICRP 60

0 Menu	Parameter	Current Value	Default	Parameter Name
DCSF	Tc-99 (Source: ICRP 60)	1.086E-04	1.086E-04	DCFEXT (45)
DCSF	Th-227 (Source: ICRP 60)	4.803E-01	4.803E-01	DCFEXT (46)

DCSF	Th-228	(Source: ICRP 60)	7.176E-03	7.176E-03	DCFEXT (47)
DCSF	Th-229	(Source: ICRP 60)	2.897E-01	2.897E-01	DCFEXT (48)
DCSF	Th-230	(Source: ICRP 60)	1.071E-03	1.071E-03	DCFEXT (49)
DCSF	Th-231	(Source: ICRP 60)	3.214E-02	3.214E-02	DCFEXT (50)
DCSF	Th-232	(Source: ICRP 60)	4.560E-04	4.560E-04	DCFEXT (51)
DCSF	Th-234	(Source: ICRP 60)	2.130E-02	2.130E-02	DCFEXT (52)
DCSF	Tl-207	(Source: ICRP 60)	2.299E-02	2.299E-02	DCFEXT (53)
DCSF	Tl-208	(Source: ICRP 60)	2.186E+01	2.186E+01	DCFEXT (54)
DCSF	Tl-209	(Source: ICRP 60)	1.226E+01	1.226E+01	DCFEXT (55)
DCSF	Tl-210	(Source: ICRP 60)	1.661E+01	1.661E+01	DCFEXT (56)
DCSF	U-233	(Source: ICRP 60)	1.265E-03	1.265E-03	DCFEXT (57)
DCSF	U-234	(Source: ICRP 60)	3.439E-04	3.439E-04	DCFEXT (58)
DCSF	U-235	(Source: ICRP 60)	6.597E-01	6.597E-01	DCFEXT (59)
DCSF	U-236	(Source: ICRP 60)	1.781E-04	1.781E-04	DCFEXT (60)
DCSF	U-238	(Source: ICRP 60)	7.961E-05	7.961E-05	DCFEXT (61)

Current Library: ICRP 72 (Adult)

Default Library: ICRP 72 (Adult)

0 Menu	Parameter	Current Value	Default	Parameter Name
DCSF	Dose conversion factors for inhalation, mrem/pCi:			
DCSF	Ac-227+D	2.104E+00	2.104E+00	DCF2 (1)
DCSF	Am-241	3.552E-01	3.552E-01	DCF2 (2)
DCSF	Cs-137+D	1.443E-04	1.443E-04	DCF2 (3)
DCSF	Np-237+D	1.850E-01	1.850E-01	DCF2 (4)
DCSF	Pa-231	5.180E-01	5.180E-01	DCF2 (5)
DCSF	Pb-210+D	2.106E-02	2.106E-02	DCF2 (6)
DCSF	Po-210	1.591E-02	1.591E-02	DCF2 (7)
DCSF	Pu-238	4.070E-01	4.070E-01	DCF2 (8)
DCSF	Pu-239	4.440E-01	4.440E-01	DCF2 (10)
DCSF	Pu-240	4.440E-01	4.440E-01	DCF2 (11)
DCSF	Ra-226+D	3.526E-02	3.526E-02	DCF2 (13)
DCSF	Ra-228+D	5.929E-02	5.929E-02	DCF2 (14)
DCSF	Tc-99	4.810E-05	4.810E-05	DCF2 (15)
DCSF	Th-228+D	1.614E-01	1.614E-01	DCF2 (16)
DCSF	Th-229+D	9.481E-01	9.481E-01	DCF2 (17)
DCSF	Th-230	3.700E-01	3.700E-01	DCF2 (18)
DCSF	Th-232	4.070E-01	4.070E-01	DCF2 (19)
DCSF	U-233	3.552E-02	3.552E-02	DCF2 (20)
DCSF	U-234	3.478E-02	3.478E-02	DCF2 (21)

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

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

Current Library: ICRP 72 (Adult)

Default Library: ICRP 72 (Adult)

0	Current	Parameter
---	---------	-----------

Menu	Parameter	Value	Default	Name
DCSF	U-235+D	3.145E-02	3.145E-02	DCF2 (22)
DCSF	U-236	3.219E-02	3.219E-02	DCF2 (23)
DCSF	U-238	2.960E-02	2.960E-02	DCF2 (24)
DCSF	U-238+D	2.963E-02	2.963E-02	DCF2 (25)
DCSF	Dose conversion factors for ingestion, mrem/pCi:			
DCSF	Ac-227+D	4.473E-03	4.473E-03	DCF3 (1)
DCSF	Am-241	7.400E-04	7.400E-04	DCF3 (2)
DCSF	Cs-137+D	4.810E-05	4.810E-05	DCF3 (3)
DCSF	Np-237+D	4.102E-04	4.102E-04	DCF3 (4)
DCSF	Pa-231	2.627E-03	2.627E-03	DCF3 (5)
DCSF	Pb-210+D	2.558E-03	2.558E-03	DCF3 (6)
DCSF	Po-210	4.440E-03	4.440E-03	DCF3 (7)
DCSF	Pu-238	8.510E-04	8.510E-04	DCF3 (8)
DCSF	Pu-239	9.250E-04	9.250E-04	DCF3 (10)
DCSF	Pu-240	9.250E-04	9.250E-04	DCF3 (11)
DCSF	Ra-226+D	1.037E-03	1.037E-03	DCF3 (13)
DCSF	Ra-228+D	2.555E-03	2.555E-03	DCF3 (14)
DCSF	Tc-99	2.368E-06	2.368E-06	DCF3 (15)
DCSF	Th-228+D	5.301E-04	5.301E-04	DCF3 (16)
DCSF	Th-229+D	2.269E-03	2.269E-03	DCF3 (17)
DCSF	Th-230	7.770E-04	7.770E-04	DCF3 (18)
DCSF	Th-232	8.510E-04	8.510E-04	DCF3 (19)
DCSF	U-233	1.887E-04	1.887E-04	DCF3 (20)
DCSF	U-234	1.813E-04	1.813E-04	DCF3 (21)
DCSF	U-235+D	1.752E-04	1.752E-04	DCF3 (22)
DCSF	U-236	1.739E-04	1.739E-04	DCF3 (23)
DCSF	U-238	1.665E-04	1.665E-04	DCF3 (24)
DCSF	U-238+D	1.791E-04	1.791E-04	DCF3 (25)

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

Menu	Parameter	Current Value	Default	Parameter Name
TF	Soil to plant transfer factors:			
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,1)
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,2)
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,3)
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,4)
TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,1)
TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,2)

TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,3)
TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,4)
TF				
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,1)
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,2)
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,3)
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,4)
TF				
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,1)
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,2)
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,3)
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,4)
TF				
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,1)
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,2)
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,3)
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,4)
TF				
TF	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,1)
TF	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,2)
TF	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,3)
TF	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,4)
TF				
TF	Po-210 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
TF	Po-210 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,2)
TF	Po-210 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,3)
TF	Po-210 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,4)
TF				
TF	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,1)
TF	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,2)
TF	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,3)
TF	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,4)
TF				
TF	Pu-239 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,1)
TF	Pu-239 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,2)
TF	Pu-239 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,3)
TF	Pu-239 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,4)

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,1)
TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,2)
TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,3)

TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,4)
TF				
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,1)
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,2)
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,3)
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,4)
TF				
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,1)
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,2)
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,3)
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,4)
TF				
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,1)
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,2)
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,3)
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,4)
TF				
TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,1)
TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,2)
TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,3)
TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,4)
TF				
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,1)
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,2)
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,3)
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,4)
TF				
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,1)
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,2)
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,3)
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,4)
TF				
TF	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,1)
TF	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,2)
TF	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,3)
TF	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,4)
TF				
TF	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,1)
TF	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,2)
TF	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,3)
TF	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,4)
TF				

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0		Current		Parameter
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Menu	Parameter	Value	Default	Name
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,1)
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,2)
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,3)
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,4)
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,1)
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,2)
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,3)
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,4)
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,1)
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,2)
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,3)
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,4)
TF	U-238 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,1)
TF	U-238 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,2)
TF	U-238 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,3)
TF	U-238 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,4)
TF	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,1)
TF	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,2)
TF	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,3)
TF	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,4)
TF	intake to meat/milk transfer factors:			
TF	Ac-227+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	2.000E-05	2.000E-05	I_M(1,1)
TF	Ac-227+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	2.000E-05	2.000E-05	I_M(1,2)
TF	Am-241 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	5.000E-05	5.000E-05	I_M(2,1)
TF	Am-241 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	2.000E-06	2.000E-06	I_M(2,2)
TF	Cs-137+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.000E-02	3.000E-02	I_M(3,1)
TF	Cs-137+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	8.000E-03	8.000E-03	I_M(3,2)
TF	Np-237+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-03	1.000E-03	I_M(4,1)
TF	Np-237+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(4,2)
TF	Pa-231 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	5.000E-03	5.000E-03	I_M(5,1)
TF	Pa-231 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(5,2)
TF	Pb-210+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	8.000E-04	8.000E-04	I_M(6,1)
TF	Pb-210+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	3.000E-04	3.000E-04	I_M(6,2)
TF				

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	Po-210 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	5.000E-03	5.000E-03	I_M(7,1)
TF	Po-210 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	3.400E-04	3.400E-04	I_M(7,2)
TF				
TF	Pu-238 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(8,1)
TF	Pu-238 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-06	1.000E-06	I_M(8,2)
TF				
TF	Pu-239 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(10,1)
TF	Pu-239 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-06	1.000E-06	I_M(10,2)
TF				
TF	Pu-240 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(11,1)
TF	Pu-240 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-06	1.000E-06	I_M(11,2)
TF				
TF	Ra-226+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-03	1.000E-03	I_M(13,1)
TF	Ra-226+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-03	1.000E-03	I_M(13,2)
TF				
TF	Ra-228+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-03	1.000E-03	I_M(14,1)
TF	Ra-228+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-03	1.000E-03	I_M(14,2)
TF				
TF	Tc-99 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(15,1)
TF	Tc-99 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-03	1.000E-03	I_M(15,2)
TF				
TF	Th-228+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(16,1)
TF	Th-228+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(16,2)
TF				
TF	Th-229+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(17,1)
TF	Th-229+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(17,2)
TF				
TF	Th-230 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(18,1)
TF	Th-230 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(18,2)
TF				
TF	Th-232 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(19,1)
TF	Th-232 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(19,2)
TF				
TF	U-233 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(20,1)
TF	U-233 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(20,2)
TF				
TF	U-234 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(21,1)
TF	U-234 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(21,2)
TF				
TF	U-235+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(22,1)
TF	U-235+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(22,2)
TF				
TF	U-236 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(23,1)
TF	U-236 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(23,2)
TF				

Dose Conversion Factor (and Related) Parameter Summary (continued)
 Current Library: RESRAD Default Transfer factors
 Default Library: RESRAD Default Transfer factors

Menu	Parameter	Current Value	Default	Parameter Name
TF	U-238 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(24,1)
TF	U-238 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(24,2)
TF				
TF	U-238+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(25,1)
TF	U-238+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(25,2)
TF				
TF	Bioaccumulation factors, fresh water, L/kg:			
TF	Ac-227+D , fish	1.500E+01	1.500E+01	BIOFA(1,1)
TF	Ac-227+D , crustacea and mollusks	1.000E+03	1.000E+03	BIOFA(1,2)
TF				
TF	Am-241 , fish	3.000E+01	3.000E+01	BIOFA(2,1)
TF	Am-241 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFA(2,2)
TF				
TF	Cs-137+D , fish	2.000E+03	2.000E+03	BIOFA(3,1)
TF	Cs-137+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(3,2)
TF				
TF	Np-237+D , fish	3.000E+01	3.000E+01	BIOFA(4,1)
TF	Np-237+D , crustacea and mollusks	4.000E+02	4.000E+02	BIOFA(4,2)
TF				
TF	Pa-231 , fish	1.000E+01	1.000E+01	BIOFA(5,1)
TF	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFA(5,2)
TF				
TF	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFA(6,1)
TF	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(6,2)
TF				
TF	Po-210 , fish	1.000E+02	1.000E+02	BIOFA(7,1)
TF	Po-210 , crustacea and mollusks	2.000E+04	2.000E+04	BIOFA(7,2)
TF				
TF	Pu-238 , fish	3.000E+01	3.000E+01	BIOFA(8,1)
TF	Pu-238 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(8,2)
TF				
TF	Pu-239 , fish	3.000E+01	3.000E+01	BIOFA(10,1)
TF	Pu-239 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(10,2)
TF				
TF	Pu-240 , fish	3.000E+01	3.000E+01	BIOFA(11,1)
TF	Pu-240 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(11,2)
TF				
TF	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFA(13,1)
TF	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFA(13,2)
TF				

TF	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFA (14,1)
TF	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFA (14,2)
TF				
TF	Tc-99 , fish	2.000E+01	2.000E+01	BIOFA (15,1)
TF	Tc-99 , crustacea and mollusks	5.000E+00	5.000E+00	BIOFA (15,2)

RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days 06/11/2020 11:39 Page 10

Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

Menu	Parameter	Current Value	Default	Parameter Name
TF	Th-228+D , fish	1.000E+02	1.000E+02	BIOFA (16,1)
TF	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA (16,2)
TF				
TF	Th-229+D , fish	1.000E+02	1.000E+02	BIOFA (17,1)
TF	Th-229+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA (17,2)
TF				
TF	Th-230 , fish	1.000E+02	1.000E+02	BIOFA (18,1)
TF	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA (18,2)
TF				
TF	Th-232 , fish	1.000E+02	1.000E+02	BIOFA (19,1)
TF	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA (19,2)
TF				
TF	U-233 , fish	1.000E+01	1.000E+01	BIOFA (20,1)
TF	U-233 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (20,2)
TF				
TF	U-234 , fish	1.000E+01	1.000E+01	BIOFA (21,1)
TF	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (21,2)
TF				
TF	U-235+D , fish	1.000E+01	1.000E+01	BIOFA (22,1)
TF	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (22,2)
TF				
TF	U-236 , fish	1.000E+01	1.000E+01	BIOFA (23,1)
TF	U-236 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (23,2)
TF				
TF	U-238 , fish	1.000E+01	1.000E+01	BIOFA (24,1)
TF	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (24,2)
TF				
TF	U-238+D , fish	1.000E+01	1.000E+01	BIOFA (25,1)
TF	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (25,2)

RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days 06/11/2020 11:39 Page 11

Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Site-Specific Parameter Summary					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
FSTI	Exposure duration for risk	3.000E+01	3.000E+01	---	ED
FSTI	Basic radiation dose limit (mrem/yr)	2.500E+01	2.500E+01	---	BRDL
RELT	1st release time (years)	0.000E+00		---	RelTime (1)
CONC	Initial concentration of Am-241 (pCi/g)	3.000E+00	0.000E+00	---	S1 (2)
CONC	Initial concentration of Cs-137 (pCi/g)	3.000E+00	0.000E+00	---	S1 (3)
CONC	Initial concentration of Np-237 (pCi/g)	3.000E+01	0.000E+00	---	S1 (4)
CONC	Initial concentration of Pu-238 (pCi/g)	3.000E+00	0.000E+00	---	S1 (8)
CONC	Initial concentration of Pu-239 (pCi/g)	3.000E+00	0.000E+00	---	S1 (10)
CONC	Initial concentration of Pu-240 (pCi/g)	3.000E+00	0.000E+00	---	S1 (11)
CONC	Initial concentration of Tc-99 (pCi/g)	3.000E+01	0.000E+00	---	S1 (15)
CONC	Initial concentration of Th-228 (pCi/g)	3.000E+00	0.000E+00	---	S1 (16)
CONC	Initial concentration of Th-230 (pCi/g)	3.000E+00	0.000E+00	---	S1 (18)
CONC	Initial concentration of Th-232 (pCi/g)	3.000E+00	0.000E+00	---	S1 (19)
CONC	Initial concentration of U-234 (pCi/g)	3.000E+01	0.000E+00	---	S1 (21)
CONC	Initial concentration of U-235 (pCi/g)	3.000E+01	0.000E+00	---	S1 (22)
CONC	Initial concentration of U-238 (pCi/g)	3.000E+01	0.000E+00	---	S1 (24)
VDEP	Deposition velocity of Ac-227 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (1)
VDEP	Dep. velocity of Ac-227 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (1)
VDEP	Deposition velocity of Am-241 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (2)
VDEP	Dep. velocity of Am-241 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (2)
VDEP	Deposition velocity of Cs-137 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (3)
VDEP	Dep. velocity of Cs-137 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (3)
VDEP	Deposition velocity of Np-237 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (4)
VDEP	Dep. velocity of Np-237 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (4)
VDEP	Deposition velocity of Pa-231 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (5)
VDEP	Dep. velocity of Pa-231 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (5)
VDEP	Deposition velocity of Pb-210 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (6)
VDEP	Dep. velocity of Pb-210 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (6)
VDEP	Deposition velocity of Po-210 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (7)
VDEP	Dep. velocity of Po-210 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (7)
VDEP	Deposition velocity of Pu-238 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (8)
VDEP	Dep. velocity of Pu-238 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (8)
VDEP	Deposition velocity of Pu-239 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (10)
VDEP	Dep. velocity of Pu-239 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (10)
VDEP	Deposition velocity of Pu-240 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (11)
VDEP	Dep. velocity of Pu-240 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (11)
VDEP	Deposition velocity of Ra-226 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (13)
VDEP	Dep. velocity of Ra-226 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (13)
VDEP	Deposition velocity of Ra-228 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (14)
VDEP	Dep. velocity of Ra-228 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (14)
VDEP	Deposition velocity of Tc-99 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (15)
VDEP	Dep. velocity of Tc-99 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (15)
VDEP	Deposition velocity of Th-228 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (16)
VDEP	Dep. velocity of Th-228 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (16)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
VDEP	Deposition velocity of Th-229 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (17)
VDEP	Dep. velocity of Th-229 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (17)
VDEP	Deposition velocity of Th-230 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (18)
VDEP	Dep. velocity of Th-230 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (18)
VDEP	Deposition velocity of Th-232 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (19)
VDEP	Dep. velocity of Th-232 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (19)
VDEP	Deposition velocity of U-233 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (20)
VDEP	Dep. velocity of U-233 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (20)
VDEP	Deposition velocity of U-234 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (21)
VDEP	Dep. velocity of U-234 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (21)
VDEP	Deposition velocity of U-235 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (22)
VDEP	Dep. velocity of U-235 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (22)
VDEP	Deposition velocity of U-236 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (23)
VDEP	Dep. velocity of U-236 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (23)
VDEP	Deposition velocity of U-238 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (24)
VDEP	Dep. velocity of U-238 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (24)
DCLR	Distribution coefficients for Am-241				
DCLR	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC (2)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCU (2,1)
DCLR	Saturated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCS (2)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWB (2)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWS (2)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (2,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (2,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (2,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (2,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCDWE (2)
DCLR	Leach rate constant of Am-241 (/yr)	0.000E+00	0.000E+00	8.245E-03	Rleach (1,2)
DCLR	Distribution coefficients for Cs-137				
DCLR	Contaminated zone (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCC (3)
DCLR	Unsaturated zone 1 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCU (3,1)
DCLR	Saturated zone (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCS (3)
DCLR	Bottom sediment in surface water body (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCSWB (3)
DCLR	Suspended sediment in surface water body (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCSWS (3)
DCLR	Agricultural area 1 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF (3,1)
DCLR	Agricultural area 2 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF (3,2)
DCLR	Agricultural area 3 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF (3,3)
DCLR	Agricultural area 4 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF (3,4)
DCLR	Offsite Dwelling (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCDWE (3)
DCLR	Leach rate constant of Cs-137 (/yr)	0.000E+00	0.000E+00	3.623E-05	Rleach (1,3)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for Np-237				
DCLR	Contaminated zone (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCC (4)
DCLR	Unsaturated zone 1 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCU (4,1)
DCLR	Saturated zone (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCS (4)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCSWB (4)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCSWS (4)
DCLR	Agricultural area 1 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF (4,1)
DCLR	Agricultural area 2 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF (4,2)
DCLR	Agricultural area 3 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF (4,3)
DCLR	Agricultural area 4 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF (4,4)
DCLR	Offsite Dwelling (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCDWE (4)
DCLR	Leach rate constant of Np-237 (/yr)	0.000E+00	0.000E+00	6.480E-04	Rleach (1,4)
DCLR	Distribution coefficients for Pu-238				
DCLR	Contaminated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCC (8)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCU (8,1)
DCLR	Saturated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCS (8)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWB (8)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWS (8)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (8,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (8,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (8,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (8,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCDWE (8)
DCLR	Leach rate constant of Pu-238 (/yr)	0.000E+00	0.000E+00	8.332E-05	Rleach (1,8)
DCLR	Distribution coefficients for Pu-239				
DCLR	Contaminated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCC (10)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCU (10,1)
DCLR	Saturated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCS (10)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWB (10)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWS (10)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (10,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (10,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (10,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (10,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCDWE (10)
DCLR	Leach rate constant of Pu-239 (/yr)	0.000E+00	0.000E+00	8.332E-05	Rleach (1,10)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for Pu-240				
DCLR	Contaminated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCC (11)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCU (11,1)
DCLR	Saturated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCS (11)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWB (11)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWS (11)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (11,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (11,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (11,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (11,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCDWE (11)
DCLR	Leach rate constant of Pu-240 (/yr)	0.000E+00	0.000E+00	8.332E-05	Rleach (1,11)
DCLR	Distribution coefficients for Tc-99				
DCLR	Contaminated zone (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCC (15)
DCLR	Unsaturated zone 1 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCU (15,1)
DCLR	Saturated zone (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCS (15)
DCLR	Bottom sediment in surface water body (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCSWB (15)
DCLR	Suspended sediment in surface water body (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCSWS (15)
DCLR	Agricultural area 1 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,1)
DCLR	Agricultural area 2 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,2)
DCLR	Agricultural area 3 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,3)
DCLR	Agricultural area 4 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,4)
DCLR	Offsite Dwelling (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCDWE (15)
DCLR	Leach rate constant of Tc-99 (/yr)	0.000E+00	0.000E+00	7.790E-01	Rleach (1,15)
DCLR	Distribution coefficients for Th-228				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (16)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (16,1)
DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (16)
DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (16)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (16)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (16)
DCLR	Leach rate constant of Th-228 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,16)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
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DCLR	Distribution coefficients for Th-230				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (18)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (18,1)
DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (18)
DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (18)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (18)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (18)
DCLR	Leach rate constant of Th-230 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,18)
DCLR	Distribution coefficients for Th-232				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (19)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (19,1)
DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (19)
DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (19)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (19)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (19)
DCLR	Leach rate constant of Th-232 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,19)
DCLR	Distribution coefficients for U-234				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (21)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (21,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (21)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (21)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (21)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (21)
DCLR	Leach rate constant of U-234 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,21)

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0		User		RESRAD	
Menu	Parameter	Input	Default	computed	Parameter Name
DCLR	Distribution coefficients for U-235				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (22)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (22,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (22)

DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (22)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (22)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (22)
DCLR	Leach rate constant of U-235 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,22)
DCLR	Distribution coefficients for U-238				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (24)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (24,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (24)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (24)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (24)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (24)
DCLR	Leach rate constant of U-238 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,24)
DCLR	Distribution coefficients for progeny Ac-227				
DCLR	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC (1)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCU (1,1)
DCLR	Saturated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCS (1)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWB (1)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWS (1)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCDWE (1)
DCLR	Leach rate constant of Ac-227 (/yr)	0.000E+00	0.000E+00	8.245E-03	Rleach (1,1)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for progeny Pa-231				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (5)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (5,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (5)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (5)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (5)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,2)

DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (5)
DCLR	Leach rate constant of Pa-231 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach(1,5)
DCLR	Distribution coefficients for progeny Pb-210				
DCLR	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC (6)
DCLR	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU (6,1)
DCLR	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS (6)
DCLR	Bottom sediment in surface water body (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCSWB (6)
DCLR	Suspended sediment in surface water body (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCSWS (6)
DCLR	Agricultural area 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,1)
DCLR	Agricultural area 2 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,2)
DCLR	Agricultural area 3 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,3)
DCLR	Agricultural area 4 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,4)
DCLR	Offsite Dwelling (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCDWE (6)
DCLR	Leach rate constant of Pb-210 (/yr)	0.000E+00	0.000E+00	1.663E-03	Rleach(1,6)
DCLR	Distribution coefficients for progeny Po-210				
DCLR	Contaminated zone (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCC (7)
DCLR	Unsaturated zone 1 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCU (7,1)
DCLR	Saturated zone (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCS (7)
DCLR	Bottom sediment in surface water body (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCSWB (7)
DCLR	Suspended sediment in surface water body (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCSWS (7)
DCLR	Agricultural area 1 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,1)
DCLR	Agricultural area 2 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,2)
DCLR	Agricultural area 3 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,3)
DCLR	Agricultural area 4 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,4)
DCLR	Offsite Dwelling (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCDWE (7)
DCLR	Leach rate constant of Po-210 (/yr)	0.000E+00	0.000E+00	1.632E-02	Rleach(1,7)

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0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for progeny Ra-226				
DCLR	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC (13)
DCLR	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU (13,1)
DCLR	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS (13)
DCLR	Bottom sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWB (13)
DCLR	Suspended sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWS (13)
DCLR	Agricultural area 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,1)
DCLR	Agricultural area 2 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,2)
DCLR	Agricultural area 3 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,3)
DCLR	Agricultural area 4 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,4)
DCLR	Offsite Dwelling (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCDWE (13)
DCLR	Leach rate constant of Ra-226 (/yr)	0.000E+00	0.000E+00	2.374E-03	Rleach(1,13)

DCLR	Distribution coefficients for progeny Ra-228				
DCLR	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC (14)
DCLR	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU (14,1)
DCLR	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS (14)
DCLR	Bottom sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWB (14)
DCLR	Suspended sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWS (14)
DCLR	Agricultural area 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,1)
DCLR	Agricultural area 2 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,2)
DCLR	Agricultural area 3 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,3)
DCLR	Agricultural area 4 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,4)
DCLR	Offsite Dwelling (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCDWE (14)
DCLR	Leach rate constant of Ra-228 (/yr)	0.000E+00	0.000E+00	2.374E-03	Rleach (1,14)
DCLR	Distribution coefficients for progeny Th-229				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (17)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (17,1)
DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (17)
DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (17)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (17)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (17)
DCLR	Leach rate constant of Th-229 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,17)
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Site-Specific Parameter Summary (continued)					
0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for progeny U-233				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (20)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (20,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (20)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (20)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (20)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (20)
DCLR	Leach rate constant of U-233 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,20)
DCLR	Distribution coefficients for progeny U-236				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (23)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (23,1)

DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (23)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (23)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (23)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (23)
DCLR	Leach rate constant of U-236 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,23)
LYOT	Bearing of X axis (clockwise angle N-->X in degrees)	9.000E+01	9.000E+01	---	DNXBEARING
LYOT	Length of Primary contamination in X Direction	1.000E+00	1.000E+02	---	SOURCEXY (1)
LYOT	Length of Primary contamination in Y Direction	1.000E+00	1.000E+02	---	SOURCEXY (2)
LYOT	Smaller X coordinate of Agricultural Area 1	3.438E+01	3.438E+01	---	AGRIX (1,1)
LYOT	Larger X coordinate of Agricultural Area 1	6.562E+01	6.562E+01	---	AGRIX (2,1)
LYOT	Smaller Y coordinate of Agricultural Area 1	2.340E+02	2.340E+02	---	AGRIX (3,1)
LYOT	Larger Y coordinate of Agricultural Area 1	2.660E+02	2.660E+02	---	AGRIX (4,1)
LYOT	Smaller X coordinate of Agricultural Area 2	3.438E+01	3.438E+01	---	AGRIX (1,2)
LYOT	Larger X coordinate of Agricultural Area 2	6.562E+01	6.562E+01	---	AGRIX (2,2)
LYOT	Smaller Y coordinate of Agricultural Area 2	2.680E+02	2.680E+02	---	AGRIX (3,2)
LYOT	Larger Y coordinate of Agricultural Area 2	3.000E+02	3.000E+02	---	AGRIX (4,2)
LYOT	Smaller X coordinate of Agricultural Area 3	0.000E+00	0.000E+00	---	AGRIX (1,3)
LYOT	Larger X coordinate of Agricultural Area 3	1.000E+02	1.000E+02	---	AGRIX (2,3)
LYOT	Smaller Y coordinate of Agricultural Area 3	4.500E+02	4.500E+02	---	AGRIX (3,3)
LYOT	Larger Y coordinate of Agricultural Area 3	5.500E+02	5.500E+02	---	AGRIX (4,3)
LYOT	Smaller X coordinate of Agricultural Area 4	0.000E+00	0.000E+00	---	AGRIX (1,4)
LYOT	Larger X coordinate of Agricultural Area 4	1.000E+02	1.000E+02	---	AGRIX (2,4)
LYOT	Smaller Y coordinate of Agricultural Area 4	3.000E+02	3.000E+02	---	AGRIX (3,4)
LYOT	Larger Y coordinate of Agricultural Area 4	4.000E+02	4.000E+02	---	AGRIX (4,4)
LYOT	Smaller X coordinate of Dwelling Area	-1.512E+01	3.438E+01	---	DWELLXY (1)
LYOT	Larger X coordinate of Dwelling Area	1.612E+01	6.562E+01	---	DWELLXY (2)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
LYOT	Smaller Y coordinate of Dwelling Area	8.500E+02	1.340E+02	---	DWELLXY (3)
LYOT	Larger Y coordinate of Dwelling Area	9.000E+02	1.660E+02	---	DWELLXY (4)
LYOT	Smaller X coordinate of Surface water body	-1.000E+02	-1.000E+02	---	SWXY (1)
LYOT	Larger X coordinate of Surface water body	2.000E+02	2.000E+02	---	SWXY (2)
LYOT	Smaller Y coordinate of Surface water body	5.500E+02	5.500E+02	---	SWXY (3)
LYOT	Larger Y coordinate of Surface water body	8.500E+02	8.500E+02	---	SWXY (4)
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T (1)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T (2)
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T (3)

STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(4)
STOR	Livestock feed - pasture or silage	1.000E+00	1.000E+00	---	STOR_T(5)
STOR	Livestock feed - grain	4.500E+01	4.500E+01	---	STOR_T(6)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(7)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(9)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(10)
TIME	Times at which dose/risk are to be reported (yr)	1.000E+00	1.000E+00	---	T(2)
TIME	Times at which dose/risk are to be reported (yr)	3.000E+00	3.000E+00	---	T(3)
TIME	Times at which dose/risk are to be reported (yr)	6.000E+00	6.000E+00	---	T(4)
TIME	Times at which dose/risk are to be reported (yr)	1.000E+01	1.200E+01	---	T(5)
TIME	Times at which dose/risk are to be reported (yr)	not used	3.000E+01	---	T(6)
TIME	Times at which dose/risk are to be reported (yr)	not used	7.500E+01	---	T(7)
TIME	Times at which dose/risk are to be reported (yr)	not used	1.750E+02	---	T(8)
TIME	Times at which dose/risk are to be reported (yr)	not used	4.200E+02	---	T(9)
TIME	Times at which dose/risk are to be reported (yr)	not used	9.700E+02	---	T(10)
SITE	Precipitation (m/yr)	1.000E+00	1.000E+00	---	PRECIP
SITE	Rainfall Erosion Index	1.600E+02	1.600E+02	---	RAINEROS
PRCZ	Area of primary contamination (m**2)	1.000E+00	1.000E+04	---	AREA
PRCZ	Length parallel to aquifer flow (m)	1.000E+02	1.000E+02	---	LCZPAQ
PRCZ	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
PRCZ	Mass loading of all particulates for release(g/m**3)	1.000E-04	1.000E-04	---	MLFD
PRCZ	DepositionVelocityOfAllParticulates for release(m/s)	1.000E-03	1.000E-03	---	DEPVEL_DUSTT
PRCZ	Respirable particulates as a fraction of total	1.000E+00	1.000E+00	---	RESPFRACPC
PRCZ	DepositionVelocityOfRespirableParticulatesForRe(m/s)	1.000E-03	1.000E-03	---	DEPVEL_DUST
PRCZ	Irrigation (m/yr)	2.000E-01	2.000E-01	---	RI
PRCZ	Evapotranspiration coefficient	5.000E-01	5.000E-01	---	EVAPTR
PRCZ	Runoff coefficient	2.000E-01	2.000E-01	---	RUNOFF
PRCZ	Slope-length-steepness factor of prim. contamination	4.000E-01	4.000E-01	---	SLPLENSTPPC
PRCZ	Cropping-management factor of primary contamination	3.000E-03	3.000E-03	---	CRPMANGPC
PRCZ	Conservation practice factor of prim. contamination	1.000E+00	1.000E+00	---	CONVPACPC
PRCZ	Fraction of primary contamination that is submerged	0.000E+00	0.000E+00	---	SUBMERGEDF
PRCZ	Thickness of primary contamination (m)	2.000E+00	2.000E+00	---	THICK0

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
PRCZ	Soil erodibility factor of contamination (tons/acre)	4.000E-01	4.000E-01	---	ERODIBILITYCZ
PRCZ	Density of primary contamination (g/cm**3)	1.500E+00	1.500E+00	---	DENSCZ
PRCZ	Computed erosion rate of contamination (m/yr)	1.147E-05	1.147E-05	---	VCZ
PRCZ	Total porosity of primary contamination	4.000E-01	4.000E-01	---	TPCZ
PRCZ	Field capacity of primary contamination	3.000E-01	3.000E-01	---	FCCZ
PRCZ	Effective porosity of primary contamination	4.000E-01	4.000E-01	---	EPCZ

PRCZ	Hydraulic conductivity of prime contamination (m/yr)	1.000E+01	1.000E+01	---	HCCZ
PRCZ	b parameter of primary contamination	5.300E+00	5.300E+00	---	BCZ
PRCZ	longitudinal dispersivity of prime contamination (m)	5.000E-02	5.000E-02	---	ALPHALCZ
PRCZ	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
PRCZ	Soil erodibility factor of cover (tons/acre)	not used	4.000E-01	---	ERODIBILITYCV
PRCZ	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
PRCZ	Computed erosion rate of cover material (m/yr)	not used	1.147E-05	---	VCV
PRCZ	Total porosity of the cover material	not used	4.000E-01	---	TPCV
PRCZ	Volumetric water content of the cover material	not used	5.000E-02	---	PH2OCV
PSDR	Sediment Delivery Ratio, SDR				
PSDR	from primary contamination to surface water body	0.000E+00	0.000E+00	---	SDRDWELL
PSDR	from primary contamination to non-leafy veg. field	0.000E+00	0.000E+00	---	SDROF (1)
PSDR	from primary contamination to leafy veg. field	0.000E+00	0.000E+00	---	SDROF (2)
PSDR	from primary contamination to pasture	0.000E+00	0.000E+00	---	SDROF (3)
PSDR	from primary contamination to feed grain field	0.000E+00	0.000E+00	---	SDROF (4)
PSDR	from primary contamination to surface water body	1.000E+00	1.000E+00	---	SDR
AGRI	Areal extent of Agricultural Area 1 (m**2)	1.000E+03	1.000E+03	---	AREAO (1)
AGRI	Fraction of Agri. Area 1 directly over the c.z.	not used	0.000E+00	---	FAREA_PLANT (1)
AGRI	Evapotranspiration coefficient in Agri. Area 1	5.000E-01	5.000E-01	---	EVAPTRN (1)
AGRI	Runoff coefficient in Agricultural Area 1	2.000E-01	2.000E-01	---	RUNOF (1)
AGRI	Mixing depth/plow layer of Agricultural Area 1	1.500E-01	1.500E-01	---	DPTHMIXG (1)
AGRI	Water filled porosity of soil in Agri. Area 1	3.000E-01	3.000E-01	---	TMOF (1)
AGRI	Computed erosion rate of soil in Agri. Area 1	1.147E-05	1.147E-05	---	EROSN (1)
AGRI	Dry Bulk Density of soil in Agricultural Area 1	1.500E+00	1.500E+00	---	RHOB (1)
AGRI	Soil erodibility factor of Agricultural Area 1	4.000E-01	4.000E-01	---	ERODIBILITY (1)
AGRI	Slope-length-steepness factor, Agricultural Area 1	4.000E-01	4.000E-01	---	SLPLENSTP (1)
AGRI	Cropping-management factor of Agricultural Area 1	3.000E-03	3.000E-03	---	CRPMANG (1)
AGRI	Conservation practice factor of Agricultural Area 1	1.000E+00	1.000E+00	---	CONVPAC (1)
AGRI	Total porosity of soil in Agricultural Area 1	not used	4.000E-01	---	TPOF (1)
AGRI	Areal extent of Agricultural Area 2 (m**2)	1.000E+03	1.000E+03	---	AREAO (2)
AGRI	Fraction of Agri. Area 2 directly over the c.z.	not used	0.000E+00	---	FAREA_PLANT (2)
AGRI	Evapotranspiration coefficient in Agri. Area 2	5.000E-01	5.000E-01	---	EVAPTRN (2)
AGRI	Runoff coefficient in Agricultural Area 2	2.000E-01	2.000E-01	---	RUNOF (2)
AGRI	Mixing depth/plow layer of Agricultural Area 2	1.500E-01	1.500E-01	---	DPTHMIXG (2)
AGRI	Water filled porosity of soil in Agri. Area 2	3.000E-01	3.000E-01	---	TMOF (2)
AGRI	Computed erosion rate of soil in Agri. Area 2	1.147E-05	1.147E-05	---	EROSN (2)
AGRI	Dry Bulk Density of soil in Agricultural Area 2	1.500E+00	1.500E+00	---	RHOB (2)
AGRI	Soil erodibility factor of Agricultural Area 2	4.000E-01	4.000E-01	---	ERODIBILITY (2)
AGRI	Slope-length-steepness factor, Agricultural Area 2	4.000E-01	4.000E-01	---	SLPLENSTP (2)

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Site-Specific Parameter Summary (continued)

0	Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
	AGRI	Cropping-management factor of Agricultural Area 2	3.000E-03	3.000E-03	---	CRPMANG (2)

AGRI	Conservation practice factor of Agricultural Area 2	1.000E+00	1.000E+00	---	CONVPRAC (2)
AGRI	Total porosity of soil in Agricultural Area 2	not used	4.000E-01	---	TPOF (2)
AGRI	Areal extent of Agricultural Area 3 (m**2)	1.000E+04	1.000E+04	---	AREAO (3)
AGRI	Fraction of Agri. Area 3 directly over the c.z.	not used	0.000E+00	---	FAREA_PLANT (3)
AGRI	Evapotranspiration coefficient in Agri. Area 3	5.000E-01	5.000E-01	---	EVAPTRN (3)
AGRI	Runoff coefficient in Agricultural Area 3	2.000E-01	2.000E-01	---	RUNOF (3)
AGRI	Mixing depth/plow layer of Agricultural Area 3	1.500E-01	1.500E-01	---	DPTHMIXG (3)
AGRI	Water filled porosity of soil in Agri. Area 3	3.000E-01	3.000E-01	---	TMOF (3)
AGRI	Computed erosion rate of soil in Agri. Area 3	1.147E-05	1.147E-05	---	EROSN (3)
AGRI	Dry Bulk Density of soil in Agricultural Area 3	1.500E+00	1.500E+00	---	RHOB (3)
AGRI	Soil erodibility factor of Agricultural Area 3	4.000E-01	4.000E-01	---	ERODIBILITY (3)
AGRI	Slope-length-steepness factor, Agricultural Area 3	4.000E-01	4.000E-01	---	SLPLENSTP (3)
AGRI	Cropping-management factor of Agricultural Area 3	3.000E-03	3.000E-03	---	CRPMANG (3)
AGRI	Conservation practice factor of Agricultural Area 3	1.000E+00	1.000E+00	---	CONVPRAC (3)
AGRI	Total porosity of soil in Agricultural Area 3	not used	4.000E-01	---	TPOF (3)
AGRI	Areal extent of Agricultural Area 4 (m**2)	1.000E+04	1.000E+04	---	AREAO (4)
AGRI	Fraction of Agri. Area 4 directly over the c.z.	not used	0.000E+00	---	FAREA_PLANT (4)
AGRI	Evapotranspiration coefficient in Agri. Area 4	5.000E-01	5.000E-01	---	EVAPTRN (4)
AGRI	Runoff coefficient in Agricultural Area 4	2.000E-01	2.000E-01	---	RUNOF (4)
AGRI	Mixing depth/plow layer of Agricultural Area 4	1.500E-01	1.500E-01	---	DPTHMIXG (4)
AGRI	Water filled porosity of soil in Agri. Area 4	3.000E-01	3.000E-01	---	TMOF (4)
AGRI	Computed erosion rate of soil in Agri. Area 4	1.147E-05	1.147E-05	---	EROSN (4)
AGRI	Dry Bulk Density of soil in Agricultural Area 4	1.500E+00	1.500E+00	---	RHOB (4)
AGRI	Soil erodibility factor of Agricultural Area 4	4.000E-01	4.000E-01	---	ERODIBILITY (4)
AGRI	Slope-length-steepness factor, Agricultural Area 4	4.000E-01	4.000E-01	---	SLPLENSTP (4)
AGRI	Cropping-management factor of Agricultural Area 4	3.000E-03	3.000E-03	---	CRPMANG (4)
AGRI	Conservation practice factor of Agricultural Area 4	1.000E+00	1.000E+00	---	CONVPRAC (4)
AGRI	Total porosity of soil in Agricultural Area 4	not used	4.000E-01	---	TPOF (4)
DWEL	Areal extent of Offsite dwelling site (m**2)	1.562E+03	1.000E+03	---	AREADWELL
DWEL	Evapotranspiration coefficient in dwelling (Off) site	5.000E-01	5.000E-01	---	EVAPTRNDWELL
DWEL	Runoff coefficient in Offsite dwelling site	2.000E-01	2.000E-01	---	RUNOFDWELL
DWEL	Mixing depth of Offsite dwelling site	1.500E-01	1.500E-01	---	DPTHMIXGDWELL
DWEL	Water filled porosity of soil in Offsite Dwelling	3.000E-01	3.000E-01	---	TMOFDWELL
DWEL	Computed erosion rate of soil in Offsite Dwelling	0.000E+00	0.000E+00	---	EROSNDWELL
DWEL	Dry Bulk Density of soil in Offsite dwelling site	1.500E+00	1.500E+00	---	RHOBDWELL
DWEL	Soil erodibility factor of soil in Dwelling site	0.000E+00	0.000E+00	---	ERODIBILITYDWELL
DWEL	Slope-length-steepness factor of Dwelling site	4.000E-01	4.000E-01	---	SLPLENSTPDWELL
DWEL	Cropping-management factor of Dwelling site	3.000E-03	3.000E-03	---	CRPMANGDWELL
DWEL	Conservation practice factor of Offsite Dwelling sit	1.000E+00	1.000E+00	---	CONVPRACDWELL
DWEL	Total porosity of soil in Offsite Dwelling	not used	4.000E-01	---	TPOFDWELL
AIRT	Dispersion Coefficients; 1 = Pasquill-Gifford	1	1	---	IDISPMOD
AIRT	Population zone; 1 = Rural	1	1	---	IZONE
AIRT	Release height, (m)	4.500E+01	1.000E+00	---	AIRRELHT
AIRT	Heat flux for buoyant plume (cal/s),	0.000E+00	0.000E+00	---	HEATFLX

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Anemometer height, (m)	1.000E+01	1.000E+01	---	ANH
AIRT	Absolute temperature (Kelvin)	2.850E+02	2.850E+02	---	TABK
AIRT	AM atmospheric mixing height (m)	4.000E+02	4.000E+02	---	AMIX
AIRT	PM atmospheric mixing height (m)	1.600E+03	1.600E+03	---	PMIX
AIRT	Elevation of Agricultural Area 1 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV (1)
AIRT	Elevation of Agricultural Area 2 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV (2)
AIRT	Elevation of Agricultural Area 3 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV (3)
AIRT	Elevation of Agricultural Area 4 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV (4)
AIRT	Elevation of Dwelling Site relative to primary cont.	0.000E+00	0.000E+00	---	DWELLELEV
AIRT	Elevation of Surf.Wtr body relative to primary cont.	0.000E+00	0.000E+00	---	SWELEV
AIRT	Joint frequency Meteorological data:				
AIRT	Upper limit for windspeed class 1 (m/s)	8.900E-01	8.900E-01	---	WINDSPEED (1)
AIRT	Upper limit for windspeed class 2 (m/s)	2.460E+00	2.460E+00	---	WINDSPEED (2)
AIRT	Upper limit for windspeed class 3 (m/s)	4.470E+00	4.470E+00	---	WINDSPEED (3)
AIRT	Upper limit for windspeed class 4 (m/s)	6.930E+00	6.930E+00	---	WINDSPEED (4)
AIRT	Upper limit for windspeed class 5 (m/s)	9.610E+00	9.610E+00	---	WINDSPEED (5)
AIRT	Upper limit for windspeed class 6 (m/s)	1.252E+01	1.252E+01	---	WINDSPEED (6)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,1)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,1)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,1)
AIRT	for wind speed class 1 and stability class D	1.000E+00	1.000E-01	---	DFREQ (1,4,1)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,1)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,1)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,1)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,1)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,1)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,1)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,1)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,1)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,1)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,1)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,1)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,1)

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Site-Specific Parameter Summary (continued)					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,1)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,1)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,1)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,1)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,1)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,1)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,1)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,1)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,1)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,1)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,1)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,1)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,1)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,1)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,1)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,1)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,2)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,2)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,2)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,2)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,2)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,2)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,2)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,2)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,2)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,2)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,2)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,2)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,2)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,2)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,2)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,2)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,2)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,2)

Site-Specific Parameter Summary (continued)					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,2)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,2)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,2)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,2)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,2)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,2)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,2)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,2)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,2)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,2)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,2)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,2)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,2)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,2)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,2)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,2)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,2)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,2)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,3)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,3)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,3)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,3)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,3)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,3)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,3)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,3)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,3)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,3)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,3)

AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,3)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,3)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,3)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,3)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,3)

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File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,3)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,3)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,3)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,3)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,3)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,3)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,3)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,3)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,3)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,3)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,3)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,3)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,3)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,3)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,3)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,3)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,4)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,4)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,4)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,4)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,4)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,4)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,4)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,4)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,4)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,4)

AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,4)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,4)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,4)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,4)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,4)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,4)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,4)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,4)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days
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Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Site-Specific Parameter Summary (continued)					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,4)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,4)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,4)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,4)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,4)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,4)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,4)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,4)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,4)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,4)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,4)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,4)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,4)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,4)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,4)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,4)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,4)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,4)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,5)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,5)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,5)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,5)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,5)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,5)

AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,5)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,5)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,5)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,5)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,5)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,5)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,5)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,5)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,5)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,5)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,5)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,5)

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Title : RESRAD-OFFSITE Effluent release

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Site-Specific Parameter Summary (continued)

0	Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT		Joint Frequency in E Sector				
AIRT		for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,5)
AIRT		for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,5)
AIRT		for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,5)
AIRT		for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,5)
AIRT		for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,5)
AIRT		for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,5)
AIRT		Joint Frequency in E Sector				
AIRT		for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,5)
AIRT		for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,5)
AIRT		for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,5)
AIRT		for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,5)
AIRT		for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,5)
AIRT		for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,5)
AIRT		Joint Frequency in E Sector				
AIRT		for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,5)
AIRT		for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,5)
AIRT		for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,5)
AIRT		for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,5)
AIRT		for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,5)
AIRT		for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,5)
AIRT		Joint Frequency in ESE Sector				
AIRT		for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,6)
AIRT		for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,6)

AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,6)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,6)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,6)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,6)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,6)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,6)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,6)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,6)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,6)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,6)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,6)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,6)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,6)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,6)

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Site-Specific Parameter Summary (continued)					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,6)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,6)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,6)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,6)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,6)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,6)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,6)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,6)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,6)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,6)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,6)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,6)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,6)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,6)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,6)

AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,6)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,7)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,7)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,7)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,7)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,7)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,7)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,7)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,7)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,7)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,7)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,7)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,7)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,7)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,7)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,7)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,7)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,7)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,7)

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Site-Specific Parameter Summary (continued)					
0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,7)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,7)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,7)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,7)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,7)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,7)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,7)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,7)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,7)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,7)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,7)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,7)
AIRT	Joint Frequency in SE Sector				

AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,7)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,7)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,7)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,7)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,7)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,7)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,8)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,8)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,8)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,8)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,8)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,8)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,8)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,8)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,8)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,8)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,8)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,8)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,8)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,8)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,8)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,8)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,8)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,8)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,8)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,8)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,8)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,8)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,8)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,8)

AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,8)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,8)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,8)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,8)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,8)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,8)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,8)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,8)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,9)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,9)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,9)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,9)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,9)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,9)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,9)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,9)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,9)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,9)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,9)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,9)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,9)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,9)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,9)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,9)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,9)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,9)

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Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,9)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,9)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,9)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,9)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,9)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,9)

AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,9)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,9)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,9)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,9)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,9)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,9)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,9)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,9)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,9)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,9)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,9)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,9)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,10)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,10)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,10)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,10)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,10)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,10)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,10)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,10)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,10)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,10)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,10)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,10)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,10)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,10)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,10)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,10)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,10)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,10)

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Site-Specific Parameter Summary (continued)					
0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,10)

AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,10)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,10)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,10)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,10)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,10)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,10)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,10)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,10)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,10)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,10)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,10)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,10)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,10)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,10)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,10)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,10)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,10)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,11)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,11)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,11)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,11)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,11)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,11)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,11)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,11)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,11)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,11)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,11)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,11)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,11)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,11)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,11)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,11)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,11)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,11)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,11)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,11)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,11)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,11)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,11)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,11)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,11)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,11)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,11)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,11)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,11)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,11)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,11)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,11)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,12)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,12)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,12)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,12)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,12)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,12)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,12)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,12)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,12)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,12)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,12)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,12)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,12)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,12)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,12)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,12)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,12)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,12)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,12)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,12)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,12)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,12)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,12)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,12)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,12)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,12)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,12)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,12)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,12)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,12)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,12)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,12)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,12)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,12)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,12)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,12)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,13)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,13)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,13)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,13)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,13)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,13)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,13)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,13)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,13)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,13)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,13)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,13)

AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,13)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,13)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,13)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,13)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,13)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,13)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,13)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,13)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,13)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,13)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,13)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,13)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,13)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,13)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,13)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,13)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,13)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,13)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,13)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,13)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,14)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,14)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,14)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,14)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,14)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,14)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,14)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,14)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,14)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,14)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,14)

AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,14)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,14)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,14)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,14)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,14)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,14)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,14)

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Site-Specific Parameter Summary (continued)					
0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,14)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,14)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,14)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,14)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,14)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,14)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,14)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,14)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,14)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,14)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,14)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,14)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,14)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,14)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,14)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,14)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,14)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,14)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,15)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,15)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,15)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,15)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,15)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,15)
AIRT	Joint Frequency in NW Sector				

AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,15)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,15)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,15)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,15)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,15)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,15)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,15)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,15)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,15)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,15)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,15)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,15)

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File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,15)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,15)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,15)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,15)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,15)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,15)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,15)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,15)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,15)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,15)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,15)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,15)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,15)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,15)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,15)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,15)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,15)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,15)
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,16)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,16)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,16)

AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,16)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,16)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,16)
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,16)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,16)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,16)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,16)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,16)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,16)
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,16)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,16)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,16)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,16)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,16)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,16)

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Site-Specific Parameter Summary (continued)

0	Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT		Joint Frequency in NNW Sector				
AIRT		for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,16)
AIRT		for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,16)
AIRT		for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,16)
AIRT		for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,16)
AIRT		for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,16)
AIRT		for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,16)
AIRT		Joint Frequency in NNW Sector				
AIRT		for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,16)
AIRT		for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,16)
AIRT		for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,16)
AIRT		for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,16)
AIRT		for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,16)
AIRT		for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,16)
AIRT		Joint Frequency in NNW Sector				
AIRT		for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,16)
AIRT		for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,16)
AIRT		for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,16)
AIRT		for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,16)
AIRT		for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,16)
AIRT		for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,16)

AIRT	Average annual wind speed (m/sec)	8.900E-01	8.900E-01	---	WIND
AIRT	Spacing of points used for areal integration, (m)	1.000E+01	1.000E+01	---	ATGRID
GWTR	convergence criterion for groundwater transport calc	1.000E-03	1.000E-03	---	EPS
GWTR	Distance from d/g edge of contamination to Well, (m)	-1.000E+00	1.000E+02	---	OFFFLPAQW
GWTR	Contamination to Well c/c distance normal to flow, m	0.000E+00	0.000E+00	---	OFFFLNAQW
GWTR	Distance from d/g edge of cz to surface water, (m)	4.500E+02	4.500E+02	---	OFFFLPAQS
GWTR	Contamination to near edge of swb,c/c normal to flow	-1.500E+02	-1.500E+02	---	OFFFLNAQSN
GWTR	Contamination to far edge of swb, c/c normal to flow	1.500E+02	1.500E+02	---	OFFFLNAQSF
GWTR	Number of main sub zones in contaminated medium	1	1	---	NPCM
GWTR	Number of minor sub zones in last main CM sub zone	1	1	---	NPCMF
GWTR	Number of main sub zones in primary contamination	1	1	---	NPCZ
GWTR	Number of minor sub zones in last main PC sub zone	1	1	---	NPCZF
GWTR	Number of main sub zones in submerged prim. contami.	1	1	---	NSPCZ
GWTR	Number of minor sub zones in last main SPC sub zone	1	1	---	NSPCZF
GWTR	Number of main sub zones in each unsaturated stratum	1	1	---	NPSS
GWTR	Number of minor sub zones in last main UZ sub zone	1	1	---	NPSSF
GWTR	Number of main sub zones in saturated stratum	1	1	---	NAQS
GWTR	Number of minor sub zones in last main SZ sub zone	1	1	---	NAQSF
GWTR	Distribution coefficient and longitudinal dispersion	1	1	---	

1 = Nuclide specific distribution coefficients in all subzones. Longitudinal dispersion in all but the subzone of transformation.

GWTR Retardation factor flag for groundwater transport 0 0 ---

0 = (total porosity + distribution coefficient*dry bulk density) / total porosity

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
USZN	Number of unsaturated zone strata	1	1	---	NS
USZN	Unsat. zone 1, thickness (m)	4.000E+00	4.000E+00	---	H(1)
USZN	Unsat. zone 1, soil density (g/cm**3)	1.500E+00	1.500E+00	---	DENSUZ(1)
USZN	Unsat. zone 1, total porosity	4.000E-01	4.000E-01	---	TPUZ(1)
USZN	Unsat. zone 1, effective porosity	2.000E-01	2.000E-01	---	EPUZ(1)
USZN	Unsat. zone 1, field capacity	3.000E-01	3.000E-01	---	FCUZ(1)
USZN	Unsat. zone 1, hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCUZ(1)
USZN	Unsat. zone 1, soil-specific b parameter	5.300E+00	5.300E+00	---	BUZ(1)
USZN	Unsat. zone 1, longitudinal dispersivity (m)	1.000E-01	1.000E-01	---	ALPHALU(1)
SZNE	Well pump intake depth (m below water table)	1.000E+01	1.000E+01	---	DWIBWT
SZNE	Depth of aquifer contributing to surface water body	5.000E+00	5.000E+00	---	DPTHAQSW
SZNE	Thickness of saturated zone (m)	1.000E+02	1.000E+02	---	DPTHAQ
SZNE	Density of saturated zone (g/cm**3)	1.500E+00	1.500E+00	---	DENSAQ
SZNE	Saturated zone total porosity	4.000E-01	4.000E-01	---	TPSZ
SZNE	Saturated zone effective porosity	2.000E-01	2.000E-01	---	EPSZ
SZNE	Saturated zone hydraulic conductivity (m/yr)	1.000E+02	1.000E+02	---	HCSZ
SZNE	Saturated zone hydraulic gradient to well	2.000E-02	2.000E-02	---	HGW

SZNE	Satur. zone hydraulic gradient to surface water body	2.000E-02	2.000E-02	---	HGSW
SZNE	longitudinal dispersivity to well (m)	3.000E+00	3.000E+00	---	ALPHALOW
SZNE	longitudinal dispersivity to SWB (m)	1.000E+01	1.000E+01	---	ALPHALOSW
SZNE	lateral (horizontal) dispersivity to well (m)	4.000E-01	4.000E-01	---	ALPHATW
SZNE	lateral (horizontal) dispersivity to SWB (m)	1.000E+00	1.000E+00	---	ALPHATSW
SZNE	lateral (vertical) dispersivity to well (m)	2.000E-02	2.000E-02	---	ALPHAVW
SZNE	lateral (vertical) dispersivity to SWB (m)	6.000E-02	6.000E-02	---	ALPHAVSW
SZNE	Irrigation rate over aquifer to well (m/yr)	not used	0.000E+00	---	RIAQW
SZNE	Irrigation rate over aquifer to SWB (m/yr)	not used	0.000E+00	---	RIAQSW
SZNE	Evapotranspiration coefficient over aquifer to well	not used	1.000E+00	---	EVAPTRAQW
SZNE	Evapotranspiration coefficient over aquifer to SWB	not used	1.000E+00	---	EVAPTRAQSW
SZNE	Runoff coefficient over aquifer to well	not used	1.000E+00	---	RUNOFFAQW
SZNE	Runoff coefficient over aquifer to SWB	not used	1.000E+00	---	RUNOFFAQSW
SZNE	Concentration of mobile colloids in the aquifer	0.000E+00	0.000E+00	---	CCOL
SZNE	Water - Soil Distribution coefficient of colloids	0.000E+00	0.000E+00	---	K1Col
SZNE	Water - Mobile Colloids Distribution coefficient	0.000E+00	0.000E+00	---	K3Col
WTRU	Drinking water intake (L/yr)	not used	5.100E+02	---	DWI
WTRU	Fraction of drinking water from surface water	not used	0.000E+00	---	FSWD
WTRU	Fraction of drinking water from well water	not used	1.000E+00	---	FWWD
WTRU	Fraction of household water from surface water	0.000E+00	0.000E+00	---	FSWHH
WTRU	Fraction of household water from well water	1.000E+00	1.000E+00	---	FWWHH
WTRU	Livestock water intake for meat 1 (L/day)	not used	5.000E+01	---	LWI (1)
WTRU	Fraction of livestock water 1 from surface water	not used	0.000E+00	---	FSWL (1)
WTRU	Fraction of livestock water 1 from well water	not used	1.000E+00	---	FWWL (1)
WTRU	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI (2)
WTRU	Fraction of dairy cow water from surface water	not used	0.000E+00	---	FSWL (2)
WTRU	Fraction of dairy cow water from well water	not used	1.000E+00	---	FWWL (2)
WTRU	Irrigation rate in Agricultural Area 1 (m/yr)	2.000E-01	2.000E-01	---	RIRRI (1)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
WTRU	Fraction of irrigation water 1 from surface water	0.000E+00	0.000E+00	---	FSWIR (1)
WTRU	Fraction of irrigation water 1 from well water	1.000E+00	1.000E+00	---	FWWIR (1)
WTRU	Irrigation rate in Agricultural Area 2 (m/yr)	2.000E-01	2.000E-01	---	RIRRI (2)
WTRU	Fraction of irrigation water 2 from surface water	0.000E+00	0.000E+00	---	FSWIR (2)
WTRU	Fraction of irrigation water 2 from well water	1.000E+00	1.000E+00	---	FWWIR (2)
WTRU	Irrigation rate in Agricultural Area 3 (m/yr)	2.000E-01	2.000E-01	---	RIRRI (3)
WTRU	Fraction of irrigation water 3 from surface water	0.000E+00	0.000E+00	---	FSWIR (3)
WTRU	Fraction of irrigation water 3 from well water	1.000E+00	1.000E+00	---	FWWIR (3)
WTRU	Irrigation rate in Agricultural Area 4 (m/yr)	2.000E-01	2.000E-01	---	RIRRI (4)
WTRU	Fraction of irrigation water 4 from surface water	0.000E+00	0.000E+00	---	FSWIR (4)
WTRU	Fraction of irrigation water 4 from well water	1.000E+00	1.000E+00	---	FWWIR (4)
WTRU	Irrigation rate in Offsite dwelling site (m/yr)	2.000E-01	2.000E-01	---	RIRRI DWELL
WTRU	Fraction of irrigation water from surface water	0.000E+00	0.000E+00	---	FSWIR DWELL

WTRU	Fraction of irrigation water from well water	1.000E+00	1.000E+00	---	FWWIRDWELL
WTRU	Well pumping rate (m**3/yr)	5.100E+03	5.100E+03	---	UW
SWBY	Surface area of water in surface water body, m**2	9.000E+04	9.000E+04	---	ALAKE
SWBY	Volume of surface water body, m**3	1.500E+05	1.500E+05	---	VLAKE
SWBY	Potential evaporation, m/y	1.000E+00	1.000E+00	---	EVAPOT
SWBY	Stream outflow as a fraction of seepage+stm outflows	9.983E-01	9.983E-01	---	FSTMFLOW
SWBY	Use inflow ratio for outflow ratio, 1 yes, 0 no	1	1	---	FSTMFLOWIN
SWBY	Settling velocity of suspended sediments, cm/s	1.000E-01	1.000E-01	---	Vsettle
SWBY	Dry bulk density of bottom sediments, g/cm**3	1.500E+00	1.500E+00	---	RhobSed
SWBY	Thickness of bottom sediment absorbing nuclides, m	5.000E-02	5.000E-02	---	ThickSed
SWBY	Number of distinct catchments	1	1	---	NCATCH
SWBY	Catchment 1, smaller X coordinate (m)	-1.450E+03	-1.450E+03	---	CATCHXY (1,1)
SWBY	Catchment 1, larger X coordinate (m)	1.550E+03	1.550E+03	---	CATCHXY (2,1)
SWBY	Catchment 1, smaller Y coordinate (m)	-2.450E+03	-2.450E+03	---	CATCHXY (3,1)
SWBY	Catchment 1, larger Y coordinate (m)	5.500E+02	5.500E+02	---	CATCHXY (4,1)
SWBY	Catchment 1, area, m**2	9.000E+06	9.000E+06	---	AREACA (1)
SWBY	Catchment 1, runoff coefficient	2.000E-01	2.000E-01	---	RUNOFFCA (1)
SWBY	Catchment 1, soil erodibility factor, tons/acre	4.000E-01	4.000E-01	---	ERODIBILITYCA (1)
SWBY	Catchment 1, Slope-length-steepness factor	4.000E-01	4.000E-01	---	SLPLENSTPCA (1)
SWBY	Catchment 1, Cover and management factor	3.000E-03	3.000E-03	---	CRPMANGCA (1)
SWBY	Catchment 1, support practice factor	1.000E+00	1.000E+00	---	CONVPRACCA (1)
SWBY	Catchment 1, sediment delivery ratio	2.121E-01	2.121E-01	---	SDRCA (1)
SWBY	Catchment 1, use SRD - Area correlation, 1 yes, 0 no	1	1	---	SDRACOR
SWBY	Catchment 1, deposited radionuclide delivery ratio	2.000E-02	2.000E-02	---	DDRCA (1)
SWBY	Compute atmospheric deposition on catchment	yes	no	---	ComputeDep
SWBY	Convergence criterion for deposition calculations	1.000E-03	1.000E-03	---	ConvCritAtm
INGE	Fish consumption (kg/yr)	not used	5.400E+00	---	DFI (1)
INGE	Fraction of Fish from affected area	not used	5.000E-01	---	FFISH (1)
INGE	Other Aquatic food consumption (kg/yr)	not used	9.000E-01	---	DFI (2)
INGE	Fraction of Aquatic food from affected area	not used	5.000E-01	---	FFISH (2)
INGE	Non-Leafy vegetables consumption (kg/yr)	not used	1.600E+02	---	DVI (1)
INGE	Fraction of vegetable 1 from affected area	not used	5.000E-01	---	FVEG (1)

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File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
INGE	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DVI (2)
INGE	Fraction of vegetable 2 from affected area	not used	5.000E-01	---	FVEG (2)
INGE	Meat 1 consumption (kg/yr)	not used	6.300E+01	---	DMI (1)
INGE	Fraction of meat 1 from affected area	not used	1.000E+00	---	FMEMI (1)
INGE	Milk consumption (L/yr)	not used	9.200E+01	---	DMI (2)
INGE	Fraction of milk from affected area	not used	1.000E+00	---	FMEMI (2)
INGE	Soil ingestion rate (g/yr)	3.650E+01	3.650E+01	---	SOIL

VEGE	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YIELD(1)
VEGE	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	GROWTIME(1)
VEGE	Translocation Factor for Non-Leafy	not used	1.000E-01	---	FOLI_F(1)
VEGE	Weathering Removal Constant for Non-Leafy	not used	2.000E+01	---	RWEATHER(1)
VEGE	Foliar Interception Fraction for dust Non-Leafy	not used	2.500E-01	---	FINTCEPT(1,1)
VEGE	Foliar Intercept-n Fract-n for irrigation Non-Leafy	not used	2.500E-01	---	FINTCEPT(1,2)
VEGE	Depth of roots for Non-Leafy (m)	not used	1.200E+00	---	DROOT(1)
VEGE	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YIELD(2)
VEGE	Growing Season for Leafy (years)	not used	2.500E-01	---	GROWTIME(2)
VEGE	Translocation Factor for Leafy	not used	1.000E+00	---	FOLI_F(2)
VEGE	Weathering Removal Constant for Leafy	not used	2.000E+01	---	RWEATHER(2)
VEGE	Foliar Interception Fraction for dust Leafy	not used	2.500E-01	---	FINTCEPT(2,1)
VEGE	Foliar Intercept-n Fract-n for irrigation Leafy	not used	2.500E-01	---	FINTCEPT(2,2)
VEGE	Depth of roots for Leafy (m)	not used	9.000E-01	---	DROOT(2)
VEGE	Wet weight crop yield for Pasture (kg/m**2)	not used	1.100E+00	---	YIELD(3)
VEGE	Growing Season for Pasture (years)	not used	8.000E-02	---	GROWTIME(3)
VEGE	Translocation Factor for Pasture	not used	1.000E+00	---	FOLI_F(3)
VEGE	Weathering Removal Constant for Pasture	not used	2.000E+01	---	RWEATHER(3)
VEGE	Foliar Interception Fraction for dust Pasture	not used	2.500E-01	---	FINTCEPT(3,1)
VEGE	Foliar Intercept-n Fract-n for irrigation Pasture	not used	2.500E-01	---	FINTCEPT(3,2)
VEGE	Depth of roots for Pasture (m)	not used	9.000E-01	---	DROOT(3)
VEGE	Wet weight crop yield for Grain (kg/m**2)	not used	7.000E-01	---	YIELD(4)
VEGE	Growing Season for Grain (years)	not used	1.700E-01	---	GROWTIME(4)
VEGE	Translocation Factor for Grain	not used	1.000E-01	---	FOLI_F(4)
VEGE	Weathering Removal Constant for Grain	not used	2.000E+01	---	RWEATHER(4)
VEGE	Foliar Interception Fraction for dust Grain	not used	2.500E-01	---	FINTCEPT(4,1)
VEGE	Foliar Intercept-n Fract-n for irrigation Grain	not used	2.500E-01	---	FINTCEPT(4,2)
VEGE	Depth of roots for Grain (m)	not used	1.200E+00	---	DROOT(4)
LINT	Feed 1 intake by livestock 1 (kg/day)	not used	1.400E+01	---	LFI(1,1)
LINT	Soil intake with feed 1 by livestock 1 (kg/day)	not used	1.000E-01	---	LSI(1,1)
LINT	Feed 1 intake by dairy cow (kg/day)	not used	4.400E+01	---	LFI(2,1)
LINT	Soil intake with feed 1 by dairy cow (kg/day)	not used	4.000E-01	---	LSI(2,1)
LINT	Feed 2 intake by livestock 1 (kg/day)	not used	5.400E+01	---	LFI(1,2)
LINT	Soil intake with feed 2 by livestock 1 (kg/day)	not used	4.000E-01	---	LSI(1,2)
LINT	Feed 2 intake by dairy cow (kg/day)	not used	1.100E+01	---	LFI(2,2)
LINT	Soil intake with feed 2 by dairy cow (kg/day)	not used	1.000E-01	---	LSI(2,2)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
INHE	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
INHE	Mass loading of all particulates from Primary contam	1.000E-04	1.000E-04	---	MLFD
INHE	Respirable particulates as a fraction of total	1.000E+00	1.000E+00	---	RESPFRACPC
INHE	Offsite mass loading same as onsite mass loading?	0.000E+00	---	---	SAMEMLRF
INHE	Total mass loading at agricultural area 1 (g/m**3)	1.000E-04	1.000E-04	---	MLTOTO(1)

INHE	Respirable fraction at agricultural area 1	1.000E+00	1.000E+00	---	RESPFRACOF(1)
INHE	Total mass loading at agricultural area 2 (g/m**3)	1.000E-04	1.000E-04	---	MLTOTOF(2)
INHE	Respirable fraction at agricultural area 2	1.000E+00	1.000E+00	---	RESPFRACOF(2)
INHE	Total mass loading at agricultural area 3 (g/m**3)	1.000E-04	1.000E-04	---	MLTOTOF(3)
INHE	Respirable fraction at agricultural area 3	1.000E+00	1.000E+00	---	RESPFRACOF(3)
INHE	Total mass loading at agricultural area 4 (g/m**3)	1.000E-04	1.000E-04	---	MLTOTOF(4)
INHE	Respirable fraction at agricultural area 4	1.000E+00	1.000E+00	---	RESPFRACOF(4)
INHE	Total mass loading at offsite dwelling(g/m**3)	1.000E-04	1.000E-04	---	MLTOTDWELL
INHE	Respirable fraction at offsite dwelling(g/m**3)	1.000E+00	1.000E+00	---	RESPFRACDWELL
INHE	Indoor dust filtration factor, inhalation	4.000E-01	4.000E-01	---	SHF3
INHE	Shielding factor, external gamma	7.000E-01	7.000E-01	---	SHF1
INHE	Shape factor flag, external gamma	-1.000E+00	1.000E+00	noncircular	FS
SEXT	Onsite shape factor array (used if non-circular):				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 1:	1.667E-01	6.000E+00	---	RAD_SHAPE(1)
SEXT	Outer annular radius (m), ring 2:	3.333E-01	1.200E+01	---	RAD_SHAPE(2)
SEXT	Outer annular radius (m), ring 3:	5.000E-01	1.800E+01	---	RAD_SHAPE(3)
SEXT	Outer annular radius (m), ring 4:	6.667E-01	2.400E+01	---	RAD_SHAPE(4)
SEXT	Outer annular radius (m), ring 5:	8.333E-01	3.000E+01	---	RAD_SHAPE(5)
SEXT	Outer annular radius (m), ring 6:	1.000E+00	3.600E+01	---	RAD_SHAPE(6)
SEXT	Outer annular radius (m), ring 7:	1.167E+00	4.200E+01	---	RAD_SHAPE(7)
SEXT	Outer annular radius (m), ring 8:	1.333E+00	4.800E+01	---	RAD_SHAPE(8)
SEXT	Outer annular radius (m), ring 9:	1.500E+00	5.400E+01	---	RAD_SHAPE(9)
SEXT	Outer annular radius (m), ring 10:	1.667E+00	6.000E+01	---	RAD_SHAPE(10)
SEXT	Outer annular radius (m), ring 11:	1.833E+00	6.600E+01	---	RAD_SHAPE(11)
SEXT	Outer annular radius (m), ring 12:	2.000E+00	7.200E+01	---	RAD_SHAPE(12)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 1	1.000E+00	1.000E+00	---	FRACA(1)
SEXT	Ring 2	0.000E+00	1.000E+00	---	FRACA(2)
SEXT	Ring 3	0.000E+00	1.000E+00	---	FRACA(3)
SEXT	Ring 4	0.000E+00	1.000E+00	---	FRACA(4)
SEXT	Ring 5	0.000E+00	1.000E+00	---	FRACA(5)
SEXT	Ring 6	0.000E+00	1.000E+00	---	FRACA(6)
SEXT	Ring 7	0.000E+00	1.000E+00	---	FRACA(7)
SEXT	Ring 8	0.000E+00	1.000E+00	---	FRACA(8)
SEXT	Ring 9	0.000E+00	7.700E-01	---	FRACA(9)
SEXT	Ring 10	0.000E+00	3.700E-01	---	FRACA(10)
SEXT	Ring 11	0.000E+00	1.700E-01	---	FRACA(11)
SEXT	Ring 12	0.000E+00	3.100E-02	---	FRACA(12)

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Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
SEXT	Shape factor array from offsite dwelling:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 13:	7.300E+01	1.325E+01	---	RAD_SHAPE(13)

SEXT	Outer annular radius (m), ring 14:	1.460E+02	2.650E+01	---	RAD_SHAPE (14)
SEXT	Outer annular radius (m), ring 15:	2.190E+02	3.975E+01	---	RAD_SHAPE (15)
SEXT	Outer annular radius (m), ring 16:	2.920E+02	5.300E+01	---	RAD_SHAPE (16)
SEXT	Outer annular radius (m), ring 17:	3.650E+02	6.625E+01	---	RAD_SHAPE (17)
SEXT	Outer annular radius (m), ring 18:	4.380E+02	7.950E+01	---	RAD_SHAPE (18)
SEXT	Outer annular radius (m), ring 19:	5.110E+02	9.275E+01	---	RAD_SHAPE (19)
SEXT	Outer annular radius (m), ring 20:	5.840E+02	1.060E+02	---	RAD_SHAPE (20)
SEXT	Outer annular radius (m), ring 21:	6.570E+02	1.192E+02	---	RAD_SHAPE (21)
SEXT	Outer annular radius (m), ring 22:	7.300E+02	1.325E+02	---	RAD_SHAPE (22)
SEXT	Outer annular radius (m), ring 23:	8.030E+02	1.458E+02	---	RAD_SHAPE (23)
SEXT	Outer annular radius (m), ring 24:	8.760E+02	1.590E+02	---	RAD_SHAPE (24)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 13	0.000E+00	0.000E+00	---	FRACA (13)
SEXT	Ring 14	0.000E+00	0.000E+00	---	FRACA (14)
SEXT	Ring 15	0.000E+00	0.000E+00	---	FRACA (15)
SEXT	Ring 16	0.000E+00	2.400E-02	---	FRACA (16)
SEXT	Ring 17	0.000E+00	1.900E-01	---	FRACA (17)
SEXT	Ring 18	0.000E+00	2.400E-01	---	FRACA (18)
SEXT	Ring 19	0.000E+00	2.000E-01	---	FRACA (19)
SEXT	Ring 20	0.000E+00	1.700E-01	---	FRACA (20)
SEXT	Ring 21	0.000E+00	1.500E-01	---	FRACA (21)
SEXT	Ring 22	0.000E+00	1.300E-01	---	FRACA (22)
SEXT	Ring 23	0.000E+00	1.200E-01	---	FRACA (23)
SEXT	Ring 24	1.100E-06	5.200E-02	---	FRACA (24)
SEXT	Shape factor array from offsite area 1:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 25:	1.000E+01	1.000E+01	---	RAD_SHAPE (25)
SEXT	Outer annular radius (m), ring 26:	1.000E+01	1.000E+01	---	RAD_SHAPE (26)
SEXT	Outer annular radius (m), ring 27:	1.000E+01	1.000E+01	---	RAD_SHAPE (27)
SEXT	Outer annular radius (m), ring 28:	1.000E+01	1.000E+01	---	RAD_SHAPE (28)
SEXT	Outer annular radius (m), ring 29:	1.000E+01	1.000E+01	---	RAD_SHAPE (29)
SEXT	Outer annular radius (m), ring 30:	1.000E+01	1.000E+01	---	RAD_SHAPE (30)
SEXT	Outer annular radius (m), ring 31:	1.000E+01	1.000E+01	---	RAD_SHAPE (31)
SEXT	Outer annular radius (m), ring 32:	1.000E+01	1.000E+01	---	RAD_SHAPE (32)
SEXT	Outer annular radius (m), ring 33:	1.000E+01	1.000E+01	---	RAD_SHAPE (33)
SEXT	Outer annular radius (m), ring 34:	1.000E+01	1.000E+01	---	RAD_SHAPE (34)
SEXT	Outer annular radius (m), ring 35:	1.000E+01	1.000E+01	---	RAD_SHAPE (35)
SEXT	Outer annular radius (m), ring 36:	1.000E+01	1.000E+01	---	RAD_SHAPE (36)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 25	0.000E+00	0.000E+00	---	FRACA (25)
SEXT	Ring 26	0.000E+00	0.000E+00	---	FRACA (26)
SEXT	Ring 27	0.000E+00	0.000E+00	---	FRACA (27)

SEXT	Ring 28	0.000E+00	0.000E+00	---	FRACA (28)
SEXT	Ring 29	0.000E+00	0.000E+00	---	FRACA (29)
SEXT	Ring 30	0.000E+00	0.000E+00	---	FRACA (30)
SEXT	Ring 31	0.000E+00	0.000E+00	---	FRACA (31)
SEXT	Ring 32	0.000E+00	0.000E+00	---	FRACA (32)
SEXT	Ring 33	0.000E+00	0.000E+00	---	FRACA (33)
SEXT	Ring 34	0.000E+00	0.000E+00	---	FRACA (34)
SEXT	Ring 35	0.000E+00	0.000E+00	---	FRACA (35)
SEXT	Ring 36	0.000E+00	0.000E+00	---	FRACA (36)
SEXT	Shape factor array from offsite area 2:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 37:	1.000E+01	1.000E+01	---	RAD_SHAPE (37)
SEXT	Outer annular radius (m), ring 38:	1.000E+01	1.000E+01	---	RAD_SHAPE (38)
SEXT	Outer annular radius (m), ring 39:	1.000E+01	1.000E+01	---	RAD_SHAPE (39)
SEXT	Outer annular radius (m), ring 40:	1.000E+01	1.000E+01	---	RAD_SHAPE (40)
SEXT	Outer annular radius (m), ring 41:	1.000E+01	1.000E+01	---	RAD_SHAPE (41)
SEXT	Outer annular radius (m), ring 42:	1.000E+01	1.000E+01	---	RAD_SHAPE (42)
SEXT	Outer annular radius (m), ring 43:	1.000E+01	1.000E+01	---	RAD_SHAPE (43)
SEXT	Outer annular radius (m), ring 44:	1.000E+01	1.000E+01	---	RAD_SHAPE (44)
SEXT	Outer annular radius (m), ring 45:	1.000E+01	1.000E+01	---	RAD_SHAPE (45)
SEXT	Outer annular radius (m), ring 46:	1.000E+01	1.000E+01	---	RAD_SHAPE (46)
SEXT	Outer annular radius (m), ring 47:	1.000E+01	1.000E+01	---	RAD_SHAPE (47)
SEXT	Outer annular radius (m), ring 48:	1.000E+01	1.000E+01	---	RAD_SHAPE (48)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 37	0.000E+00	0.000E+00	---	FRACA (37)
SEXT	Ring 38	0.000E+00	0.000E+00	---	FRACA (38)
SEXT	Ring 39	0.000E+00	0.000E+00	---	FRACA (39)
SEXT	Ring 40	0.000E+00	0.000E+00	---	FRACA (40)
SEXT	Ring 41	0.000E+00	0.000E+00	---	FRACA (41)
SEXT	Ring 42	0.000E+00	0.000E+00	---	FRACA (42)
SEXT	Ring 43	0.000E+00	0.000E+00	---	FRACA (43)
SEXT	Ring 44	0.000E+00	0.000E+00	---	FRACA (44)
SEXT	Ring 45	0.000E+00	0.000E+00	---	FRACA (45)
SEXT	Ring 46	0.000E+00	0.000E+00	---	FRACA (46)
SEXT	Ring 47	0.000E+00	0.000E+00	---	FRACA (47)
SEXT	Ring 48	0.000E+00	0.000E+00	---	FRACA (48)

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File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
SEXT	Shape factor array from offsite area 3:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 49:	1.000E+01	1.000E+01	---	RAD_SHAPE (49)
SEXT	Outer annular radius (m), ring 50:	1.000E+01	1.000E+01	---	RAD_SHAPE (50)
SEXT	Outer annular radius (m), ring 51:	1.000E+01	1.000E+01	---	RAD_SHAPE (51)
SEXT	Outer annular radius (m), ring 52:	1.000E+01	1.000E+01	---	RAD_SHAPE (52)

SEXT	Outer annular radius (m), ring 53:	1.000E+01	1.000E+01	---	RAD_SHAPE (53)
SEXT	Outer annular radius (m), ring 54:	1.000E+01	1.000E+01	---	RAD_SHAPE (54)
SEXT	Outer annular radius (m), ring 55:	1.000E+01	1.000E+01	---	RAD_SHAPE (55)
SEXT	Outer annular radius (m), ring 56:	1.000E+01	1.000E+01	---	RAD_SHAPE (56)
SEXT	Outer annular radius (m), ring 57:	1.000E+01	1.000E+01	---	RAD_SHAPE (57)
SEXT	Outer annular radius (m), ring 58:	1.000E+01	1.000E+01	---	RAD_SHAPE (58)
SEXT	Outer annular radius (m), ring 59:	1.000E+01	1.000E+01	---	RAD_SHAPE (59)
SEXT	Outer annular radius (m), ring 60:	1.000E+01	1.000E+01	---	RAD_SHAPE (60)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 49	0.000E+00	0.000E+00	---	FRACA (49)
SEXT	Ring 50	0.000E+00	0.000E+00	---	FRACA (50)
SEXT	Ring 51	0.000E+00	0.000E+00	---	FRACA (51)
SEXT	Ring 52	0.000E+00	0.000E+00	---	FRACA (52)
SEXT	Ring 53	0.000E+00	0.000E+00	---	FRACA (53)
SEXT	Ring 54	0.000E+00	0.000E+00	---	FRACA (54)
SEXT	Ring 55	0.000E+00	0.000E+00	---	FRACA (55)
SEXT	Ring 56	0.000E+00	0.000E+00	---	FRACA (56)
SEXT	Ring 57	0.000E+00	0.000E+00	---	FRACA (57)
SEXT	Ring 58	0.000E+00	0.000E+00	---	FRACA (58)
SEXT	Ring 59	0.000E+00	0.000E+00	---	FRACA (59)
SEXT	Ring 60	0.000E+00	0.000E+00	---	FRACA (60)
SEXT	Shape factor array from offsite area 4:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 61:	1.000E+01	1.000E+01	---	RAD_SHAPE (61)
SEXT	Outer annular radius (m), ring 62:	1.000E+01	1.000E+01	---	RAD_SHAPE (62)
SEXT	Outer annular radius (m), ring 63:	1.000E+01	1.000E+01	---	RAD_SHAPE (63)
SEXT	Outer annular radius (m), ring 64:	1.000E+01	1.000E+01	---	RAD_SHAPE (64)
SEXT	Outer annular radius (m), ring 65:	1.000E+01	1.000E+01	---	RAD_SHAPE (65)
SEXT	Outer annular radius (m), ring 66:	1.000E+01	1.000E+01	---	RAD_SHAPE (66)
SEXT	Outer annular radius (m), ring 67:	1.000E+01	1.000E+01	---	RAD_SHAPE (67)
SEXT	Outer annular radius (m), ring 68:	1.000E+01	1.000E+01	---	RAD_SHAPE (68)
SEXT	Outer annular radius (m), ring 69:	1.000E+01	1.000E+01	---	RAD_SHAPE (69)
SEXT	Outer annular radius (m), ring 70:	1.000E+01	1.000E+01	---	RAD_SHAPE (70)
SEXT	Outer annular radius (m), ring 71:	1.000E+01	1.000E+01	---	RAD_SHAPE (71)
SEXT	Outer annular radius (m), ring 72:	1.000E+01	1.000E+01	---	RAD_SHAPE (72)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 61	0.000E+00	0.000E+00	---	FRACA (61)
SEXT	Ring 62	0.000E+00	0.000E+00	---	FRACA (62)
SEXT	Ring 63	0.000E+00	0.000E+00	---	FRACA (63)
SEXT	Ring 64	0.000E+00	0.000E+00	---	FRACA (64)
SEXT	Ring 65	0.000E+00	0.000E+00	---	FRACA (65)
SEXT	Ring 66	0.000E+00	0.000E+00	---	FRACA (66)

SEXT	Ring 67	0.000E+00	0.000E+00	---	FRACA (67)
SEXT	Ring 68	0.000E+00	0.000E+00	---	FRACA (68)
SEXT	Ring 69	0.000E+00	0.000E+00	---	FRACA (69)
SEXT	Ring 70	0.000E+00	0.000E+00	---	FRACA (70)
SEXT	Ring 71	0.000E+00	0.000E+00	---	FRACA (71)
SEXT	Ring 72	0.000E+00	0.000E+00	---	FRACA (72)
OCCU	Fraction of time spent indoors on contaminated site	0.000E+00	0.000E+00	---	FIND
OCCU	Fraction of time spent outdoors on contaminated site	0.000E+00	0.000E+00	---	FOTD
OCCU	Fraction of time spent indoors in Offsite Dwelling	0.000E+00	5.000E-01	---	FINDDWELL
OCCU	Fraction of time spent outdoors in Offsite Dwelling	2.283E-01	1.000E-01	---	FOTDDWELL
OCCU	Fraction of time spent outdoors in agri. area 1	0.000E+00	1.000E-01	---	OCCUPANCY (1)
OCCU	Fraction of time spent outdoors in agri. area 2	0.000E+00	1.000E-01	---	OCCUPANCY (2)
OCCU	Fraction of time spent outdoors in agri. area 3	0.000E+00	1.000E-01	---	OCCUPANCY (3)
OCCU	Fraction of time spent outdoors in agri. area 4	0.000E+00	1.000E-01	---	OCCUPANCY (4)
RADN	Diffusion coefficient for radon gas (m/sec):				
RADN	in cover material	not used	2.000E-06	---	DIFCV
RADN	in contaminated zone soil	not used	2.000E-06	---	DIFCZ
RADN	in fruit, grain and non-leafy vegetable field	not used	2.000E-06	---	DIFOS (1)
RADN	in leafy vegetable field	not used	2.000E-06	---	DIFOS (2)
RADN	in pasture	not used	2.000E-06	---	DIFOS (3)
RADN	in livestock grain field	not used	2.000E-06	---	DIFOS (4)
RADN	in offsite dwelling site	not used	2.000E-06	---	DIFOS (5)
RADN	in foundation material	not used	3.000E-07	---	DIFFL
RADN	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
RADN	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
RADN	Total porosity of the building foundation	not used	1.000E-01	---	TPFL
RADN	Volumetric water content of the foundation	not used	3.000E-02	---	PH2OFL
RADN	Building depth below ground surface (m)	not used	-1.000E+00	---	DMFL
RADN	Radon vertical dimension of mixing (m)	not used	2.000E+00	---	HMIX
RADN	Height of the building (room) (m)	not used	2.500E+00	---	HRM
RADN	Average building air exchange rate (1/hr)	not used	5.000E-01	---	REXG
RADN	Building interior area factor	not used	0.000E+00	---	FAI
RADN	Emanating power of Rn-222 gas	not used	2.500E-01	---	EMANA (1)
RADN	Emanating power of Rn-220 gas	not used	1.500E-01	---	EMANA (2)
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	Vertical dimension of mixing for vegetation (m)	not used	1.000E+00	---	HMIXV
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	C14EVSN

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	C12EVSN
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR

C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C12	C-12 concentration in the atmosphere (g/m**3)	not used	1.800E-01	---	C12AIR
C12	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C12	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C12	C-12 concentration in meat 1 (g/g)	not used	2.400E-01	---	C12MEAT_MILK(1)
C12	C-12 concentration in milk (g/g)	not used	7.000E-02	---	C12MEAT_MILK(2)
C12	C-12 concentration in vegetable 1 (g/g)	not used	4.000E-01	---	C12PLANT(1)
C12	C-12 concentration in vegetable 2 (g/g)	not used	9.000E-02	---	C12PLANT(2)
C12	C-12 concentration in livestock feed 1 (g/g)	not used	9.000E-02	---	C12PLANT(3)
C12	C-12 concentration in livestock feed 2 (g/g)	not used	4.000E-01	---	C12PLANT(4)
H3	Humidity in air (g/cm**3)	not used	8.000E+00	---	HUMID
H3	Mass fraction of water in meat 1 (g/g)	not used	6.000E-01	---	H2OMEAT_MILK(1)
H3	Mass fraction of water in milk (g/g)	not used	8.800E-01	---	H2OMEAT_MILK(2)
H3	Mass fraction of water in vegetable 1 (g/g)	not used	8.000E-01	---	H2OPLANT(1)
H3	Mass fraction of water in vegetable 2 (g/g)	not used	8.000E-01	---	H2OPLANT(2)
H3	Mass fraction of water in livestock feed 1 (g/g)	not used	8.000E-01	---	H2OPLANT(3)
H3	Mass fraction of water in livestock feed 2 (g/g)	not used	8.000E-01	---	H2OPLANT(4)

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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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	1.00 square meters	Am-241	3.000E+00
Thickness:	2.00 meters	Cs-137	3.000E+00
Cover Depth:	0.00 meters	Np-237	3.000E+01
		Pu-238	3.000E+00
		Pu-239	3.000E+00
		Pu-240	3.000E+00
		Tc-99	3.000E+01

Th-228 3.000E+00
 Th-230 3.000E+00
 Th-232 3.000E+00
 U-234 3.000E+01
 U-235 3.000E+01
 U-238 3.000E+01

0

Total Dose TDOSE(t), mrem/yr

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

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

t (years): 0.000E+00 1.000E+00 3.000E+00 6.000E+00 1.000E+01
 TDOSE(t): 5.718E-01 5.718E-01 5.719E-01 5.721E-01 5.722E-01
 M(t): 2.287E-02 2.287E-02 2.288E-02 2.288E-02 2.289E-02

0Maximum TDOSE(t): 5.735E-01 mrem/yr at t = 40 years

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
 in mrem/yr and as a Percentage of Total Dose at t = 0 years

From releases to ground water and to surface water

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Total	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
 in mrem/yr and as a Percentage of Total Dose at t = 0 years

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	2.84E-08	0	3.76E-02	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.23E-08	0	3.76E-02	7

Cs-137	2.34E-06	0	1.53E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.53E-09	0	1.76E-05	0
Np-237	7.96E-06	0	1.96E-01	34	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.32E-07	0	1.96E-01	34
Pu-238	9.93E-11	0	4.31E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.73E-08	0	4.31E-02	8
Pu-239	2.13E-10	0	4.70E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.98E-08	0	4.70E-02	8
Pu-240	9.68E-11	0	4.70E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.98E-08	0	4.70E-02	8
Tc-99	6.54E-11	0	5.09E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.50E-11	0	5.09E-05	0
Th-228	5.28E-06	0	1.71E-02	3	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.38E-08	0	1.71E-02	3
Th-230	2.88E-09	0	3.92E-02	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.51E-08	0	3.92E-02	7
Th-232	3.53E-07	0	4.31E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.35E-08	0	4.31E-02	8
U-234	2.79E-09	0	3.68E-02	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.69E-08	0	3.68E-02	6
U-235	5.44E-06	0	3.33E-02	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.50E-08	0	3.33E-02	6
U-238	1.14E-06	0	3.14E-02	5	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.62E-08	0	3.14E-02	5
<hr/>																
Total	2.25E-05	0	5.72E-01	100	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	4.83E-07	0	5.72E-01	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 1 years

From releases to ground water and to surface water

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
<hr/>																
Total	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 1 years

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	8.24E-08	0	3.76E-02	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.46E-08	0	3.76E-02	7

Cs-137	6.98E-06	0	1.53E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	4.55E-09	0	2.23E-05	0
Np-237	2.38E-05	0	1.96E-01	34	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.94E-07	0	1.96E-01	34
Pu-238	2.97E-10	0	4.31E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.17E-08	0	4.31E-02	8
Pu-239	6.38E-10	0	4.70E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.95E-08	0	4.70E-02	8
Pu-240	2.90E-10	0	4.70E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.95E-08	0	4.70E-02	8
Tc-99	1.44E-10	0	5.09E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.21E-10	0	5.09E-05	0
Th-228	1.43E-05	0	1.71E-02	3	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.73E-08	0	1.71E-02	3
Th-230	1.18E-08	0	3.92E-02	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	7.53E-08	0	3.92E-02	7
Th-232	1.71E-06	0	4.31E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.09E-07	0	4.31E-02	8
U-234	8.25E-09	0	3.68E-02	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.68E-07	0	3.68E-02	6
U-235	1.61E-05	0	3.33E-02	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.63E-07	0	3.33E-02	6
U-238	3.38E-06	0	3.14E-02	5	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.66E-07	0	3.14E-02	5
<hr/>																
Total	6.64E-05	0	5.72E-01	100	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.44E-06	0	5.72E-01	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 3 years

From releases to ground water and to surface water

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
<hr/>																
Total	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 3 years

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.75E-07	0	3.76E-02	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.37E-07	0	3.76E-02	7

Cs-137	1.59E-05	0	1.53E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.04E-08	0	3.12E-05	0
Np-237	5.51E-05	0	1.96E-01	34	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	9.12E-07	0	1.96E-01	34
Pu-238	6.87E-10	0	4.31E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.89E-07	0	4.31E-02	8
Pu-239	1.49E-09	0	4.70E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.09E-07	0	4.70E-02	8
Pu-240	6.76E-10	0	4.70E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.09E-07	0	4.70E-02	8
Tc-99	1.64E-10	0	5.09E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.38E-10	0	5.09E-05	0
Th-228	2.55E-05	0	1.71E-02	3	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.66E-08	0	1.71E-02	3
Th-230	4.67E-08	0	3.92E-02	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.76E-07	0	3.92E-02	7
Th-232	8.29E-06	0	4.31E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.07E-07	0	4.31E-02	8
U-234	1.85E-08	0	3.68E-02	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.78E-07	0	3.68E-02	6
U-235	3.61E-05	0	3.33E-02	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.65E-07	0	3.34E-02	6
U-238	7.59E-06	0	3.14E-02	5	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.73E-07	0	3.14E-02	5
Total	1.49E-04	0	5.72E-01	100	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.33E-06	0	5.72E-01	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 6 years

From releases to ground water and to surface water

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Total	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 6 years

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	2.81E-07	0	3.76E-02	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.20E-07	0	3.76E-02	7

Cs-137	2.86E-05	0	1.53E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.87E-08	0	4.39E-05	0
Np-237	1.01E-04	0	1.96E-01	34	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.67E-06	0	1.96E-01	34
Pu-238	1.26E-09	0	4.31E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.47E-07	0	4.31E-02	8
Pu-239	2.76E-09	0	4.70E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.87E-07	0	4.70E-02	8
Pu-240	1.25E-09	0	4.70E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.87E-07	0	4.70E-02	8
Tc-99	1.64E-10	0	5.09E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.38E-10	0	5.09E-05	0
Th-228	3.26E-05	0	1.71E-02	3	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.51E-08	0	1.71E-02	3
Th-230	1.41E-07	0	3.92E-02	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.27E-07	0	3.92E-02	7
Th-232	2.81E-05	0	4.31E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	7.02E-07	0	4.31E-02	8
U-234	3.24E-08	0	3.68E-02	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.60E-07	0	3.68E-02	6
U-235	6.31E-05	0	3.33E-02	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.38E-07	0	3.34E-02	6
U-238	1.33E-05	0	3.14E-02	5	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.52E-07	0	3.14E-02	5

Total 2.67E-04 0 5.72E-01 100 0.00E+00 0 0.00E+00 0 0.00E+00 0 0.00E+00 0 6.10E-06 0 5.72E-01 100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 10 years

From releases to ground water and to surface water

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Total	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 10 years

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	3.77E-07	0	3.76E-02	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.95E-07	0	3.76E-02	7

Cs-137	4.42E-05	0	1.53E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.89E-08	0	5.96E-05	0
Np-237	1.61E-04	0	1.96E-01	34	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.66E-06	0	1.96E-01	34
Pu-238	2.00E-09	0	4.31E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.50E-07	0	4.31E-02	8
Pu-239	4.44E-09	0	4.70E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.23E-07	0	4.70E-02	8
Pu-240	2.02E-09	0	4.70E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.23E-07	0	4.70E-02	8
Tc-99	1.64E-10	0	5.09E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.38E-10	0	5.09E-05	0
Th-228	3.54E-05	0	1.71E-02	3	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	9.23E-08	0	1.71E-02	3
Th-230	3.40E-07	0	3.92E-02	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.29E-07	0	3.92E-02	7
Th-232	6.96E-05	0	4.31E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.36E-06	0	4.32E-02	8
U-234	4.83E-08	0	3.68E-02	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	9.82E-07	0	3.68E-02	6
U-235	9.39E-05	0	3.33E-02	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	9.51E-07	0	3.34E-02	6
U-238	1.97E-05	0	3.14E-02	5	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	9.70E-07	0	3.14E-02	5
<hr/>																
Total	4.24E-04	0	5.72E-01	100	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	9.66E-06	0	5.72E-01	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Dose/Source Ratios Summed Over All Pathways

Parent and Progeny Principal Radionuclide Contributions Indicated

0	Parent (i)	Product (j)	Thread Fraction	DSR(j,t) (mrem/yr)/(pCi/g)				
				0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
<hr/>								
	Am-241	Am-241	1.000E+00	1.254E-02	1.254E-02	1.254E-02	1.254E-02	1.254E-02
	Am-241	Np-237+D	1.000E+00	6.104E-14	2.715E-13	1.147E-12	3.415E-12	7.692E-12
	Am-241	U-233	1.000E+00	3.914E-21	2.929E-20	2.277E-19	1.155E-18	4.071E-18
	Am-241	Th-229+D	1.000E+00	6.677E-24	9.142E-23	1.298E-21	1.112E-20	6.328E-20
	Am-241	ΣDSR(j)		1.254E-02	1.254E-02	1.254E-02	1.254E-02	1.254E-02
0	Cs-137+D	Cs-137+D	1.000E+00	5.877E-06	7.422E-06	1.041E-05	1.465E-05	1.985E-05
0	Np-237+D	Np-237+D	1.000E+00	6.532E-03	6.533E-03	6.534E-03	6.536E-03	6.538E-03
	Np-237+D	U-233	1.000E+00	2.986E-14	1.353E-13	5.929E-13	1.865E-12	4.506E-12
	Np-237+D	Th-229+D	1.000E+00	6.759E-17	5.202E-16	4.246E-15	2.309E-14	8.970E-14
	Np-237	ΣDSR(j)		6.532E-03	6.533E-03	6.534E-03	6.536E-03	6.538E-03
0	Pu-238	Pu-238	1.840E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0	Pu-238	Pu-238	1.000E+00	1.437E-02	1.437E-02	1.437E-02	1.437E-02	1.437E-02
	Pu-238	U-234	1.000E+00	1.847E-14	8.368E-14	3.667E-13	1.153E-12	2.784E-12
	Pu-238	Th-230	1.000E+00	6.553E-19	5.043E-18	4.116E-17	2.238E-16	8.691E-16
	Pu-238	Ra-226+D	1.000E+00	2.219E-21	3.092E-20	4.513E-19	4.015E-18	2.409E-17
	Pu-238	Pb-210+D	1.000E+00	2.362E-25	6.206E-24	1.604E-22	2.262E-21	2.063E-20
	Pu-238	Po-210	1.000E+00	9.737E-26	3.904E-24	1.332E-22	2.202E-21	2.233E-20
	Pu-238	ΣDSR(j)		1.437E-02	1.437E-02	1.437E-02	1.437E-02	1.437E-02
0	Pu-239	Pu-239	1.000E+00	1.568E-02	1.568E-02	1.568E-02	1.568E-02	1.568E-02
	Pu-239	U-235+D	1.000E+00	1.184E-16	5.379E-16	2.368E-15	7.501E-15	1.831E-14
	Pu-239	Pa-231	1.000E+00	1.069E-21	8.154E-21	6.546E-20	3.475E-19	1.305E-18
	Pu-239	Ac-227+D	1.000E+00	5.387E-23	7.268E-22	1.007E-20	8.350E-20	4.537E-19
	Pu-239	ΣDSR(j)		1.568E-02	1.568E-02	1.568E-02	1.568E-02	1.568E-02
0	Pu-240	Pu-240	4.950E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0	Pu-240	Pu-240	1.000E+00	1.568E-02	1.568E-02	1.568E-02	1.568E-02	1.568E-02
	Pu-240	U-236	1.000E+00	1.796E-16	8.154E-16	3.590E-15	1.137E-14	2.776E-14

Pu-240 Th-232 1.000E+00 4.127E-26 3.182E-25 2.606E-24 1.425E-23 5.575E-23
 Pu-240 Ra-228+D 1.000E+00 1.912E-26 2.600E-25 3.651E-24 3.086E-23 1.727E-22
 Pu-240 Th-228+D 1.000E+00 2.583E-27 6.280E-26 1.438E-24 1.750E-23 1.309E-22
 Pu-240 ΣDSR(j) 1.568E-02 1.568E-02 1.568E-02 1.568E-02 1.568E-02
 0Tc-99 Tc-99 1.000E+00 1.698E-06 1.698E-06 1.698E-06 1.698E-06 1.698E-06
 0Th-228+D Th-228+D 1.000E+00 5.700E-03 5.703E-03 5.707E-03 5.709E-03 5.710E-03
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 Parent Dose Report
 Title : RESRAD-OFFSITE Effluent release
 File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Dose/Source Ratios Summed Over All Pathways								
Parent and Progeny Principal Radionuclide Contributions Indicated								
0	Parent	Product	Thread	DSR(j,t) (mrem/yr)/(pCi/g)				
	(i)	(j)	Fraction	0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
	Th-230	Th-230	1.000E+00	1.306E-02	1.306E-02	1.306E-02	1.306E-02	1.307E-02
	Th-230	Ra-226+D	1.000E+00	6.732E-10	3.068E-09	1.361E-08	4.362E-08	1.082E-07
	Th-230	Pb-210+D	1.000E+00	1.187E-13	9.063E-13	7.291E-12	3.882E-11	1.464E-10
	Th-230	Po-210	1.000E+00	6.552E-14	6.838E-13	6.928E-12	4.217E-11	1.714E-10
	Th-230	ΣDSR(j)		1.306E-02	1.306E-02	1.306E-02	1.306E-02	1.307E-02
0	Th-232	Th-232	1.000E+00	1.437E-02	1.437E-02	1.437E-02	1.437E-02	1.437E-02
	Th-232	Ra-228+D	1.000E+00	9.920E-08	4.377E-07	1.820E-06	5.307E-06	1.169E-05
	Th-232	Th-228+D	1.000E+00	2.170E-08	1.498E-07	1.018E-06	4.298E-06	1.211E-05
	Th-232	ΣDSR(j)		1.437E-02	1.437E-02	1.437E-02	1.438E-02	1.440E-02
0	U-234	U-234	1.000E+00	1.228E-03	1.228E-03	1.228E-03	1.228E-03	1.228E-03
	U-234	Th-230	1.000E+00	5.538E-13	2.516E-12	1.108E-11	3.514E-11	8.592E-11
	U-234	Ra-226+D	1.000E+00	2.499E-15	1.912E-14	1.544E-13	8.267E-13	3.142E-12
	U-234	Pb-210+D	1.000E+00	3.321E-19	4.581E-18	6.579E-17	5.723E-16	3.323E-15
	U-234	Po-210	1.000E+00	1.567E-19	3.150E-18	5.823E-17	5.879E-16	3.743E-15
	U-234	ΣDSR(j)		1.228E-03	1.228E-03	1.228E-03	1.228E-03	1.228E-03
0	U-235+D	U-235+D	1.000E+00	1.111E-03	1.111E-03	1.112E-03	1.113E-03	1.114E-03
	U-235+D	Pa-231	1.000E+00	2.583E-12	1.158E-11	4.971E-11	1.513E-10	3.494E-10
	U-235+D	Ac-227+D	1.000E+00	1.726E-13	1.271E-12	9.597E-12	4.666E-11	1.552E-10
	U-235	ΣDSR(j)		1.111E-03	1.111E-03	1.112E-03	1.113E-03	1.114E-03
0	U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0	U-238+D	U-238+D	9.999E-01	1.046E-03	1.046E-03	1.046E-03	1.047E-03	1.047E-03
	U-238+D	U-234	9.999E-01	1.820E-14	8.163E-14	3.503E-13	1.066E-12	2.462E-12
	U-238+D	Th-230	9.999E-01	6.482E-19	4.943E-18	3.971E-17	2.110E-16	7.931E-16
	U-238+D	Ra-226+D	9.999E-01	2.200E-21	3.040E-20	4.381E-19	3.828E-18	2.237E-17
	U-238+D	Pb-210+D	9.999E-01	2.350E-25	6.121E-24	1.564E-22	2.172E-21	1.938E-20
	U-238+D	Po-210	9.999E-01	9.806E-26	3.854E-24	1.300E-22	2.119E-21	2.102E-20
	U-238	ΣDSR(j)		1.046E-03	1.046E-03	1.046E-03	1.047E-03	1.047E-03

The DSR includes contributions from associated (half-life ≤ 30 days) daughters.
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 Parent Dose Report
 Title : RESRAD-OFFSITE Effluent release
 File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

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

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

0Nuclide (i)	t= 0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
Am-241	1.994E+03	1.993E+03	1.993E+03	1.993E+03	1.993E+03
Cs-137	4.254E+06	3.368E+06	2.401E+06	1.707E+06	1.259E+06
Np-237	3.827E+03	3.827E+03	3.826E+03	3.825E+03	3.824E+03
Pu-238	1.740E+03	1.740E+03	1.740E+03	1.740E+03	1.740E+03
Pu-239	1.595E+03	1.595E+03	1.595E+03	1.595E+03	1.595E+03
Pu-240	1.595E+03	1.595E+03	1.595E+03	1.595E+03	1.595E+03
Tc-99	1.472E+07	1.472E+07	1.472E+07	1.472E+07	1.472E+07
Th-228	4.386E+03	4.384E+03	4.381E+03	4.379E+03	4.378E+03
Th-230	1.914E+03	1.914E+03	1.914E+03	1.914E+03	1.913E+03
Th-232	1.740E+03	1.740E+03	1.739E+03	1.738E+03	1.737E+03
U-234	2.036E+04	2.036E+04	2.036E+04	2.036E+04	2.036E+04
U-235	2.251E+04	2.250E+04	2.249E+04	2.247E+04	2.245E+04
U-238	2.390E+04	2.390E+04	2.389E+04	2.389E+04	2.388E+04

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
 and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
 at tmin = time of minimum single radionuclide soil guideline
 and at tmax = time of maximum total dose = 40 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Am-241	3.000E+00	40	1.254E-02	1.993E+03	1.254E-02	1.993E+03
Cs-137	3.000E+00	40	4.619E-05	5.413E+05	4.619E-05	5.413E+05
Np-237	3.000E+01	40	6.554E-03	3.815E+03	6.554E-03	3.815E+03
Pu-238	3.000E+00	40	1.438E-02	1.739E+03	1.438E-02	1.739E+03
Pu-239	3.000E+00	40	1.569E-02	1.594E+03	1.569E-02	1.594E+03
Pu-240	3.000E+00	40	1.569E-02	1.594E+03	1.569E-02	1.594E+03
Tc-99	3.000E+01	1.25	1.698E-06	1.472E+07	1.698E-06	1.472E+07
Th-228	3.000E+00	27.5	5.711E-03	4.378E+03	5.711E-03	4.378E+03
Th-230	3.000E+00	40	1.307E-02	1.912E+03	1.307E-02	1.912E+03
Th-232	3.000E+00	40	1.456E-02	1.717E+03	1.456E-02	1.717E+03
U-234	3.000E+01	40	1.228E-03	2.035E+04	1.228E-03	2.035E+04
U-235	3.000E+01	40	1.118E-03	2.237E+04	1.118E-03	2.237E+04
U-238	3.000E+01	40	1.048E-03	2.386E+04	1.048E-03	2.386E+04

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Individual Nuclide Dose Summed Over All Pathways

Parent Nuclide and Thread Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr				
			t= 0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01

Am-241	Am-241	1.000E+00	3.762E-02	3.762E-02	3.762E-02	3.762E-02	3.763E-02
0Np-237	Am-241	1.000E+00	1.831E-13	8.145E-13	3.440E-12	1.024E-11	2.307E-11
Np-237	Np-237	1.000E+00	1.960E-01	1.960E-01	1.960E-01	1.961E-01	1.962E-01
Np-237	ΣDOSE(j):		1.960E-01	1.960E-01	1.960E-01	1.961E-01	1.962E-01
0U-233	Am-241	1.000E+00	1.174E-20	8.788E-20	6.832E-19	3.464E-18	1.221E-17
U-233	Np-237	1.000E+00	8.957E-13	4.058E-12	1.779E-11	5.594E-11	1.352E-10
U-233	ΣDOSE(j):		8.957E-13	4.058E-12	1.779E-11	5.594E-11	1.352E-10
0Th-229	Am-241	1.000E+00	2.003E-23	2.743E-22	3.893E-21	3.335E-20	1.898E-19
Th-229	Np-237	1.000E+00	2.028E-15	1.561E-14	1.274E-13	6.927E-13	2.691E-12
Th-229	ΣDOSE(j):		2.028E-15	1.561E-14	1.274E-13	6.927E-13	2.691E-12
0Cs-137	Cs-137	1.000E+00	1.763E-05	2.227E-05	3.124E-05	4.395E-05	5.955E-05
0Pu-238	Pu-238	1.840E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-238	Pu-238	1.000E+00	4.311E-02	4.311E-02	4.311E-02	4.311E-02	4.312E-02
Pu-238	ΣDOSE(j):		4.311E-02	4.311E-02	4.311E-02	4.311E-02	4.312E-02
0U-234	Pu-238	1.000E+00	5.541E-14	2.510E-13	1.100E-12	3.458E-12	8.353E-12
U-234	U-234	1.000E+00	3.684E-02	3.684E-02	3.684E-02	3.684E-02	3.684E-02
U-234	U-238	9.999E-01	5.460E-13	2.449E-12	1.051E-11	3.199E-11	7.387E-11
U-234	ΣDOSE(j):		3.684E-02	3.684E-02	3.684E-02	3.684E-02	3.684E-02
0Th-230	Pu-238	1.000E+00	1.966E-18	1.513E-17	1.235E-16	6.713E-16	2.607E-15
Th-230	Th-230	1.000E+00	3.919E-02	3.919E-02	3.919E-02	3.919E-02	3.920E-02
Th-230	U-234	1.000E+00	1.661E-11	7.547E-11	3.325E-10	1.054E-09	2.578E-09
Th-230	U-238	9.999E-01	1.945E-17	1.483E-16	1.191E-15	6.330E-15	2.379E-14
Th-230	ΣDOSE(j):		3.919E-02	3.919E-02	3.919E-02	3.919E-02	3.920E-02
0Ra-226	Pu-238	1.000E+00	6.658E-21	9.275E-20	1.354E-18	1.205E-17	7.226E-17
Ra-226	Th-230	1.000E+00	2.020E-09	9.205E-09	4.084E-08	1.309E-07	3.245E-07
Ra-226	U-234	1.000E+00	7.496E-14	5.735E-13	4.632E-12	2.480E-11	9.425E-11
Ra-226	U-238	9.999E-01	6.599E-20	9.121E-19	1.314E-17	1.148E-16	6.710E-16
Ra-226	ΣDOSE(j):		2.020E-09	9.206E-09	4.085E-08	1.309E-07	3.246E-07
0Pb-210	Pu-238	1.000E+00	7.085E-25	1.862E-23	4.813E-22	6.787E-21	6.189E-20
Pb-210	Th-230	1.000E+00	3.562E-13	2.719E-12	2.187E-11	1.165E-10	4.392E-10
Pb-210	U-234	1.000E+00	9.963E-18	1.374E-16	1.974E-15	1.717E-14	9.968E-14
Pb-210	U-238	9.999E-01	7.050E-24	1.836E-22	4.691E-21	6.517E-20	5.813E-19
Pb-210	ΣDOSE(j):		3.562E-13	2.719E-12	2.188E-11	1.165E-10	4.393E-10

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Individual Nuclide Dose Summed Over All Pathways							
Parent Nuclide and Thread Fraction Indicated							
0Nuclide	Parent	THF(i)	DOSE(j,t), mrem/yr				
(j)	(i)		t= 0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
Po-210	Pu-238	1.000E+00	2.921E-25	1.171E-23	3.995E-22	6.607E-21	6.699E-20
Po-210	Th-230	1.000E+00	1.966E-13	2.051E-12	2.078E-11	1.265E-10	5.143E-10
Po-210	U-234	1.000E+00	4.701E-18	9.450E-17	1.747E-15	1.764E-14	1.123E-13
Po-210	U-238	9.999E-01	2.942E-24	1.156E-22	3.899E-21	6.357E-20	6.307E-19
Po-210	ΣDOSE(j):		1.966E-13	2.052E-12	2.079E-11	1.265E-10	5.144E-10
0Pu-239	Pu-239	1.000E+00	4.703E-02	4.703E-02	4.703E-02	4.703E-02	4.703E-02
0U-235	Pu-239	1.000E+00	3.553E-16	1.614E-15	7.105E-15	2.250E-14	5.494E-14
U-235	U-235	1.000E+00	3.332E-02	3.333E-02	3.335E-02	3.338E-02	3.341E-02

U-235	ΣDOSE(j):	3.332E-02	3.333E-02	3.335E-02	3.338E-02	3.341E-02
0Pa-231	Pu-239	1.000E+00	3.208E-21	2.446E-20	1.964E-19	1.043E-18
Pa-231	U-235	1.000E+00	7.749E-11	3.475E-10	1.491E-09	4.540E-09
Pa-231	ΣDOSE(j):	7.749E-11	3.475E-10	1.491E-09	4.540E-09	1.048E-08
0Ac-227	Pu-239	1.000E+00	1.616E-22	2.180E-21	3.021E-20	2.505E-19
Ac-227	U-235	1.000E+00	5.177E-12	3.812E-11	2.879E-10	1.400E-09
Ac-227	ΣDOSE(j):	5.177E-12	3.812E-11	2.879E-10	1.400E-09	4.655E-09
0Pu-240	Pu-240	4.950E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-240	Pu-240	1.000E+00	4.703E-02	4.703E-02	4.703E-02	4.703E-02
Pu-240	ΣDOSE(j):	4.703E-02	4.703E-02	4.703E-02	4.703E-02	4.703E-02
0U-236	Pu-240	1.000E+00	5.387E-16	2.446E-15	1.077E-14	3.411E-14
0Th-232	Pu-240	1.000E+00	1.238E-25	9.546E-25	7.819E-24	4.274E-23
Th-232	Th-232	1.000E+00	4.311E-02	4.311E-02	4.311E-02	4.312E-02
Th-232	ΣDOSE(j):	4.311E-02	4.311E-02	4.311E-02	4.311E-02	4.312E-02
0Ra-228	Pu-240	1.000E+00	5.736E-26	7.800E-25	1.095E-23	9.258E-23
Ra-228	Th-232	1.000E+00	2.976E-07	1.313E-06	5.460E-06	1.592E-05
Ra-228	ΣDOSE(j):	2.976E-07	1.313E-06	5.460E-06	1.592E-05	3.506E-05
0Th-228	Pu-240	1.000E+00	7.750E-27	1.884E-25	4.314E-24	5.251E-23
Th-228	Th-228	1.000E+00	1.710E-02	1.711E-02	1.712E-02	1.713E-02
Th-228	Th-232	1.000E+00	6.509E-08	4.494E-07	3.053E-06	1.290E-05
Th-228	ΣDOSE(j):	1.710E-02	1.711E-02	1.712E-02	1.714E-02	1.717E-02
0Tc-99	Tc-99	1.000E+00	5.095E-05	5.095E-05	5.095E-05	5.095E-05
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	3.138E-02	3.139E-02	3.139E-02	3.140E-02
U-238	ΣDOSE(j):	3.138E-02	3.139E-02	3.139E-02	3.140E-02	3.141E-02

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

1RESRAD-OFFSITE, Version 4.0.3 beta TH Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

		Individual Nuclide Soil Concentration					
		Parent Nuclide and Thread Fraction Indicated					
0Nuclide	Parent	THF(i)	S(j,t), pCi/g				
(j)	(i)		t= 0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
Am-241	Am-241	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Np-237	Am-241	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Np-237	Np-237	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Np-237	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-233	Am-241	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-233	Np-237	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-233	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-229	Am-241	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-229	Np-237	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-229	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Cs-137	Cs-137	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Pu-238	Pu-238	1.840E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-238	Pu-238	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-238	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

0U-234	Pu-238	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Pu-238	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Ra-226	Pu-238	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-226	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-226	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-226	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-226	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Pb-210	Pu-238	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pb-210	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pb-210	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pb-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pb-210	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

B-62

Individual Nuclide Soil Concentration							
Parent Nuclide and Thread Fraction Indicated							
0Nuclide	Parent	THF(i)	S(j,t), pCi/g				
(j)	(i)		t=	0.000E+00	1.000E+00	3.000E+00	6.000E+00 1.000E+01
Po-210	Pu-238	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Po-210	Th-230	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Po-210	U-234	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Po-210	U-238	9.999E-01		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Po-210	ΣS(j):			0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Pu-239	Pu-239	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	Pu-239	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-235	U-235	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-235	ΣS(j):			0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Pa-231	Pu-239	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pa-231	U-235	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pa-231	ΣS(j):			0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Ac-227	Pu-239	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ac-227	U-235	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ac-227	ΣS(j):			0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Pu-240	Pu-240	4.950E-08		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-240	Pu-240	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-240	ΣS(j):			0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-236	Pu-240	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Pu-240	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-232	Th-232	1.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-232	ΣS(j):			0.000E+00	0.000E+00	0.000E+00	0.000E+00

ORa-228	Pu-240	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-228	Pu-240	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Tc-99	Tc-99	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-NONINVOLVED-WORKER-REV.ROF

Run Time Information

ResOCalc.EXE execution began at 11:39 on 06/11/2020

ResOCalc.EXE execution ended at 11:39 on 06/11/2020

ResOCalc.EXE execution time .216 seconds

Note: The dose at 6 years is considered from the ground external, inhalation, and soil ingestion pathways (see Table 6 in the main report). Ground concentration will increase from deposition; therefore, the dose during the last year incinerator will be operational is used because this will result in the highest dose.

B.2 RESRAD-OFFSITE RESULTS FOR INCINERATOR NEIGHBOR SCENARIO

To run the incinerator neighbor scenario, the AIRFLUXIN.DAT file was changed to match the radionuclide's yearly release rate from the El Dorado incinerator's SN-01 stack.

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Dose Conversion Factor (and Related) Parameter Summary

Current Library: ICRP 60

Default Library: ICRP 60

Menu	Parameter	Current Value	Default	Parameter Name
DCSF	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
DCSF	Ac-225 (Source: ICRP 60)	5.775E-02	5.775E-02	DCFEXT (1)
DCSF	Ac-227 (Source: ICRP 60)	4.485E-04	4.485E-04	DCFEXT (2)
DCSF	Ac-228 (Source: ICRP 60)	5.662E+00	5.662E+00	DCFEXT (3)
DCSF	Am-241 (Source: ICRP 60)	3.719E-02	3.719E-02	DCFEXT (4)
DCSF	At-217 (Source: ICRP 60)	1.654E-03	1.654E-03	DCFEXT (5)
DCSF	At-218 (Source: ICRP 60)	4.878E-03	4.878E-03	DCFEXT (6)
DCSF	Ba-137m (Source: ICRP 60)	3.383E+00	3.383E+00	DCFEXT (7)
DCSF	Bi-210 (Source: ICRP 60)	5.476E-03	5.476E-03	DCFEXT (8)
DCSF	Bi-211 (Source: ICRP 60)	2.373E-01	2.373E-01	DCFEXT (9)
DCSF	Bi-212 (Source: ICRP 60)	1.114E+00	1.114E+00	DCFEXT (10)
DCSF	Bi-213 (Source: ICRP 60)	7.158E-01	7.158E-01	DCFEXT (11)
DCSF	Bi-214 (Source: ICRP 60)	9.325E+00	9.325E+00	DCFEXT (12)
DCSF	Cs-137 (Source: ICRP 60)	8.372E-04	8.372E-04	DCFEXT (13)
DCSF	Fr-221 (Source: ICRP 60)	1.413E-01	1.413E-01	DCFEXT (14)
DCSF	Fr-223 (Source: ICRP 60)	1.813E-01	1.813E-01	DCFEXT (15)
DCSF	Np-237 (Source: ICRP 60)	6.971E-02	6.971E-02	DCFEXT (16)
DCSF	Pa-231 (Source: ICRP 60)	1.762E-01	1.762E-01	DCFEXT (17)
DCSF	Pa-233 (Source: ICRP 60)	9.419E-01	9.419E-01	DCFEXT (18)
DCSF	Pa-234 (Source: ICRP 60)	1.088E+01	1.088E+01	DCFEXT (19)
DCSF	Pa-234m (Source: ICRP 60)	9.867E-02	9.867E-02	DCFEXT (20)
DCSF	Pb-209 (Source: ICRP 60)	7.550E-04	7.550E-04	DCFEXT (21)
DCSF	Pb-210 (Source: ICRP 60)	1.981E-03	1.981E-03	DCFEXT (22)
DCSF	Pb-211 (Source: ICRP 60)	2.915E-01	2.915E-01	DCFEXT (23)

DCSF	Pb-212	(Source: ICRP 60)	6.466E-01	6.466E-01	DCFEXT (24)
DCSF	Pb-214	(Source: ICRP 60)	1.243E+00	1.243E+00	DCFEXT (25)
DCSF	Po-210	(Source: ICRP 60)	4.934E-05	4.934E-05	DCFEXT (26)
DCSF	Po-211	(Source: ICRP 60)	4.485E-02	4.485E-02	DCFEXT (27)
DCSF	Po-212	(Source: ICRP 60)	0.000E+00	0.000E+00	DCFEXT (28)
DCSF	Po-213	(Source: ICRP 60)	0.000E+00	0.000E+00	DCFEXT (29)
DCSF	Po-214	(Source: ICRP 60)	4.840E-04	4.840E-04	DCFEXT (30)
DCSF	Po-215	(Source: ICRP 60)	9.456E-04	9.456E-04	DCFEXT (31)
DCSF	Po-216	(Source: ICRP 60)	9.830E-05	9.830E-05	DCFEXT (32)
DCSF	Po-218	(Source: ICRP 60)	5.326E-05	5.326E-05	DCFEXT (33)
DCSF	Pu-238	(Source: ICRP 60)	1.166E-04	1.166E-04	DCFEXT (34)
DCSF	Pu-239	(Source: ICRP 60)	2.635E-04	2.635E-04	DCFEXT (35)
DCSF	Pu-240	(Source: ICRP 60)	1.129E-04	1.129E-04	DCFEXT (36)
DCSF	Ra-223	(Source: ICRP 60)	5.532E-01	5.532E-01	DCFEXT (37)
DCSF	Ra-224	(Source: ICRP 60)	4.728E-02	4.728E-02	DCFEXT (38)
DCSF	Ra-225	(Source: ICRP 60)	8.634E-03	8.634E-03	DCFEXT (39)
DCSF	Ra-226	(Source: ICRP 60)	2.915E-02	2.915E-02	DCFEXT (40)
DCSF	Ra-228	(Source: ICRP 60)	0.000E+00	0.000E+00	DCFEXT (41)
DCSF	Rn-219	(Source: ICRP 60)	2.859E-01	2.859E-01	DCFEXT (42)
DCSF	Rn-220	(Source: ICRP 60)	2.130E-03	2.130E-03	DCFEXT (43)
DCSF	Rn-222	(Source: ICRP 60)	2.186E-03	2.186E-03	DCFEXT (44)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

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

Current Library: ICRP 60

Default Library: ICRP 60

0 Menu	Parameter	Current Value	Default	Parameter Name
DCSF	Tc-99 (Source: ICRP 60)	1.086E-04	1.086E-04	DCFEXT (45)
DCSF	Th-227 (Source: ICRP 60)	4.803E-01	4.803E-01	DCFEXT (46)
DCSF	Th-228 (Source: ICRP 60)	7.176E-03	7.176E-03	DCFEXT (47)
DCSF	Th-229 (Source: ICRP 60)	2.897E-01	2.897E-01	DCFEXT (48)
DCSF	Th-230 (Source: ICRP 60)	1.071E-03	1.071E-03	DCFEXT (49)
DCSF	Th-231 (Source: ICRP 60)	3.214E-02	3.214E-02	DCFEXT (50)
DCSF	Th-232 (Source: ICRP 60)	4.560E-04	4.560E-04	DCFEXT (51)
DCSF	Th-234 (Source: ICRP 60)	2.130E-02	2.130E-02	DCFEXT (52)
DCSF	Tl-207 (Source: ICRP 60)	2.299E-02	2.299E-02	DCFEXT (53)
DCSF	Tl-208 (Source: ICRP 60)	2.186E+01	2.186E+01	DCFEXT (54)
DCSF	Tl-209 (Source: ICRP 60)	1.226E+01	1.226E+01	DCFEXT (55)
DCSF	Tl-210 (Source: ICRP 60)	1.661E+01	1.661E+01	DCFEXT (56)
DCSF	U-233 (Source: ICRP 60)	1.265E-03	1.265E-03	DCFEXT (57)
DCSF	U-234 (Source: ICRP 60)	3.439E-04	3.439E-04	DCFEXT (58)
DCSF	U-235 (Source: ICRP 60)	6.597E-01	6.597E-01	DCFEXT (59)
DCSF	U-236 (Source: ICRP 60)	1.781E-04	1.781E-04	DCFEXT (60)
DCSF	U-238 (Source: ICRP 60)	7.961E-05	7.961E-05	DCFEXT (61)

Current Library: ICRP 72 (Adult)
Default Library: ICRP 72 (Adult)

0 Menu	Parameter	Current Value	Default	Parameter Name
DCSF	Dose conversion factors for inhalation, mrem/pCi:			
DCSF	Ac-227+D	2.104E+00	2.104E+00	DCF2 (1)
DCSF	Am-241	3.552E-01	3.552E-01	DCF2 (2)
DCSF	Cs-137+D	1.443E-04	1.443E-04	DCF2 (3)
DCSF	Np-237+D	1.850E-01	1.850E-01	DCF2 (4)
DCSF	Pa-231	5.180E-01	5.180E-01	DCF2 (5)
DCSF	Pb-210+D	2.106E-02	2.106E-02	DCF2 (6)
DCSF	Po-210	1.591E-02	1.591E-02	DCF2 (7)
DCSF	Pu-238	4.070E-01	4.070E-01	DCF2 (8)
DCSF	Pu-239	4.440E-01	4.440E-01	DCF2 (10)
DCSF	Pu-240	4.440E-01	4.440E-01	DCF2 (11)
DCSF	Ra-226+D	3.526E-02	3.526E-02	DCF2 (13)
DCSF	Ra-228+D	5.929E-02	5.929E-02	DCF2 (14)
DCSF	Tc-99	4.810E-05	4.810E-05	DCF2 (15)
DCSF	Th-228+D	1.614E-01	1.614E-01	DCF2 (16)
DCSF	Th-229+D	9.481E-01	9.481E-01	DCF2 (17)
DCSF	Th-230	3.700E-01	3.700E-01	DCF2 (18)
DCSF	Th-232	4.070E-01	4.070E-01	DCF2 (19)
DCSF	U-233	3.552E-02	3.552E-02	DCF2 (20)
DCSF	U-234	3.478E-02	3.478E-02	DCF2 (21)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

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

Current Library: ICRP 72 (Adult)

Default Library: ICRP 72 (Adult)

0 Menu	Parameter	Current Value	Default	Parameter Name
DCSF	U-235+D	3.145E-02	3.145E-02	DCF2 (22)
DCSF	U-236	3.219E-02	3.219E-02	DCF2 (23)
DCSF	U-238	2.960E-02	2.960E-02	DCF2 (24)
DCSF	U-238+D	2.963E-02	2.963E-02	DCF2 (25)
DCSF	Dose conversion factors for ingestion, mrem/pCi:			
DCSF	Ac-227+D	4.473E-03	4.473E-03	DCF3 (1)
DCSF	Am-241	7.400E-04	7.400E-04	DCF3 (2)
DCSF	Cs-137+D	4.810E-05	4.810E-05	DCF3 (3)
DCSF	Np-237+D	4.102E-04	4.102E-04	DCF3 (4)
DCSF	Pa-231	2.627E-03	2.627E-03	DCF3 (5)
DCSF	Pb-210+D	2.558E-03	2.558E-03	DCF3 (6)
DCSF	Po-210	4.440E-03	4.440E-03	DCF3 (7)
DCSF	Pu-238	8.510E-04	8.510E-04	DCF3 (8)
DCSF	Pu-239	9.250E-04	9.250E-04	DCF3 (10)

DCSF	Pu-240	9.250E-04	9.250E-04	DCF3 (11)
DCSF	Ra-226+D	1.037E-03	1.037E-03	DCF3 (13)
DCSF	Ra-228+D	2.555E-03	2.555E-03	DCF3 (14)
DCSF	Tc-99	2.368E-06	2.368E-06	DCF3 (15)
DCSF	Th-228+D	5.301E-04	5.301E-04	DCF3 (16)
DCSF	Th-229+D	2.269E-03	2.269E-03	DCF3 (17)
DCSF	Th-230	7.770E-04	7.770E-04	DCF3 (18)
DCSF	Th-232	8.510E-04	8.510E-04	DCF3 (19)
DCSF	U-233	1.887E-04	1.887E-04	DCF3 (20)
DCSF	U-234	1.813E-04	1.813E-04	DCF3 (21)
DCSF	U-235+D	1.752E-04	1.752E-04	DCF3 (22)
DCSF	U-236	1.739E-04	1.739E-04	DCF3 (23)
DCSF	U-238	1.665E-04	1.665E-04	DCF3 (24)
DCSF	U-238+D	1.791E-04	1.791E-04	DCF3 (25)

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	Soil to plant transfer factors:			
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,1)
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,2)
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,3)
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,4)
TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,1)
TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,2)
TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,3)
TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,4)
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,1)
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,2)
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,3)
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,4)
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,1)
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,2)
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,3)
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,4)
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,1)
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,2)
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,3)
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,4)

TF					
TF	Pb-210+D	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,1)
TF	Pb-210+D	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,2)
TF	Pb-210+D	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,3)
TF	Pb-210+D	, plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,4)
TF					
TF	Po-210	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
TF	Po-210	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,2)
TF	Po-210	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,3)
TF	Po-210	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,4)
TF					
TF	Pu-238	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,1)
TF	Pu-238	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,2)
TF	Pu-238	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,3)
TF	Pu-238	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,4)
TF					
TF	Pu-239	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,1)
TF	Pu-239	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,2)
TF	Pu-239	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,3)
TF	Pu-239	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,4)

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,1)
TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,2)
TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,3)
TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,4)
TF				
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,1)
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,2)
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,3)
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,4)
TF				
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,1)
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,2)
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,3)
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,4)
TF				
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,1)
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,2)
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,3)
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,4)

TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,1)
TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,2)
TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,3)
TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,4)
TF				
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,1)
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,2)
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,3)
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,4)
TF				
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,1)
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,2)
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,3)
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,4)
TF				
TF	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,1)
TF	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,2)
TF	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,3)
TF	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,4)
TF				
TF	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,1)
TF	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,2)
TF	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,3)
TF	U-233 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,4)
TF				

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,1)
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,2)
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,3)
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,4)
TF				
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,1)
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,2)
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,3)
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,4)
TF				
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,1)
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,2)
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,3)
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,4)
TF				

TF	U-238	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,1)
TF	U-238	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,2)
TF	U-238	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,3)
TF	U-238	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,4)
TF	U-238+D	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,1)
TF	U-238+D	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,2)
TF	U-238+D	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,3)
TF	U-238+D	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,4)
TF	intake to meat/milk transfer factors:				
TF	Ac-227+D	, beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	2.000E-05	2.000E-05	I_M(1,1)
TF	Ac-227+D	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	2.000E-05	2.000E-05	I_M(1,2)
TF	Am-241	, beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	5.000E-05	5.000E-05	I_M(2,1)
TF	Am-241	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	2.000E-06	2.000E-06	I_M(2,2)
TF	Cs-137+D	, beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.000E-02	3.000E-02	I_M(3,1)
TF	Cs-137+D	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	8.000E-03	8.000E-03	I_M(3,2)
TF	Np-237+D	, beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-03	1.000E-03	I_M(4,1)
TF	Np-237+D	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(4,2)
TF	Pa-231	, beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	5.000E-03	5.000E-03	I_M(5,1)
TF	Pa-231	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(5,2)
TF	Pb-210+D	, beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	8.000E-04	8.000E-04	I_M(6,1)
TF	Pb-210+D	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	3.000E-04	3.000E-04	I_M(6,2)
TF					

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	Po-210 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	5.000E-03	5.000E-03	I_M(7,1)
TF	Po-210 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	3.400E-04	3.400E-04	I_M(7,2)
TF	Pu-238 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(8,1)
TF	Pu-238 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-06	1.000E-06	I_M(8,2)
TF	Pu-239 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(10,1)
TF	Pu-239 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-06	1.000E-06	I_M(10,2)
TF	Pu-240 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(11,1)
TF	Pu-240 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-06	1.000E-06	I_M(11,2)

TF					
TF	Ra-226+D ,	beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-03	1.000E-03	I_M(13,1)
TF	Ra-226+D ,	milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-03	1.000E-03	I_M(13,2)
TF					
TF	Ra-228+D ,	beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-03	1.000E-03	I_M(14,1)
TF	Ra-228+D ,	milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-03	1.000E-03	I_M(14,2)
TF					
TF	Tc-99 ,	beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(15,1)
TF	Tc-99 ,	milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-03	1.000E-03	I_M(15,2)
TF					
TF	Th-228+D ,	beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(16,1)
TF	Th-228+D ,	milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(16,2)
TF					
TF	Th-229+D ,	beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(17,1)
TF	Th-229+D ,	milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(17,2)
TF					
TF	Th-230 ,	beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(18,1)
TF	Th-230 ,	milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(18,2)
TF					
TF	Th-232 ,	beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(19,1)
TF	Th-232 ,	milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(19,2)
TF					
TF	U-233 ,	beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(20,1)
TF	U-233 ,	milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(20,2)
TF					
TF	U-234 ,	beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(21,1)
TF	U-234 ,	milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(21,2)
TF					
TF	U-235+D ,	beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(22,1)
TF	U-235+D ,	milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(22,2)
TF					
TF	U-236 ,	beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(23,1)
TF	U-236 ,	milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(23,2)
TF					

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	U-238 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(24,1)
TF	U-238 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(24,2)
TF				
TF	U-238+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(25,1)
TF	U-238+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(25,2)

TF	Bioaccumulation factors, fresh water, L/kg:			
TF	Ac-227+D , fish	1.500E+01	1.500E+01	BIOFA(1,1)
TF	Ac-227+D , crustacea and mollusks	1.000E+03	1.000E+03	BIOFA(1,2)
TF				
TF	Am-241 , fish	3.000E+01	3.000E+01	BIOFA(2,1)
TF	Am-241 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFA(2,2)
TF				
TF	Cs-137+D , fish	2.000E+03	2.000E+03	BIOFA(3,1)
TF	Cs-137+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(3,2)
TF				
TF	Np-237+D , fish	3.000E+01	3.000E+01	BIOFA(4,1)
TF	Np-237+D , crustacea and mollusks	4.000E+02	4.000E+02	BIOFA(4,2)
TF				
TF	Pa-231 , fish	1.000E+01	1.000E+01	BIOFA(5,1)
TF	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFA(5,2)
TF				
TF	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFA(6,1)
TF	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(6,2)
TF				
TF	Po-210 , fish	1.000E+02	1.000E+02	BIOFA(7,1)
TF	Po-210 , crustacea and mollusks	2.000E+04	2.000E+04	BIOFA(7,2)
TF				
TF	Pu-238 , fish	3.000E+01	3.000E+01	BIOFA(8,1)
TF	Pu-238 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(8,2)
TF				
TF	Pu-239 , fish	3.000E+01	3.000E+01	BIOFA(10,1)
TF	Pu-239 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(10,2)
TF				
TF	Pu-240 , fish	3.000E+01	3.000E+01	BIOFA(11,1)
TF	Pu-240 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(11,2)
TF				
TF	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFA(13,1)
TF	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFA(13,2)
TF				
TF	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFA(14,1)
TF	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFA(14,2)
TF				
TF	Tc-99 , fish	2.000E+01	2.000E+01	BIOFA(15,1)
TF	Tc-99 , crustacea and mollusks	5.000E+00	5.000E+00	BIOFA(15,2)

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Title : RESRAD-OFFSITE Effluent release

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0				
Menu	Parameter	Current Value	Default	Parameter Name
TF	Th-228+D , fish	1.000E+02	1.000E+02	BIOFA(16,1)

TF	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA (16,2)
TF	Th-229+D , fish	1.000E+02	1.000E+02	BIOFA (17,1)
TF	Th-229+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA (17,2)
TF	Th-230 , fish	1.000E+02	1.000E+02	BIOFA (18,1)
TF	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA (18,2)
TF	Th-232 , fish	1.000E+02	1.000E+02	BIOFA (19,1)
TF	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA (19,2)
TF	U-233 , fish	1.000E+01	1.000E+01	BIOFA (20,1)
TF	U-233 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (20,2)
TF	U-234 , fish	1.000E+01	1.000E+01	BIOFA (21,1)
TF	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (21,2)
TF	U-235+D , fish	1.000E+01	1.000E+01	BIOFA (22,1)
TF	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (22,2)
TF	U-236 , fish	1.000E+01	1.000E+01	BIOFA (23,1)
TF	U-236 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (23,2)
TF	U-238 , fish	1.000E+01	1.000E+01	BIOFA (24,1)
TF	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (24,2)
TF	U-238+D , fish	1.000E+01	1.000E+01	BIOFA (25,1)
TF	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (25,2)

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Site-Specific Parameter Summary					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
FSTI	Exposure duration for risk	3.000E+01	3.000E+01	---	ED
FSTI	Basic radiation dose limit (mrem/yr)	2.500E+01	2.500E+01	---	BRDL
RELT	1st release time (years)	0.000E+00		---	RelTime (1)
CONC	Initial concentration of Am-241 (pCi/g)	3.000E+00	0.000E+00	---	S1 (2)
CONC	Initial concentration of Cs-137 (pCi/g)	3.000E+00	0.000E+00	---	S1 (3)
CONC	Initial concentration of Np-237 (pCi/g)	3.000E+01	0.000E+00	---	S1 (4)
CONC	Initial concentration of Pu-238 (pCi/g)	3.000E+00	0.000E+00	---	S1 (8)
CONC	Initial concentration of Pu-239 (pCi/g)	3.000E+00	0.000E+00	---	S1 (10)
CONC	Initial concentration of Pu-240 (pCi/g)	3.000E+00	0.000E+00	---	S1 (11)
CONC	Initial concentration of Tc-99 (pCi/g)	3.000E+01	0.000E+00	---	S1 (15)
CONC	Initial concentration of Th-228 (pCi/g)	3.000E+00	0.000E+00	---	S1 (16)
CONC	Initial concentration of Th-230 (pCi/g)	3.000E+00	0.000E+00	---	S1 (18)

CONC	Initial concentration of Th-232 (pCi/g)	3.000E+00	0.000E+00	---	S1 (19)
CONC	Initial concentration of U-234 (pCi/g)	3.000E+01	0.000E+00	---	S1 (21)
CONC	Initial concentration of U-235 (pCi/g)	3.000E+01	0.000E+00	---	S1 (22)
CONC	Initial concentration of U-238 (pCi/g)	3.000E+01	0.000E+00	---	S1 (24)
VDEP	Deposition velocity of Ac-227 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (1)
VDEP	Dep. velocity of Ac-227 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (1)
VDEP	Deposition velocity of Am-241 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (2)
VDEP	Dep. velocity of Am-241 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (2)
VDEP	Deposition velocity of Cs-137 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (3)
VDEP	Dep. velocity of Cs-137 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (3)
VDEP	Deposition velocity of Np-237 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (4)
VDEP	Dep. velocity of Np-237 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (4)
VDEP	Deposition velocity of Pa-231 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (5)
VDEP	Dep. velocity of Pa-231 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (5)
VDEP	Deposition velocity of Pb-210 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (6)
VDEP	Dep. velocity of Pb-210 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (6)
VDEP	Deposition velocity of Po-210 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (7)
VDEP	Dep. velocity of Po-210 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (7)
VDEP	Deposition velocity of Pu-238 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (8)
VDEP	Dep. velocity of Pu-238 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (8)
VDEP	Deposition velocity of Pu-239 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (10)
VDEP	Dep. velocity of Pu-239 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (10)
VDEP	Deposition velocity of Pu-240 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (11)
VDEP	Dep. velocity of Pu-240 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (11)
VDEP	Deposition velocity of Ra-226 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (13)
VDEP	Dep. velocity of Ra-226 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (13)
VDEP	Deposition velocity of Ra-228 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (14)
VDEP	Dep. velocity of Ra-228 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (14)
VDEP	Deposition velocity of Tc-99 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (15)
VDEP	Dep. velocity of Tc-99 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (15)
VDEP	Deposition velocity of Th-228 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (16)
VDEP	Dep. velocity of Th-228 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (16)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
VDEP	Deposition velocity of Th-229 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (17)
VDEP	Dep. velocity of Th-229 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (17)
VDEP	Deposition velocity of Th-230 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (18)
VDEP	Dep. velocity of Th-230 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (18)
VDEP	Deposition velocity of Th-232 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (19)
VDEP	Dep. velocity of Th-232 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (19)
VDEP	Deposition velocity of U-233 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (20)
VDEP	Dep. velocity of U-233 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (20)
VDEP	Deposition velocity of U-234 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (21)

VDEP	Dep. velocity of U-234 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT(21)
VDEP	Deposition velocity of U-235 on total particulates	1.000E-03	1.000E-03	---	DEPVEL(22)
VDEP	Dep. velocity of U-235 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT(22)
VDEP	Deposition velocity of U-236 on total particulates	1.000E-03	1.000E-03	---	DEPVEL(23)
VDEP	Dep. velocity of U-236 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT(23)
VDEP	Deposition velocity of U-238 on total particulates	1.000E-03	1.000E-03	---	DEPVEL(24)
VDEP	Dep. velocity of U-238 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT(24)
DCLR	Distribution coefficients for Am-241				
DCLR	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC(2)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCU(2,1)
DCLR	Saturated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCS(2)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWB(2)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWS(2)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF(2,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF(2,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF(2,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF(2,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCDWE(2)
DCLR	Leach rate constant of Am-241 (/yr)	0.000E+00	0.000E+00	8.245E-03	Rleach(1,2)
DCLR	Distribution coefficients for Cs-137				
DCLR	Contaminated zone (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCC(3)
DCLR	Unsaturated zone 1 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCU(3,1)
DCLR	Saturated zone (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCS(3)
DCLR	Bottom sediment in surface water body (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCSWB(3)
DCLR	Suspended sediment in surface water body (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCSWS(3)
DCLR	Agricultural area 1 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF(3,1)
DCLR	Agricultural area 2 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF(3,2)
DCLR	Agricultural area 3 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF(3,3)
DCLR	Agricultural area 4 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF(3,4)
DCLR	Offsite Dwelling (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCDWE(3)
DCLR	Leach rate constant of Cs-137 (/yr)	0.000E+00	0.000E+00	3.623E-05	Rleach(1,3)

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Title : RESRAD-OFFSITE Effluent release

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for Np-237				
DCLR	Contaminated zone (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCC(4)
DCLR	Unsaturated zone 1 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCU(4,1)
DCLR	Saturated zone (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCS(4)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCSWB(4)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCSWS(4)
DCLR	Agricultural area 1 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF(4,1)
DCLR	Agricultural area 2 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF(4,2)
DCLR	Agricultural area 3 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF(4,3)

DCLR	Agricultural area 4 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF(4,4)
DCLR	Offsite Dwelling (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCDWE(4)
DCLR	Leach rate constant of Np-237 (/yr)	0.000E+00	0.000E+00	6.480E-04	Rleach(1,4)
DCLR	Distribution coefficients for Pu-238				
DCLR	Contaminated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCC(8)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCU(8,1)
DCLR	Saturated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCS(8)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWB(8)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWS(8)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(8,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(8,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(8,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(8,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCDWE(8)
DCLR	Leach rate constant of Pu-238 (/yr)	0.000E+00	0.000E+00	8.332E-05	Rleach(1,8)
DCLR	Distribution coefficients for Pu-239				
DCLR	Contaminated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCC(10)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCU(10,1)
DCLR	Saturated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCS(10)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWB(10)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWS(10)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(10,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(10,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(10,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(10,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCDWE(10)
DCLR	Leach rate constant of Pu-239 (/yr)	0.000E+00	0.000E+00	8.332E-05	Rleach(1,10)

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Title : RESRAD-OFFSITE Effluent release

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for Pu-240				
DCLR	Contaminated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCC(11)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCU(11,1)
DCLR	Saturated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCS(11)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWB(11)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWS(11)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(11,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(11,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(11,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF(11,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCDWE(11)
DCLR	Leach rate constant of Pu-240 (/yr)	0.000E+00	0.000E+00	8.332E-05	Rleach(1,11)

DCLR	Distribution coefficients for Tc-99				
DCLR	Contaminated zone (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCC (15)
DCLR	Unsaturated zone 1 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCU (15,1)
DCLR	Saturated zone (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCS (15)
DCLR	Bottom sediment in surface water body (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCSWB (15)
DCLR	Suspended sediment in surface water body (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCSWS (15)
DCLR	Agricultural area 1 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,1)
DCLR	Agricultural area 2 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,2)
DCLR	Agricultural area 3 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,3)
DCLR	Agricultural area 4 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,4)
DCLR	Offsite Dwelling (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCDWE (15)
DCLR	Leach rate constant of Tc-99 (/yr)	0.000E+00	0.000E+00	7.790E-01	Rleach (1,15)
DCLR	Distribution coefficients for Th-228				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (16)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (16,1)
DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (16)
DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (16)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (16)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (16)
DCLR	Leach rate constant of Th-228 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,16)
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Site-Specific Parameter Summary (continued)					
0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for Th-230				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (18)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (18,1)
DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (18)
DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (18)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (18)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (18)
DCLR	Leach rate constant of Th-230 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,18)
DCLR	Distribution coefficients for Th-232				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (19)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (19,1)
DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (19)

DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (19)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (19)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (19)
DCLR	Leach rate constant of Th-232 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,19)
DCLR	Distribution coefficients for U-234				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (21)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (21,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (21)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (21)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (21)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (21)
DCLR	Leach rate constant of U-234 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,21)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for U-235				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (22)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (22,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (22)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (22)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (22)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (22)
DCLR	Leach rate constant of U-235 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,22)
DCLR	Distribution coefficients for U-238				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (24)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (24,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (24)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (24)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (24)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,2)

DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (24)
DCLR	Leach rate constant of U-238 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,24)
DCLR	Distribution coefficients for progeny Ac-227				
DCLR	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC (1)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCU (1,1)
DCLR	Saturated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCS (1)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWB (1)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWS (1)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCDWE (1)
DCLR	Leach rate constant of Ac-227 (/yr)	0.000E+00	0.000E+00	8.245E-03	Rleach (1,1)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for progeny Pa-231				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (5)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (5,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (5)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (5)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (5)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (5)
DCLR	Leach rate constant of Pa-231 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,5)
DCLR	Distribution coefficients for progeny Pb-210				
DCLR	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC (6)
DCLR	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU (6,1)
DCLR	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS (6)
DCLR	Bottom sediment in surface water body (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCSWB (6)
DCLR	Suspended sediment in surface water body (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCSWS (6)
DCLR	Agricultural area 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,1)
DCLR	Agricultural area 2 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,2)
DCLR	Agricultural area 3 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,3)
DCLR	Agricultural area 4 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,4)
DCLR	Offsite Dwelling (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCDWE (6)
DCLR	Leach rate constant of Pb-210 (/yr)	0.000E+00	0.000E+00	1.663E-03	Rleach (1,6)

DCLR	Distribution coefficients for progeny Po-210				
DCLR	Contaminated zone (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCC (7)
DCLR	Unsaturated zone 1 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCU (7,1)
DCLR	Saturated zone (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCS (7)
DCLR	Bottom sediment in surface water body (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCSWB (7)
DCLR	Suspended sediment in surface water body (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCSWS (7)
DCLR	Agricultural area 1 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,1)
DCLR	Agricultural area 2 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,2)
DCLR	Agricultural area 3 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,3)
DCLR	Agricultural area 4 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,4)
DCLR	Offsite Dwelling (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCDWE (7)
DCLR	Leach rate constant of Po-210 (/yr)	0.000E+00	0.000E+00	1.632E-02	Rleach (1,7)
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0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for progeny Ra-226				
DCLR	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC (13)
DCLR	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU (13,1)
DCLR	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS (13)
DCLR	Bottom sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWB (13)
DCLR	Suspended sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWS (13)
DCLR	Agricultural area 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,1)
DCLR	Agricultural area 2 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,2)
DCLR	Agricultural area 3 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,3)
DCLR	Agricultural area 4 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,4)
DCLR	Offsite Dwelling (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCDWE (13)
DCLR	Leach rate constant of Ra-226 (/yr)	0.000E+00	0.000E+00	2.374E-03	Rleach (1,13)
DCLR	Distribution coefficients for progeny Ra-228				
DCLR	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC (14)
DCLR	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU (14,1)
DCLR	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS (14)
DCLR	Bottom sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWB (14)
DCLR	Suspended sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWS (14)
DCLR	Agricultural area 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,1)
DCLR	Agricultural area 2 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,2)
DCLR	Agricultural area 3 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,3)
DCLR	Agricultural area 4 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,4)
DCLR	Offsite Dwelling (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCDWE (14)
DCLR	Leach rate constant of Ra-228 (/yr)	0.000E+00	0.000E+00	2.374E-03	Rleach (1,14)
DCLR	Distribution coefficients for progeny Th-229				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (17)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (17,1)

DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (17)
DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (17)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (17)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (17)
DCLR	Leach rate constant of Th-229 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,17)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for progeny U-233				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (20)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (20,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (20)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (20)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (20)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (20)
DCLR	Leach rate constant of U-233 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,20)
DCLR	Distribution coefficients for progeny U-236				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (23)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (23,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (23)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (23)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (23)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (23)
DCLR	Leach rate constant of U-236 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,23)
LYOT	Bearing of X axis (clockwise angle N-->X in degrees)	9.000E+01	9.000E+01	---	DNXBearing
LYOT	Length of Primary contamination in X Direction	1.000E+00	1.000E+02	---	SOURCEXY (1)
LYOT	Length of Primary contamination in Y Direction	1.000E+00	1.000E+02	---	SOURCEXY (2)
LYOT	Smaller X coordinate of Agricultural Area 1	3.438E+01	3.438E+01	---	AGRIX (1,1)
LYOT	Larger X coordinate of Agricultural Area 1	6.562E+01	6.562E+01	---	AGRIX (2,1)
LYOT	Smaller Y coordinate of Agricultural Area 1	2.340E+02	2.340E+02	---	AGRIX (3,1)
LYOT	Larger Y coordinate of Agricultural Area 1	2.660E+02	2.660E+02	---	AGRIX (4,1)

LYOT	Smaller X coordinate of Agricultural Area 2	3.438E+01	3.438E+01	---	AGRIX(1,2)
LYOT	Larger X coordinate of Agricultural Area 2	6.562E+01	6.562E+01	---	AGRIX(2,2)
LYOT	Smaller Y coordinate of Agricultural Area 2	2.680E+02	2.680E+02	---	AGRIX(3,2)
LYOT	Larger Y coordinate of Agricultural Area 2	3.000E+02	3.000E+02	---	AGRIX(4,2)
LYOT	Smaller X coordinate of Agricultural Area 3	0.000E+00	0.000E+00	---	AGRIX(1,3)
LYOT	Larger X coordinate of Agricultural Area 3	1.000E+02	1.000E+02	---	AGRIX(2,3)
LYOT	Smaller Y coordinate of Agricultural Area 3	4.500E+02	4.500E+02	---	AGRIX(3,3)
LYOT	Larger Y coordinate of Agricultural Area 3	5.500E+02	5.500E+02	---	AGRIX(4,3)
LYOT	Smaller X coordinate of Agricultural Area 4	0.000E+00	0.000E+00	---	AGRIX(1,4)
LYOT	Larger X coordinate of Agricultural Area 4	1.000E+02	1.000E+02	---	AGRIX(2,4)
LYOT	Smaller Y coordinate of Agricultural Area 4	3.000E+02	3.000E+02	---	AGRIX(3,4)
LYOT	Larger Y coordinate of Agricultural Area 4	4.000E+02	4.000E+02	---	AGRIX(4,4)
LYOT	Smaller X coordinate of Dwelling Area	-1.512E+01	3.438E+01	---	DWELLX(1)
LYOT	Larger X coordinate of Dwelling Area	1.612E+01	6.562E+01	---	DWELLX(2)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
LYOT	Smaller Y coordinate of Dwelling Area	4.984E+03	1.340E+02	---	DWELLX(3)
LYOT	Larger Y coordinate of Dwelling Area	5.016E+03	1.660E+02	---	DWELLX(4)
LYOT	Smaller X coordinate of Surface water body	-1.000E+02	-1.000E+02	---	SWXY(1)
LYOT	Larger X coordinate of Surface water body	2.000E+02	2.000E+02	---	SWXY(2)
LYOT	Smaller Y coordinate of Surface water body	5.500E+02	5.500E+02	---	SWXY(3)
LYOT	Larger Y coordinate of Surface water body	8.500E+02	8.500E+02	---	SWXY(4)
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(1)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(3)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(4)
STOR	Livestock feed - pasture or silage	1.000E+00	1.000E+00	---	STOR_T(5)
STOR	Livestock feed - grain	4.500E+01	4.500E+01	---	STOR_T(6)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(7)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(9)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(10)
TIME	Times at which dose/risk are to be reported (yr)	1.000E+00	1.000E+00	---	T(2)
TIME	Times at which dose/risk are to be reported (yr)	3.000E+00	3.000E+00	---	T(3)
TIME	Times at which dose/risk are to be reported (yr)	6.000E+00	6.000E+00	---	T(4)
TIME	Times at which dose/risk are to be reported (yr)	1.000E+01	1.200E+01	---	T(5)
TIME	Times at which dose/risk are to be reported (yr)	not used	3.000E+01	---	T(6)
TIME	Times at which dose/risk are to be reported (yr)	not used	7.500E+01	---	T(7)
TIME	Times at which dose/risk are to be reported (yr)	not used	1.750E+02	---	T(8)
TIME	Times at which dose/risk are to be reported (yr)	not used	4.200E+02	---	T(9)
TIME	Times at which dose/risk are to be reported (yr)	not used	9.700E+02	---	T(10)

SITE	Precipitation (m/yr)	1.000E+00	1.000E+00	---	PRECIP
SITE	Rainfall Erosion Index	1.600E+02	1.600E+02	---	RAINEROS
PRCZ	Area of primary contamination (m**2)	1.000E+00	1.000E+04	---	AREA
PRCZ	Length parallel to aquifer flow (m)	1.000E+02	1.000E+02	---	LCZPAQ
PRCZ	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
PRCZ	Mass loading of all particulates for release(g/m**3)	1.000E-04	1.000E-04	---	MLFD
PRCZ	DepositionVelocityOfAllParticulates for release(m/s)	1.000E-03	1.000E-03	---	DEPVEL_DUSTT
PRCZ	Respirable particulates as a fraction of total	1.000E+00	1.000E+00	---	RESPFRACPC
PRCZ	DepositionVelocityOfRespirableParticulatesForRe(m/s)	1.000E-03	1.000E-03	---	DEPVEL_DUST
PRCZ	Irrigation (m/yr)	2.000E-01	2.000E-01	---	RI
PRCZ	Evapotranspiration coefficient	5.000E-01	5.000E-01	---	EVAPTR
PRCZ	Runoff coefficient	2.000E-01	2.000E-01	---	RUNOFF
PRCZ	Slope-length-steepness factor of prim. contamination	4.000E-01	4.000E-01	---	SLPLENSTPPC
PRCZ	Cropping-management factor of primary contamination	3.000E-03	3.000E-03	---	CRPMANGPC
PRCZ	Conservation practice factor of prim. contamination	1.000E+00	1.000E+00	---	CONVPRACPC
PRCZ	Fraction of primary contamination that is sumerged	0.000E+00	0.000E+00	---	SUBMERGEDF
PRCZ	Thickness of primary contamination (m)	2.000E+00	2.000E+00	---	THICK0

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Site-Specific Parameter Summary (continued)					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
PRCZ	Soil erodibility factor of contamination (tons/acre)	4.000E-01	4.000E-01	---	ERODIBILITYCZ
PRCZ	Density of primary contamination (g/cm**3)	1.500E+00	1.500E+00	---	DENSCZ
PRCZ	Computed erosion rate of contamination (m/yr)	1.147E-05	1.147E-05	---	VCZ
PRCZ	Total porosity of primary contamination	4.000E-01	4.000E-01	---	TPCZ
PRCZ	Field capacity of primary contamination	3.000E-01	3.000E-01	---	FCCZ
PRCZ	Effective porosity of primary contamination	4.000E-01	4.000E-01	---	EPCZ
PRCZ	Hydraulic conductivity of prime contamination (m/yr)	1.000E+01	1.000E+01	---	HCCZ
PRCZ	b parameter of primary contamination	5.300E+00	5.300E+00	---	BCZ
PRCZ	longitudinal dispersivity of prime contamination (m)	5.000E-02	5.000E-02	---	ALPHALCZ
PRCZ	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
PRCZ	Soil erodibility factor of cover (tons/acre)	not used	4.000E-01	---	ERODIBILITYCV
PRCZ	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
PRCZ	Computed erosion rate of cover material (m/yr)	not used	1.147E-05	---	VCV
PRCZ	Total porosity of the cover material	not used	4.000E-01	---	TPCV
PRCZ	Volumetric water content of the cover material	not used	5.000E-02	---	PH2OCV
PSDR	Sediment Delivery Ratio, SDR				
PSDR	from primary contamination to surface water body	0.000E+00	0.000E+00	---	SDRDWELL
PSDR	from primary contamination to non-leafy veg. field	0.000E+00	0.000E+00	---	SDROF(1)
PSDR	from primary contamination to leafy veg. field	0.000E+00	0.000E+00	---	SDROF(2)
PSDR	from primary contamination to pasture	0.000E+00	0.000E+00	---	SDROF(3)
PSDR	from primary contamination to feed grain field	0.000E+00	0.000E+00	---	SDROF(4)
PSDR	from primary contamination to surface water body	1.000E+00	1.000E+00	---	SDR

AGRI	Areal extent of Agricultural Area 1 (m**2)	1.000E+03	1.000E+03	---	AREAO (1)
AGRI	Fraction of Agri. Area 1 directly over the c.z.	not used	0.000E+00	---	FAREA_PLANT (1)
AGRI	Evapotranspiration coefficient in Agri. Area 1	5.000E-01	5.000E-01	---	EVAPTRN (1)
AGRI	Runoff coefficient in Agricultural Area 1	2.000E-01	2.000E-01	---	RUNOF (1)
AGRI	Mixing depth/plow layer of Agricultural Area 1	1.500E-01	1.500E-01	---	DPTHMIXG (1)
AGRI	Water filled porosity of soil in Agri. Area 1	3.000E-01	3.000E-01	---	TMOF (1)
AGRI	Computed erosion rate of soil in Agri. Area 1	1.147E-05	1.147E-05	---	EROSN (1)
AGRI	Dry Bulk Density of soil in Agricultural Area 1	1.500E+00	1.500E+00	---	RHOB (1)
AGRI	Soil erodibility factor of Agricultural Area 1	4.000E-01	4.000E-01	---	ERODIBILITY (1)
AGRI	Slope-length-steepness factor, Agricultural Area 1	4.000E-01	4.000E-01	---	SLPLENSTP (1)
AGRI	Cropping-management factor of Agricultural Area 1	3.000E-03	3.000E-03	---	CRPMANG (1)
AGRI	Conservation practice factor of Agricultural Area 1	1.000E+00	1.000E+00	---	CONVPRAC (1)
AGRI	Total porosity of soil in Agricultural Area 1	not used	4.000E-01	---	TPOF (1)
AGRI	Areal extent of Agricultural Area 2 (m**2)	1.000E+03	1.000E+03	---	AREAO (2)
AGRI	Fraction of Agri. Area 2 directly over the c.z.	not used	0.000E+00	---	FAREA_PLANT (2)
AGRI	Evapotranspiration coefficient in Agri. Area 2	5.000E-01	5.000E-01	---	EVAPTRN (2)
AGRI	Runoff coefficient in Agricultural Area 2	2.000E-01	2.000E-01	---	RUNOF (2)
AGRI	Mixing depth/plow layer of Agricultural Area 2	1.500E-01	1.500E-01	---	DPTHMIXG (2)
AGRI	Water filled porosity of soil in Agri. Area 2	3.000E-01	3.000E-01	---	TMOF (2)
AGRI	Computed erosion rate of soil in Agri. Area 2	1.147E-05	1.147E-05	---	EROSN (2)
AGRI	Dry Bulk Density of soil in Agricultural Area 2	1.500E+00	1.500E+00	---	RHOB (2)
AGRI	Soil erodibility factor of Agricultural Area 2	4.000E-01	4.000E-01	---	ERODIBILITY (2)
AGRI	Slope-length-steepness factor, Agricultural Area 2	4.000E-01	4.000E-01	---	SLPLENSTP (2)
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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AGRI	Cropping-management factor of Agricultural Area 2	3.000E-03	3.000E-03	---	CRPMANG (2)
AGRI	Conservation practice factor of Agricultural Area 2	1.000E+00	1.000E+00	---	CONVPRAC (2)
AGRI	Total porosity of soil in Agricultural Area 2	not used	4.000E-01	---	TPOF (2)
AGRI	Areal extent of Agricultural Area 3 (m**2)	1.000E+04	1.000E+04	---	AREAO (3)
AGRI	Fraction of Agri. Area 3 directly over the c.z.	not used	0.000E+00	---	FAREA_PLANT (3)
AGRI	Evapotranspiration coefficient in Agri. Area 3	5.000E-01	5.000E-01	---	EVAPTRN (3)
AGRI	Runoff coefficient in Agricultural Area 3	2.000E-01	2.000E-01	---	RUNOF (3)
AGRI	Mixing depth/plow layer of Agricultural Area 3	1.500E-01	1.500E-01	---	DPTHMIXG (3)
AGRI	Water filled porosity of soil in Agri. Area 3	3.000E-01	3.000E-01	---	TMOF (3)
AGRI	Computed erosion rate of soil in Agri. Area 3	1.147E-05	1.147E-05	---	EROSN (3)
AGRI	Dry Bulk Density of soil in Agricultural Area 3	1.500E+00	1.500E+00	---	RHOB (3)
AGRI	Soil erodibility factor of Agricultural Area 3	4.000E-01	4.000E-01	---	ERODIBILITY (3)
AGRI	Slope-length-steepness factor, Agricultural Area 3	4.000E-01	4.000E-01	---	SLPLENSTP (3)
AGRI	Cropping-management factor of Agricultural Area 3	3.000E-03	3.000E-03	---	CRPMANG (3)
AGRI	Conservation practice factor of Agricultural Area 3	1.000E+00	1.000E+00	---	CONVPRAC (3)
AGRI	Total porosity of soil in Agricultural Area 3	not used	4.000E-01	---	TPOF (3)
AGRI	Areal extent of Agricultural Area 4 (m**2)	1.000E+04	1.000E+04	---	AREAO (4)
AGRI	Fraction of Agri. Area 4 directly over the c.z.	not used	0.000E+00	---	FAREA_PLANT (4)

AGRI	Evapotranspiration coefficient in Agri. Area 4	5.000E-01	5.000E-01	---	EVAPTRN (4)
AGRI	Runoff coefficient in Agricultural Area 4	2.000E-01	2.000E-01	---	RUNOF (4)
AGRI	Mixing depth/plow layer of Agricultural Area 4	1.500E-01	1.500E-01	---	DPTHMIXG (4)
AGRI	Water filled porosity of soil in Agri. Area 4	3.000E-01	3.000E-01	---	TMOF (4)
AGRI	Computed erosion rate of soil in Agri. Area 4	1.147E-05	1.147E-05	---	EROSN (4)
AGRI	Dry Bulk Density of soil in Agricultural Area 4	1.500E+00	1.500E+00	---	RHOB (4)
AGRI	Soil erodibility factor of Agricultural Area 4	4.000E-01	4.000E-01	---	ERODIBILITY (4)
AGRI	Slope-length-steepness factor, Agricultural Area 4	4.000E-01	4.000E-01	---	SLPLENSTP (4)
AGRI	Cropping-management factor of Agricultural Area 4	3.000E-03	3.000E-03	---	CRPMANG (4)
AGRI	Conservation practice factor of Agricultural Area 4	1.000E+00	1.000E+00	---	CONVPRAC (4)
AGRI	Total porosity of soil in Agricultural Area 4	not used	4.000E-01	---	TPOF (4)
DWEL	Areal extent of Offsite dwelling site (m**2)	1.000E+03	1.000E+03	---	AREAODWELL
DWEL	Evapotranspiration coefficient in dwelling (Off)site	5.000E-01	5.000E-01	---	EVAPTRNDWELL
DWEL	Runoff coefficient in Offsite dwelling site	2.000E-01	2.000E-01	---	RUNOFDWELL
DWEL	Mixing depth of Offsite dwelling site	1.500E-01	1.500E-01	---	DPTHMIXGDWELL
DWEL	Water filled porosity of soil in Offsite Dwelling	3.000E-01	3.000E-01	---	TMOFDWELL
DWEL	Computed erosion rate of soil in Offsite Dwelling	0.000E+00	0.000E+00	---	EROSNDWELL
DWEL	Dry Bulk Density of soil in Offsite dwelling site	1.500E+00	1.500E+00	---	RHOB DWELL
DWEL	Soil erodibility factor of soil in Dwelling site	0.000E+00	0.000E+00	---	ERODIBILITYDWELL
DWEL	Slope-length-steepness factor of Dwelling site	4.000E-01	4.000E-01	---	SLPLENSTPDWELL
DWEL	Cropping-management factor of Dwelling site	3.000E-03	3.000E-03	---	CRPMANGDWELL
DWEL	Conservation practice factor of Offsite Dwelling sit	1.000E+00	1.000E+00	---	CONVPRACDWELL
DWEL	Total porosity of soil in Offsite Dwelling	not used	4.000E-01	---	TPOFDWELL
AIRT	Dispersion Coefficients; 1 = Pasquill-Gifford	1	1	---	IDISPMOD
AIRT	Population zone; 1 = Rural	1	1	---	IZONE
AIRT	Release height, (m)	5.944E+01	1.000E+00	---	AIRRELHT
AIRT	Heat flux for buoyant plume (cal/s),	0.000E+00	0.000E+00	---	HEATFLX

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0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Anemometer height, (m)	1.000E+01	1.000E+01	---	ANH
AIRT	Absolute temperature (Kelvin)	2.850E+02	2.850E+02	---	TABK
AIRT	AM atmospheric mixing height (m)	4.000E+02	4.000E+02	---	AMIX
AIRT	PM atmospheric mixing height (m)	1.600E+03	1.600E+03	---	PMIX
AIRT	Elevation of Agricultural Area 1 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV (1)
AIRT	Elevation of Agricultural Area 2 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV (2)
AIRT	Elevation of Agricultural Area 3 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV (3)
AIRT	Elevation of Agricultural Area 4 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV (4)
AIRT	Elevation of Dwelling Site relative to primary cont.	0.000E+00	0.000E+00	---	DWELLELEV
AIRT	Elevation of Surf.Wtr body relative to primary cont.	0.000E+00	0.000E+00	---	SWELEV
AIRT	Joint frequency Meteorological data:				
AIRT	Upper limit for windspeed class 1 (m/s)	8.900E-01	8.900E-01	---	WINDSPEED (1)

AIRT	Upper limit for windspeed class 2 (m/s)	2.460E+00	2.460E+00	---	WINDSPEED(2)
AIRT	Upper limit for windspeed class 3 (m/s)	4.470E+00	4.470E+00	---	WINDSPEED(3)
AIRT	Upper limit for windspeed class 4 (m/s)	6.930E+00	6.930E+00	---	WINDSPEED(4)
AIRT	Upper limit for windspeed class 5 (m/s)	9.610E+00	9.610E+00	---	WINDSPEED(5)
AIRT	Upper limit for windspeed class 6 (m/s)	1.252E+01	1.252E+01	---	WINDSPEED(6)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,1)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,1)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,1)
AIRT	for wind speed class 1 and stability class D	1.000E+00	1.000E-01	---	DFREQ(1,4,1)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,1)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,1)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,1)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,1)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,1)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,1)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,1)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,1)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,1)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,1)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,1)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,1)

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0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,1)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,1)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,1)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,1)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,1)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,1)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,1)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,1)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,1)

AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,1)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,1)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,1)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,1)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,1)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,1)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,1)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,2)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,2)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,2)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,2)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,2)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,2)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,2)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,2)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,2)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,2)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,2)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,2)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,2)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,2)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,2)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,2)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,2)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,2)

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Title : RESRAD-OFFSITE Effluent release

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,2)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,2)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,2)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,2)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,2)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,2)

AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,2)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,2)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,2)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,2)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,2)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,2)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,2)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,2)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,2)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,2)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,2)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,2)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,3)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,3)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,3)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,3)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,3)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,3)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,3)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,3)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,3)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,3)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,3)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,3)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,3)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,3)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,3)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,3)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,3)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,3)

AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,3)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,3)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,3)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,3)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,3)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,3)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,3)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,3)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,3)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,3)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,3)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,3)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,3)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,3)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,4)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,4)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,4)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,4)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,4)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,4)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,4)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,4)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,4)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,4)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,4)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,4)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,4)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,4)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,4)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,4)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,4)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,4)

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Site-Specific Parameter Summary (continued)

0		User	RESRAD	Parameter
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Menu	Parameter	Input	Default	computed	Name
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,4)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,4)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,4)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,4)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,4)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,4)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,4)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,4)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,4)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,4)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,4)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,4)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,4)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,4)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,4)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,4)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,4)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,4)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,5)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,5)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,5)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,5)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,5)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,5)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,5)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,5)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,5)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,5)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,5)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,5)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,5)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,5)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,5)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,5)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,5)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,5)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,5)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,5)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,5)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,5)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,5)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,5)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,5)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,5)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,5)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,5)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,5)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,5)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,5)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,5)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,5)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,5)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,5)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,5)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,6)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,6)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,6)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,6)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,6)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,6)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,6)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,6)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,6)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,6)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,6)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,6)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,6)

AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,6)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,6)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,6)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,6)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,6)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,6)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,6)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,6)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,6)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,6)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,6)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,6)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,6)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,6)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,6)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,6)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,6)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,6)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,6)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,7)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,7)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,7)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,7)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,7)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,7)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,7)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,7)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,7)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,7)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,7)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,7)

AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,7)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,7)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,7)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,7)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,7)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,7)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,7)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,7)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,7)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,7)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,7)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,7)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,7)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,7)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,7)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,7)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,7)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,7)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,7)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,7)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,7)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,7)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,7)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,7)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,8)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,8)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,8)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,8)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,8)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,8)

AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,8)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,8)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,8)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,8)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,8)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,8)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,8)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,8)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,8)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,8)

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0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,8)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,8)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,8)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,8)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,8)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,8)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,8)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,8)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,8)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,8)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,8)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,8)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,8)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,8)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,8)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,8)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,9)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,9)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,9)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,9)

AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,9)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,9)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,9)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,9)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,9)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,9)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,9)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,9)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,9)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,9)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,9)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,9)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,9)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,9)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,9)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,9)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,9)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,9)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,9)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,9)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,9)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,9)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,9)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,9)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,9)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,9)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,9)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,9)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,9)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,9)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,9)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,9)

AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,10)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,10)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,10)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,10)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,10)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,10)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,10)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,10)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,10)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,10)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,10)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,10)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,10)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,10)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,10)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,10)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,10)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,10)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,10)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,10)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,10)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,10)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,10)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,10)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,10)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,10)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,10)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,10)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,10)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,10)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,10)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,10)

AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,10)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,10)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,10)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,10)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,11)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,11)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,11)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,11)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,11)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,11)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,11)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,11)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,11)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,11)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,11)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,11)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,11)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,11)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,11)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,11)

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0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,11)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,11)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,11)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,11)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,11)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,11)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,11)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,11)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,11)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,11)

AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,11)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,11)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,11)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,11)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,11)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,11)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,12)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,12)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,12)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,12)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,12)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,12)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,12)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,12)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,12)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,12)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,12)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,12)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,12)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,12)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,12)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,12)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,12)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,12)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,12)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,12)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,12)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,12)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,12)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,12)
AIRT	Joint Frequency in WSW Sector				

AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,12)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,12)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,12)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,12)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,12)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,12)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,12)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,12)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,12)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,12)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,12)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,12)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,13)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,13)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,13)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,13)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,13)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,13)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,13)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,13)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,13)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,13)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,13)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,13)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,13)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,13)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,13)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,13)

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0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,13)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,13)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,13)

AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,13)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,13)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,13)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,13)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,13)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,13)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,13)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,13)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,13)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,13)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,13)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,13)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,13)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,14)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,14)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,14)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,14)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,14)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,14)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,14)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,14)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,14)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,14)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,14)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,14)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,14)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,14)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,14)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,14)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,14)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,14)

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0		User	Default	RESRAD	Parameter
Menu	Parameter	Input		computed	Name

AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,14)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,14)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,14)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,14)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,14)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,14)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,14)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,14)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,14)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,14)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,14)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,14)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,14)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,14)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,14)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,14)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,14)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,14)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,15)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,15)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,15)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,15)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,15)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,15)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,15)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,15)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,15)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,15)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,15)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,15)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,15)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,15)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,15)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,15)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,15)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,15)

Site-Specific Parameter Summary (continued)					
0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
	Joint Frequency in NW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,15)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,15)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,15)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,15)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,15)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,15)
	Joint Frequency in NW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,15)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,15)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,15)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,15)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,15)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,15)
	Joint Frequency in NW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,15)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,15)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,15)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,15)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,15)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,15)
	Joint Frequency in NNW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,16)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,16)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,16)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,16)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,16)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,16)
	Joint Frequency in NNW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,16)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,16)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,16)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,16)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,16)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,16)
	Joint Frequency in NNW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,16)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,16)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,16)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,16)

AIRT for wind speed class 3 and stability class E 0.000E+00 0.000E+00 --- DFREQ(3,5,16)
 AIRT for wind speed class 3 and stability class F 0.000E+00 0.000E+00 --- DFREQ(3,6,16)
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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,16)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,16)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,16)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,16)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,16)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,16)
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,16)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,16)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,16)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,16)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,16)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,16)
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,16)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,16)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,16)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,16)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,16)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,16)
AIRT	Average annual wind speed (m/sec)	8.900E-01	8.900E-01	---	WIND
AIRT	Spacing of points used for areal integration, (m)	1.000E+01	1.000E+01	---	ATGRID
GWTR	convergence criterion for groundwater transport calc	1.000E-03	1.000E-03	---	EPS
GWTR	Distance from d/g edge of contamination to Well, (m)	-1.000E+00	1.000E+02	---	OFFFLPAQW
GWTR	Contamination to Well c/c distance normal to flow, m	0.000E+00	0.000E+00	---	OFFFLNAQW
GWTR	Distance from d/g edge of cz to surface water, (m)	4.500E+02	4.500E+02	---	OFFFLPAQS
GWTR	Contamination to near edge of swb,c/c normal to flow	-1.500E+02	-1.500E+02	---	OFFFLNAQSN
GWTR	Contamination to far edge of swb, c/c normal to flow	1.500E+02	1.500E+02	---	OFFFLNAQSF
GWTR	Number of main sub zones in contaminated medium	1	1	---	NPCM
GWTR	Number of minor sub zones in last main CM sub zone	1	1	---	NPCMF
GWTR	Number of main sub zones in primary contamination	1	1	---	NPCZ
GWTR	Number of minor sub zones in last main PC sub zone	1	1	---	NPCZF
GWTR	Number of main sub zones in submerged prim. contami.	1	1	---	NSPCZ
GWTR	Number of minor sub zones in last main SPC sub zone	1	1	---	NSPCZF
GWTR	Number of main sub zones in each unsaturated stratum	1	1	---	NPSS
GWTR	Number of minor sub zones in last main UZ sub zone	1	1	---	NPSSF

GWTR	Number of main sub zones in saturated stratum	1	1	---	NAQS
GWTR	Number of minor sub zones in last main SZ sub zone	1	1	---	NAQSF
GWTR	Distribution coefficient and longitudinal dispersion	1	1	---	

1 = Nuclide specific distrubution coefficients in all subzones. Longitudinal dispersion in all but the subzone of transformation.

GWTR	Retardation factor flag for groundwater transport	0	0	---	
------	---	---	---	-----	--

0 = (total porosity + distribution coefficient*dry bulk density) / total porosity

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Site-Specific Parameter Summary (continued)					
0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
USZN	Number of unsaturated zone strata	1	1	---	NS
USZN	Unsat. zone 1, thickness (m)	4.000E+00	4.000E+00	---	H(1)
USZN	Unsat. zone 1, soil density (g/cm**3)	1.500E+00	1.500E+00	---	DENSUZ(1)
USZN	Unsat. zone 1, total porosity	4.000E-01	4.000E-01	---	TPUZ(1)
USZN	Unsat. zone 1, effective porosity	2.000E-01	2.000E-01	---	EPUZ(1)
USZN	Unsat. zone 1, field capacity	3.000E-01	3.000E-01	---	FCUZ(1)
USZN	Unsat. zone 1, hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCUZ(1)
USZN	Unsat. zone 1, soil-specific b parameter	5.300E+00	5.300E+00	---	BUZ(1)
USZN	Unsat. zone 1, longitudinal dispersivity (m)	1.000E-01	1.000E-01	---	ALPHALU(1)
SZNE	Well pump intake depth (m below water table)	1.000E+01	1.000E+01	---	DWIBWT
SZNE	Depth of aquifer contributing to surface water body	5.000E+00	5.000E+00	---	DPTHAQSW
SZNE	Thickness of saturated zone (m)	1.000E+02	1.000E+02	---	DPTHAQ
SZNE	Density of saturated zone (g/cm**3)	1.500E+00	1.500E+00	---	DENSAQ
SZNE	Saturated zone total porosity	4.000E-01	4.000E-01	---	TPSZ
SZNE	Saturated zone effective porosity	2.000E-01	2.000E-01	---	EPSZ
SZNE	Saturated zone hydraulic conductivity (m/yr)	1.000E+02	1.000E+02	---	HCSZ
SZNE	Saturated zone hydraulic gradient to well	2.000E-02	2.000E-02	---	HGW
SZNE	Satur. zone hydraulic gradient to surface water body	2.000E-02	2.000E-02	---	HGSW
SZNE	longitudinal dispersivity to well (m)	3.000E+00	3.000E+00	---	ALPHALOW
SZNE	longitudinal dispersivity to SWB (m)	1.000E+01	1.000E+01	---	ALPHALOSW
SZNE	lateral (horizontal) dispersivity to well (m)	4.000E-01	4.000E-01	---	ALPHATW
SZNE	lateral (horizontal) dispersivity to SWB (m)	1.000E+00	1.000E+00	---	ALPHATSW
SZNE	lateral (vertical) dispersivity to well (m)	2.000E-02	2.000E-02	---	ALPHAVW
SZNE	lateral (vertical) dispersivity to SWB (m)	6.000E-02	6.000E-02	---	ALPHAVSW
SZNE	Irrigation rate over aquifer to well (m/yr)	not used	0.000E+00	---	RIAQW
SZNE	Irrigation rate over aquifer to SWB (m/yr)	not used	0.000E+00	---	RIAQSW
SZNE	Evapotranspiration coefficient over aquifer to well	not used	1.000E+00	---	EVAPTRAQW
SZNE	Evapotranspiration coefficient over aquifer to SWB	not used	1.000E+00	---	EVAPTRAQSW
SZNE	Runoff coefficient over aquifer to well	not used	1.000E+00	---	RUNOFFAQW
SZNE	Runoff coefficient over aquifer to SWB	not used	1.000E+00	---	RUNOFFAQSW
SZNE	Concentration of mobile colloids in the aquifer	0.000E+00	0.000E+00	---	CCOL
SZNE	Water - Soil Distribution coefficient of colloids	0.000E+00	0.000E+00	---	K1Col
SZNE	Water - Mobile Colloids Distribution coefficient	0.000E+00	0.000E+00	---	K3Col

WTRU	Drinking water intake (L/yr)	not used	5.100E+02	---	DWI
WTRU	Fraction of drinking water from surface water	not used	0.000E+00	---	FSWD
WTRU	Fraction of drinking water from well water	not used	1.000E+00	---	FWWD
WTRU	Fraction of household water from surface water	0.000E+00	0.000E+00	---	FSWHH
WTRU	Fraction of household water from well water	1.000E+00	1.000E+00	---	FWWHH
WTRU	Livestock water intake for meat 1 (L/day)	not used	5.000E+01	---	LWI (1)
WTRU	Fraction of livestock water 1 from surface water	not used	0.000E+00	---	FSWL1V (1)
WTRU	Fraction of livestock water 1 from well water	not used	1.000E+00	---	FWWL1V (1)
WTRU	Livestock water intake for milk (L/day)	not used	1.600E+02	---	LWI (2)
WTRU	Fraction of dairy cow water from surface water	not used	0.000E+00	---	FSWL2V (2)
WTRU	Fraction of dairy cow water from well water	not used	1.000E+00	---	FWWL2V (2)
WTRU	Irrigation rate in Agricultural Area 1 (m/yr)	2.000E-01	2.000E-01	---	RIR1RIG (1)
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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
WTRU	Fraction of irrigation water 1 from surface water	0.000E+00	0.000E+00	---	FSWIR (1)
WTRU	Fraction of irrigation water 1 from well water	1.000E+00	1.000E+00	---	FWWIR (1)
WTRU	Irrigation rate in Agricultural Area 2 (m/yr)	2.000E-01	2.000E-01	---	RIR2RIG (2)
WTRU	Fraction of irrigation water 2 from surface water	0.000E+00	0.000E+00	---	FSWIR (2)
WTRU	Fraction of irrigation water 2 from well water	1.000E+00	1.000E+00	---	FWWIR (2)
WTRU	Irrigation rate in Agricultural Area 3 (m/yr)	2.000E-01	2.000E-01	---	RIR3RIG (3)
WTRU	Fraction of irrigation water 3 from surface water	0.000E+00	0.000E+00	---	FSWIR (3)
WTRU	Fraction of irrigation water 3 from well water	1.000E+00	1.000E+00	---	FWWIR (3)
WTRU	Irrigation rate in Agricultural Area 4 (m/yr)	2.000E-01	2.000E-01	---	RIR4RIG (4)
WTRU	Fraction of irrigation water 4 from surface water	0.000E+00	0.000E+00	---	FSWIR (4)
WTRU	Fraction of irrigation water 4 from well water	1.000E+00	1.000E+00	---	FWWIR (4)
WTRU	Irrigation rate in Offsite dwelling site (m/yr)	2.000E-01	2.000E-01	---	RIRRIGDWELL
WTRU	Fraction of irrigation water from surface water	0.000E+00	0.000E+00	---	FSWIRDWELL
WTRU	Fraction of irrigation water from well water	1.000E+00	1.000E+00	---	FWWIRDWELL
WTRU	Well pumping rate (m**3/yr)	5.100E+03	5.100E+03	---	UW
SWBY	Surface area of water in surface water body, m**2	9.000E+04	9.000E+04	---	ALAKE
SWBY	Volume of surface water body, m**3	1.500E+05	1.500E+05	---	VLAKE
SWBY	Potential evaporation, m/y	1.000E+00	1.000E+00	---	EVAPOT
SWBY	Stream outflow as a fraction of seepage+stm outflows	9.983E-01	9.983E-01	---	FSTMFLOW
SWBY	Use inflow ratio for outflow ratio, 1 yes, 0 no	1	1	---	FSTMFLOWIN
SWBY	Settling velocity of suspended sediments, cm/s	1.000E-01	1.000E-01	---	Vsettle
SWBY	Dry bulk density of bottom sediments, g/cm**3	1.500E+00	1.500E+00	---	RhobSed
SWBY	Thickness of bottom sediment absorbing nuclides, m	5.000E-02	5.000E-02	---	ThickSed
SWBY	Number of distinct catchments	1	1	---	NCATCH
SWBY	Catchment 1, smaller X coordinate (m)	-1.450E+03	-1.450E+03	---	CATCHXY (1,1)
SWBY	Catchment 1, larger X coordinate (m)	1.550E+03	1.550E+03	---	CATCHXY (2,1)
SWBY	Catchment 1, smaller Y coordinate (m)	-2.450E+03	-2.450E+03	---	CATCHXY (3,1)
SWBY	Catchment 1, larger Y coordinate (m)	5.500E+02	5.500E+02	---	CATCHXY (4,1)
SWBY	Catchment 1, area, m**2	9.000E+06	9.000E+06	---	AREACA (1)

SWBY	Catchment 1, runoff coefficient	2.000E-01	2.000E-01	---	RUNOFFCA(1)
SWBY	Catchment 1, soil erodibility factor, tons/acre	4.000E-01	4.000E-01	---	ERODIBILITYCA(1)
SWBY	Catchment 1, Slope-length-steepness factor	4.000E-01	4.000E-01	---	SLPLENSTPCA(1)
SWBY	Catchment 1, Cover and management factor	3.000E-03	3.000E-03	---	CRPMANGCA(1)
SWBY	Catchment 1, support practice factor	1.000E+00	1.000E+00	---	CONVPRACTCA(1)
SWBY	Catchment 1, sediment delivery ratio	2.121E-01	2.121E-01	---	SDRCA(1)
SWBY	Catchment 1, use SRD - Area correlation, 1 yes, 0 no	1	1	---	SDRACOR
SWBY	Catchment 1, deposited radionuclide delivery ratio	2.000E-02	2.000E-02	---	DDRCA(1)
SWBY	Compute atmospheric deposition on catchment	yes	no	---	ComputeDep
SWBY	Convergence criterion for deposition calculations	1.000E-03	1.000E-03	---	ConvCritAtm
INGE	Fish consumption (kg/yr)	not used	5.400E+00	---	DFI(1)
INGE	Fraction of Fish from affected area	not used	5.000E-01	---	FFISH(1)
INGE	Other Aquatic food consumption (kg/yr)	not used	9.000E-01	---	DFI(2)
INGE	Fraction of Aquatic food from affected area	not used	5.000E-01	---	FFISH(2)
INGE	Non-Leafy vegetables consumption (kg/yr)	not used	1.600E+02	---	DVI(1)
INGE	Fraction of vegetable 1 from affected area	not used	5.000E-01	---	FVEG(1)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
INGE	Leafy vegetable consumption (kg/yr)	not used	1.400E+01	---	DVI(2)
INGE	Fraction of vegetable 2 from affected area	not used	5.000E-01	---	FVEG(2)
INGE	Meat 1 consumption (kg/yr)	not used	6.300E+01	---	DMI(1)
INGE	Fraction of meat 1 from affected area	not used	1.000E+00	---	FMEMI(1)
INGE	Milk consumption (L/yr)	not used	9.200E+01	---	DMI(2)
INGE	Fraction of milk from affected area	not used	1.000E+00	---	FMEMI(2)
INGE	Soil ingestion rate (g/yr)	3.650E+01	3.650E+01	---	SOIL
VEGE	Wet weight crop yield for Non-Leafy (kg/m**2)	not used	7.000E-01	---	YIELD(1)
VEGE	Growing Season for Non-Leafy (years)	not used	1.700E-01	---	GROWTIME(1)
VEGE	Translocation Factor for Non-Leafy	not used	1.000E-01	---	FOLI_F(1)
VEGE	Weathering Removal Constant for Non-Leafy	not used	2.000E+01	---	RWEATHER(1)
VEGE	Foliar Interception Fraction for dust Non-Leafy	not used	2.500E-01	---	FINTCEPT(1,1)
VEGE	Foliar Intercept-n Fract-n for irrigation Non-Leafy	not used	2.500E-01	---	FINTCEPT(1,2)
VEGE	Depth of roots for Non-Leafy (m)	not used	1.200E+00	---	DROOT(1)
VEGE	Wet weight crop yield for Leafy (kg/m**2)	not used	1.500E+00	---	YIELD(2)
VEGE	Growing Season for Leafy (years)	not used	2.500E-01	---	GROWTIME(2)
VEGE	Translocation Factor for Leafy	not used	1.000E+00	---	FOLI_F(2)
VEGE	Weathering Removal Constant for Leafy	not used	2.000E+01	---	RWEATHER(2)
VEGE	Foliar Interception Fraction for dust Leafy	not used	2.500E-01	---	FINTCEPT(2,1)
VEGE	Foliar Intercept-n Fract-n for irrigation Leafy	not used	2.500E-01	---	FINTCEPT(2,2)
VEGE	Depth of roots for Leafy (m)	not used	9.000E-01	---	DROOT(2)
VEGE	Wet weight crop yield for Pasture (kg/m**2)	not used	1.100E+00	---	YIELD(3)
VEGE	Growing Season for Pasture (years)	not used	8.000E-02	---	GROWTIME(3)
VEGE	Translocation Factor for Pasture	not used	1.000E+00	---	FOLI_F(3)

VEGE	Weathering Removal Constant for Pasture	not used	2.000E+01	---	RWEATHER(3)
VEGE	Foliar Interception Fraction for dust Pasture	not used	2.500E-01	---	FINTCEPT(3,1)
VEGE	Foliar Intercept-n Fract-n for irrigation Pasture	not used	2.500E-01	---	FINTCEPT(3,2)
VEGE	Depth of roots for Pasture (m)	not used	9.000E-01	---	DROOT(3)
VEGE	Wet weight crop yield for Grain (kg/m**2)	not used	7.000E-01	---	YIELD(4)
VEGE	Growing Season for Grain (years)	not used	1.700E-01	---	GROWTIME(4)
VEGE	Translocation Factor for Grain	not used	1.000E-01	---	FOLI_F(4)
VEGE	Weathering Removal Constant for Grain	not used	2.000E+01	---	RWEATHER(4)
VEGE	Foliar Interception Fraction for dust Grain	not used	2.500E-01	---	FINTCEPT(4,1)
VEGE	Foliar Intercept-n Fract-n for irrigation Grain	not used	2.500E-01	---	FINTCEPT(4,2)
VEGE	Depth of roots for Grain (m)	not used	1.200E+00	---	DROOT(4)
LINT	Feed 1 intake by livestock 1 (kg/day)	not used	1.400E+01	---	LFI(1,1)
LINT	Soil intake with feed 1 by livestock 1 (kg/day)	not used	1.000E-01	---	LSI(1,1)
LINT	Feed 1 intake by dairy cow (kg/day)	not used	4.400E+01	---	LFI(2,1)
LINT	Soil intake with feed 1 by dairy cow (kg/day)	not used	4.000E-01	---	LSI(2,1)
LINT	Feed 2 intake by livestock 1 (kg/day)	not used	5.400E+01	---	LFI(1,2)
LINT	Soil intake with feed 2 by livestock 1 (kg/day)	not used	4.000E-01	---	LSI(1,2)
LINT	Feed 2 intake by dairy cow (kg/day)	not used	1.100E+01	---	LFI(2,2)
LINT	Soil intake with feed 2 by dairy cow (kg/day)	not used	1.000E-01	---	LSI(2,2)
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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
INHE	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
INHE	Mass loading of all particulates from Primary contam	1.000E-04	1.000E-04	---	MLFD
INHE	Respirable particulates as a fraction of total	1.000E+00	1.000E+00	---	RESPFRACPC
INHE	Offsite mass loading same as onsite mass loading?	0.000E+00		---	SAMEMLRF
INHE	Total mass loading at agricultural area 1 (g/m**3)	1.000E-04	1.000E-04	---	MLTTOF(1)
INHE	Respirable fraction at agricultural area 1	1.000E+00	1.000E+00	---	RESPFRACOF(1)
INHE	Total mass loading at agricultural area 2 (g/m**3)	1.000E-04	1.000E-04	---	MLTTOF(2)
INHE	Respirable fraction at agricultural area 2	1.000E+00	1.000E+00	---	RESPFRACOF(2)
INHE	Total mass loading at agricultural area 3 (g/m**3)	1.000E-04	1.000E-04	---	MLTTOF(3)
INHE	Respirable fraction at agricultural area 3	1.000E+00	1.000E+00	---	RESPFRACOF(3)
INHE	Total mass loading at agricultural area 4 (g/m**3)	1.000E-04	1.000E-04	---	MLTTOF(4)
INHE	Respirable fraction at agricultural area 4	1.000E+00	1.000E-04	---	RESPFRACOF(4)
INHE	Total mass loading at offsite dwelling(g/m**3)	1.000E-04	1.000E-04	---	MLTOTDWELL
INHE	Respirable fraction at offsite dwelling(g/m**3)	1.000E+00	1.000E+00	---	RESPFRACDWELL
INHE	Indoor dust filtration factor, inhalation	4.000E-01	4.000E-01	---	SHF3
INHE	Shielding factor, external gamma	7.000E-01	7.000E-01	---	SHF1
INHE	Shape factor flag, external gamma	-1.000E+00	1.000E+00	noncircular	FS
SEXT	Onsite shape factor array (used if non-circular):				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 1:	1.667E-01	6.000E+00	---	RAD_SHAPE(1)
SEXT	Outer annular radius (m), ring 2:	3.333E-01	1.200E+01	---	RAD_SHAPE(2)
SEXT	Outer annular radius (m), ring 3:	5.000E-01	1.800E+01	---	RAD_SHAPE(3)

SEXT	Outer annular radius (m), ring 4:	6.667E-01	2.400E+01	---	RAD_SHAPE(4)
SEXT	Outer annular radius (m), ring 5:	8.333E-01	3.000E+01	---	RAD_SHAPE(5)
SEXT	Outer annular radius (m), ring 6:	1.000E+00	3.600E+01	---	RAD_SHAPE(6)
SEXT	Outer annular radius (m), ring 7:	1.167E+00	4.200E+01	---	RAD_SHAPE(7)
SEXT	Outer annular radius (m), ring 8:	1.333E+00	4.800E+01	---	RAD_SHAPE(8)
SEXT	Outer annular radius (m), ring 9:	1.500E+00	5.400E+01	---	RAD_SHAPE(9)
SEXT	Outer annular radius (m), ring 10:	1.667E+00	6.000E+01	---	RAD_SHAPE(10)
SEXT	Outer annular radius (m), ring 11:	1.833E+00	6.600E+01	---	RAD_SHAPE(11)
SEXT	Outer annular radius (m), ring 12:	2.000E+00	7.200E+01	---	RAD_SHAPE(12)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 1	1.000E+00	1.000E+00	---	FRACA(1)
SEXT	Ring 2	0.000E+00	1.000E+00	---	FRACA(2)
SEXT	Ring 3	0.000E+00	1.000E+00	---	FRACA(3)
SEXT	Ring 4	0.000E+00	1.000E+00	---	FRACA(4)
SEXT	Ring 5	0.000E+00	1.000E+00	---	FRACA(5)
SEXT	Ring 6	0.000E+00	1.000E+00	---	FRACA(6)
SEXT	Ring 7	0.000E+00	1.000E+00	---	FRACA(7)
SEXT	Ring 8	0.000E+00	1.000E+00	---	FRACA(8)
SEXT	Ring 9	0.000E+00	7.700E-01	---	FRACA(9)
SEXT	Ring 10	0.000E+00	3.700E-01	---	FRACA(10)
SEXT	Ring 11	0.000E+00	1.700E-01	---	FRACA(11)
SEXT	Ring 12	0.000E+00	3.100E-02	---	FRACA(12)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
SEXT	Shape factor array from offsite dwelling:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 13:	4.168E+02	1.325E+01	---	RAD_SHAPE(13)
SEXT	Outer annular radius (m), ring 14:	8.335E+02	2.650E+01	---	RAD_SHAPE(14)
SEXT	Outer annular radius (m), ring 15:	1.250E+03	3.975E+01	---	RAD_SHAPE(15)
SEXT	Outer annular radius (m), ring 16:	1.667E+03	5.300E+01	---	RAD_SHAPE(16)
SEXT	Outer annular radius (m), ring 17:	2.084E+03	6.625E+01	---	RAD_SHAPE(17)
SEXT	Outer annular radius (m), ring 18:	2.500E+03	7.950E+01	---	RAD_SHAPE(18)
SEXT	Outer annular radius (m), ring 19:	2.917E+03	9.275E+01	---	RAD_SHAPE(19)
SEXT	Outer annular radius (m), ring 20:	3.334E+03	1.060E+02	---	RAD_SHAPE(20)
SEXT	Outer annular radius (m), ring 21:	3.751E+03	1.192E+02	---	RAD_SHAPE(21)
SEXT	Outer annular radius (m), ring 22:	4.168E+03	1.325E+02	---	RAD_SHAPE(22)
SEXT	Outer annular radius (m), ring 23:	4.584E+03	1.458E+02	---	RAD_SHAPE(23)
SEXT	Outer annular radius (m), ring 24:	5.001E+03	1.590E+02	---	RAD_SHAPE(24)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 13	0.000E+00	0.000E+00	---	FRACA(13)
SEXT	Ring 14	0.000E+00	0.000E+00	---	FRACA(14)
SEXT	Ring 15	0.000E+00	0.000E+00	---	FRACA(15)
SEXT	Ring 16	0.000E+00	2.400E-02	---	FRACA(16)
SEXT	Ring 17	0.000E+00	1.900E-01	---	FRACA(17)

SEXT	Ring 18	0.000E+00	2.400E-01	---	FRACA (18)
SEXT	Ring 19	0.000E+00	2.000E-01	---	FRACA (19)
SEXT	Ring 20	0.000E+00	1.700E-01	---	FRACA (20)
SEXT	Ring 21	0.000E+00	1.500E-01	---	FRACA (21)
SEXT	Ring 22	0.000E+00	1.300E-01	---	FRACA (22)
SEXT	Ring 23	0.000E+00	1.200E-01	---	FRACA (23)
SEXT	Ring 24	3.500E-08	5.200E-02	---	FRACA (24)
SEXT	Shape factor array from offsite area 1:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 25:	1.000E+01	1.000E+01	---	RAD_SHAPE (25)
SEXT	Outer annular radius (m), ring 26:	1.000E+01	1.000E+01	---	RAD_SHAPE (26)
SEXT	Outer annular radius (m), ring 27:	1.000E+01	1.000E+01	---	RAD_SHAPE (27)
SEXT	Outer annular radius (m), ring 28:	1.000E+01	1.000E+01	---	RAD_SHAPE (28)
SEXT	Outer annular radius (m), ring 29:	1.000E+01	1.000E+01	---	RAD_SHAPE (29)
SEXT	Outer annular radius (m), ring 30:	1.000E+01	1.000E+01	---	RAD_SHAPE (30)
SEXT	Outer annular radius (m), ring 31:	1.000E+01	1.000E+01	---	RAD_SHAPE (31)
SEXT	Outer annular radius (m), ring 32:	1.000E+01	1.000E+01	---	RAD_SHAPE (32)
SEXT	Outer annular radius (m), ring 33:	1.000E+01	1.000E+01	---	RAD_SHAPE (33)
SEXT	Outer annular radius (m), ring 34:	1.000E+01	1.000E+01	---	RAD_SHAPE (34)
SEXT	Outer annular radius (m), ring 35:	1.000E+01	1.000E+01	---	RAD_SHAPE (35)
SEXT	Outer annular radius (m), ring 36:	1.000E+01	1.000E+01	---	RAD_SHAPE (36)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 25	0.000E+00	0.000E+00	---	FRACA (25)
SEXT	Ring 26	0.000E+00	0.000E+00	---	FRACA (26)
SEXT	Ring 27	0.000E+00	0.000E+00	---	FRACA (27)
SEXT	Ring 28	0.000E+00	0.000E+00	---	FRACA (28)
SEXT	Ring 29	0.000E+00	0.000E+00	---	FRACA (29)
SEXT	Ring 30	0.000E+00	0.000E+00	---	FRACA (30)
SEXT	Ring 31	0.000E+00	0.000E+00	---	FRACA (31)
SEXT	Ring 32	0.000E+00	0.000E+00	---	FRACA (32)
SEXT	Ring 33	0.000E+00	0.000E+00	---	FRACA (33)
SEXT	Ring 34	0.000E+00	0.000E+00	---	FRACA (34)
SEXT	Ring 35	0.000E+00	0.000E+00	---	FRACA (35)
SEXT	Ring 36	0.000E+00	0.000E+00	---	FRACA (36)
SEXT	Shape factor array from offsite area 2:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 37:	1.000E+01	1.000E+01	---	RAD_SHAPE (37)
SEXT	Outer annular radius (m), ring 38:	1.000E+01	1.000E+01	---	RAD_SHAPE (38)
SEXT	Outer annular radius (m), ring 39:	1.000E+01	1.000E+01	---	RAD_SHAPE (39)
SEXT	Outer annular radius (m), ring 40:	1.000E+01	1.000E+01	---	RAD_SHAPE (40)
SEXT	Outer annular radius (m), ring 41:	1.000E+01	1.000E+01	---	RAD_SHAPE (41)
SEXT	Outer annular radius (m), ring 42:	1.000E+01	1.000E+01	---	RAD_SHAPE (42)

SEXT	Outer annular radius (m), ring 43:	1.000E+01	1.000E+01	---	RAD_SHAPE (43)
SEXT	Outer annular radius (m), ring 44:	1.000E+01	1.000E+01	---	RAD_SHAPE (44)
SEXT	Outer annular radius (m), ring 45:	1.000E+01	1.000E+01	---	RAD_SHAPE (45)
SEXT	Outer annular radius (m), ring 46:	1.000E+01	1.000E+01	---	RAD_SHAPE (46)
SEXT	Outer annular radius (m), ring 47:	1.000E+01	1.000E+01	---	RAD_SHAPE (47)
SEXT	Outer annular radius (m), ring 48:	1.000E+01	1.000E+01	---	RAD_SHAPE (48)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 37	0.000E+00	0.000E+00	---	FRACA (37)
SEXT	Ring 38	0.000E+00	0.000E+00	---	FRACA (38)
SEXT	Ring 39	0.000E+00	0.000E+00	---	FRACA (39)
SEXT	Ring 40	0.000E+00	0.000E+00	---	FRACA (40)
SEXT	Ring 41	0.000E+00	0.000E+00	---	FRACA (41)
SEXT	Ring 42	0.000E+00	0.000E+00	---	FRACA (42)
SEXT	Ring 43	0.000E+00	0.000E+00	---	FRACA (43)
SEXT	Ring 44	0.000E+00	0.000E+00	---	FRACA (44)
SEXT	Ring 45	0.000E+00	0.000E+00	---	FRACA (45)
SEXT	Ring 46	0.000E+00	0.000E+00	---	FRACA (46)
SEXT	Ring 47	0.000E+00	0.000E+00	---	FRACA (47)
SEXT	Ring 48	0.000E+00	0.000E+00	---	FRACA (48)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
SEXT	Shape factor array from offsite area 3:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 49:	1.000E+01	1.000E+01	---	RAD_SHAPE (49)
SEXT	Outer annular radius (m), ring 50:	1.000E+01	1.000E+01	---	RAD_SHAPE (50)
SEXT	Outer annular radius (m), ring 51:	1.000E+01	1.000E+01	---	RAD_SHAPE (51)
SEXT	Outer annular radius (m), ring 52:	1.000E+01	1.000E+01	---	RAD_SHAPE (52)
SEXT	Outer annular radius (m), ring 53:	1.000E+01	1.000E+01	---	RAD_SHAPE (53)
SEXT	Outer annular radius (m), ring 54:	1.000E+01	1.000E+01	---	RAD_SHAPE (54)
SEXT	Outer annular radius (m), ring 55:	1.000E+01	1.000E+01	---	RAD_SHAPE (55)
SEXT	Outer annular radius (m), ring 56:	1.000E+01	1.000E+01	---	RAD_SHAPE (56)
SEXT	Outer annular radius (m), ring 57:	1.000E+01	1.000E+01	---	RAD_SHAPE (57)
SEXT	Outer annular radius (m), ring 58:	1.000E+01	1.000E+01	---	RAD_SHAPE (58)
SEXT	Outer annular radius (m), ring 59:	1.000E+01	1.000E+01	---	RAD_SHAPE (59)
SEXT	Outer annular radius (m), ring 60:	1.000E+01	1.000E+01	---	RAD_SHAPE (60)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 49	0.000E+00	0.000E+00	---	FRACA (49)
SEXT	Ring 50	0.000E+00	0.000E+00	---	FRACA (50)
SEXT	Ring 51	0.000E+00	0.000E+00	---	FRACA (51)
SEXT	Ring 52	0.000E+00	0.000E+00	---	FRACA (52)
SEXT	Ring 53	0.000E+00	0.000E+00	---	FRACA (53)
SEXT	Ring 54	0.000E+00	0.000E+00	---	FRACA (54)
SEXT	Ring 55	0.000E+00	0.000E+00	---	FRACA (55)
SEXT	Ring 56	0.000E+00	0.000E+00	---	FRACA (56)

SEXT	Ring 57	0.000E+00	0.000E+00	---	FRACA (57)
SEXT	Ring 58	0.000E+00	0.000E+00	---	FRACA (58)
SEXT	Ring 59	0.000E+00	0.000E+00	---	FRACA (59)
SEXT	Ring 60	0.000E+00	0.000E+00	---	FRACA (60)
SEXT	Shape factor array from offsite area 4:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 61:	1.000E+01	1.000E+01	---	RAD_SHAPE (61)
SEXT	Outer annular radius (m), ring 62:	1.000E+01	1.000E+01	---	RAD_SHAPE (62)
SEXT	Outer annular radius (m), ring 63:	1.000E+01	1.000E+01	---	RAD_SHAPE (63)
SEXT	Outer annular radius (m), ring 64:	1.000E+01	1.000E+01	---	RAD_SHAPE (64)
SEXT	Outer annular radius (m), ring 65:	1.000E+01	1.000E+01	---	RAD_SHAPE (65)
SEXT	Outer annular radius (m), ring 66:	1.000E+01	1.000E+01	---	RAD_SHAPE (66)
SEXT	Outer annular radius (m), ring 67:	1.000E+01	1.000E+01	---	RAD_SHAPE (67)
SEXT	Outer annular radius (m), ring 68:	1.000E+01	1.000E+01	---	RAD_SHAPE (68)
SEXT	Outer annular radius (m), ring 69:	1.000E+01	1.000E+01	---	RAD_SHAPE (69)
SEXT	Outer annular radius (m), ring 70:	1.000E+01	1.000E+01	---	RAD_SHAPE (70)
SEXT	Outer annular radius (m), ring 71:	1.000E+01	1.000E+01	---	RAD_SHAPE (71)
SEXT	Outer annular radius (m), ring 72:	1.000E+01	1.000E+01	---	RAD_SHAPE (72)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days
Parent Dose Report
Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-REV1.ROF

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 61	0.000E+00	0.000E+00	---	FRACA (61)
SEXT	Ring 62	0.000E+00	0.000E+00	---	FRACA (62)
SEXT	Ring 63	0.000E+00	0.000E+00	---	FRACA (63)
SEXT	Ring 64	0.000E+00	0.000E+00	---	FRACA (64)
SEXT	Ring 65	0.000E+00	0.000E+00	---	FRACA (65)
SEXT	Ring 66	0.000E+00	0.000E+00	---	FRACA (66)
SEXT	Ring 67	0.000E+00	0.000E+00	---	FRACA (67)
SEXT	Ring 68	0.000E+00	0.000E+00	---	FRACA (68)
SEXT	Ring 69	0.000E+00	0.000E+00	---	FRACA (69)
SEXT	Ring 70	0.000E+00	0.000E+00	---	FRACA (70)
SEXT	Ring 71	0.000E+00	0.000E+00	---	FRACA (71)
SEXT	Ring 72	0.000E+00	0.000E+00	---	FRACA (72)
OCCU	Fraction of time spent indoors on contaminated site	0.000E+00	0.000E+00	---	FIND
OCCU	Fraction of time spent outdoors on contaminated site	0.000E+00	0.000E+00	---	FOTD
OCCU	Fraction of time spent indoors in Offsite Dwelling	5.000E-01	5.000E-01	---	FINDDWELL
OCCU	Fraction of time spent outdoors in Offsite Dwelling	2.500E-01	1.000E-01	---	FOTDDWELL
OCCU	Fraction of time spent outdoors in agri. area 1	0.000E+00	1.000E-01	---	OCCUPANCY (1)
OCCU	Fraction of time spent outdoors in agri. area 2	0.000E+00	1.000E-01	---	OCCUPANCY (2)
OCCU	Fraction of time spent outdoors in agri. area 3	0.000E+00	1.000E-01	---	OCCUPANCY (3)
OCCU	Fraction of time spent outdoors in agri. area 4	0.000E+00	1.000E-01	---	OCCUPANCY (4)
RADN	Diffusion coefficient for radon gas (m/sec):				

B-111

RADN	in cover material	not used	2.000E-06	---	DIFCV
RADN	in contaminated zone soil	not used	2.000E-06	---	DIFCZ
RADN	in fruit, grain and non-leafy vegetable field	not used	2.000E-06	---	DIFOS (1)
RADN	in leafy vegetable field	not used	2.000E-06	---	DIFOS (2)
RADN	in pasture	not used	2.000E-06	---	DIFOS (3)
RADN	in livestock grain field	not used	2.000E-06	---	DIFOS (4)
RADN	in offsite dwelling site	not used	2.000E-06	---	DIFOS (5)
RADN	in foundation material	not used	3.000E-07	---	DIFFL
RADN	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
RADN	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
RADN	Total porosity of the building foundation	not used	1.000E-01	---	TPFL
RADN	Volumetric water content of the foundation	not used	3.000E-02	---	PH2OFL
RADN	Building depth below ground surface (m)	not used	-1.000E+00	---	DMFL
RADN	Radon vertical dimension of mixing (m)	not used	2.000E+00	---	HMIX
RADN	Height of the building (room) (m)	not used	2.500E+00	---	HRM
RADN	Average building air exchange rate (1/hr)	not used	5.000E-01	---	REXG
RADN	Building interior area factor	not used	0.000E+00	---	FAI
RADN	Emanating power of Rn-222 gas	not used	2.500E-01	---	EMANA (1)
RADN	Emanating power of Rn-220 gas	not used	1.500E-01	---	EMANA (2)
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	Vertical dimension of mixing for vegetation (m)	not used	1.000E+00	---	HMIXV
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	C14EVSN

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	C12EVSN
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C12	C-12 concentration in the atmosphere (g/m**3)	not used	1.800E-01	---	C12AIR
C12	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C12	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C12	C-12 concentration in meat 1 (g/g)	not used	2.400E-01	---	C12MEAT_MILK (1)
C12	C-12 concentration in milk (g/g)	not used	7.000E-02	---	C12MEAT_MILK (2)
C12	C-12 concentration in vegetable 1 (g/g)	not used	4.000E-01	---	C12PLANT (1)
C12	C-12 concentration in vegetable 2 (g/g)	not used	9.000E-02	---	C12PLANT (2)
C12	C-12 concentration in livestock feed 1 (g/g)	not used	9.000E-02	---	C12PLANT (3)
C12	C-12 concentration in livestock feed 2 (g/g)	not used	4.000E-01	---	C12PLANT (4)
H3	Humidity in air (g/cm**3)	not used	8.000E+00	---	HUMID
H3	Mass fraction of water in meat 1 (g/g)	not used	6.000E-01	---	H2OMEAT_MILK (1)
H3	Mass fraction of water in milk (g/g)	not used	8.800E-01	---	H2OMEAT_MILK (2)
H3	Mass fraction of water in vegetable 1 (g/g)	not used	8.000E-01	---	H2OPLANT (1)
H3	Mass fraction of water in vegetable 2 (g/g)	not used	8.000E-01	---	H2OPLANT (2)

H3	Mass fraction of water in livestock feed 1 (g/g)	not used	8.000E-01	---	H2OPLANT (3)
H3	Mass fraction of water in livestock feed 2 (g/g)	not used	8.000E-01	---	H2OPLANT (4)

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

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days 06/11/2020 11:32 Page 49
Parent Dose Report
Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	1.00 square meters	Am-241	3.000E+00
Thickness:	2.00 meters	Cs-137	3.000E+00
Cover Depth:	0.00 meters	Np-237	3.000E+01
		Pu-238	3.000E+00
		Pu-239	3.000E+00
		Pu-240	3.000E+00
		Tc-99	3.000E+01
		Th-228	3.000E+00
		Th-230	3.000E+00
		Th-232	3.000E+00
		U-234	3.000E+01
		U-235	3.000E+01
		U-238	3.000E+01

0
Total Dose TDose(t), mrem/yr
Basic Radiation Dose Limit = 2.500E+01 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
TDose(t):	1.350E-01	1.350E-01	1.350E-01	1.351E-01	1.352E-01
M(t):	5.400E-03	5.400E-03	5.402E-03	5.404E-03	5.407E-03

0Maximum TDose(t): 1.356E-01 mrem/yr at t = 40 years

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days 06/11/2020 11:32 Page 50
Parent Dose Report

Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 0 years
From releases to ground water and to surface water

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Total	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 0 years

0	Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)															
Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	8.88E-09	0	8.88E-03	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.77E-09	0	8.88E-03	7
Cs-137	9.16E-07	0	3.61E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.02E-10	0	4.53E-06	0
Np-237	3.07E-06	0	4.63E-02	34	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.18E-08	0	4.63E-02	34
Pu-238	3.12E-11	0	1.02E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.07E-08	0	1.02E-02	8
Pu-239	6.67E-11	0	1.11E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.17E-08	0	1.11E-02	8
Pu-240	3.04E-11	0	1.11E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.17E-08	0	1.11E-02	8
Tc-99	2.05E-11	0	1.20E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.17E-11	0	1.20E-05	0
Th-228	2.06E-06	0	4.04E-03	3	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.41E-09	0	4.04E-03	3
Th-230	1.06E-09	0	9.25E-03	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	9.87E-09	0	9.25E-03	7
Th-232	1.38E-07	0	1.02E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.32E-08	0	1.02E-02	8
U-234	8.75E-10	0	8.70E-03	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.24E-08	0	8.70E-03	6
U-235	1.73E-06	0	7.86E-03	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.16E-08	0	7.87E-03	6
U-238	4.47E-07	0	7.41E-03	5	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.21E-08	0	7.41E-03	5
Total	8.37E-06	0	1.35E-01	100	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.90E-07	0	1.35E-01	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days 06/11/2020 11:32 Page 51

Parent Dose Report

B-114

Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 1 years
From releases to ground water and to surface water

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Total	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 1 years

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)																
Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	2.57E-08	0	8.88E-03	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.54E-08	0	8.88E-03	7
Cs-137	2.73E-06	0	3.61E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.79E-09	0	6.34E-06	0
Np-237	9.18E-06	0	4.63E-02	34	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.55E-07	0	4.63E-02	34
Pu-238	9.32E-11	0	1.02E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.21E-08	0	1.02E-02	8
Pu-239	2.00E-10	0	1.11E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.52E-08	0	1.11E-02	8
Pu-240	9.11E-11	0	1.11E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.52E-08	0	1.11E-02	8
Tc-99	4.51E-11	0	1.20E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	4.76E-11	0	1.20E-05	0
Th-228	5.58E-06	0	4.04E-03	3	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.47E-08	0	4.04E-03	3
Th-230	4.39E-09	0	9.25E-03	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.96E-08	0	9.25E-03	7
Th-232	6.70E-07	0	1.02E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	4.30E-08	0	1.02E-02	8
U-234	2.59E-09	0	8.70E-03	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.62E-08	0	8.70E-03	6
U-235	5.10E-06	0	7.86E-03	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.40E-08	0	7.87E-03	6
U-238	1.32E-06	0	7.41E-03	5	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.54E-08	0	7.41E-03	5
Total	2.46E-05	0	1.35E-01	100	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.68E-07	0	1.35E-01	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days 06/11/2020 11:32 Page 52

Parent Dose Report

Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 3 years
From releases to ground water and to surface water

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Total	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 3 years

Radio- Nuclide	Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)															All Pathways*
	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		Dose	%
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	5.46E-08	0	8.88E-03	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.39E-08	0	8.88E-03	7
Cs-137	6.23E-06	0	3.61E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	4.09E-09	0	9.84E-06	0
Np-237	2.13E-05	0	4.63E-02	34	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.59E-07	0	4.63E-02	34
Pu-238	2.16E-10	0	1.02E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	7.44E-08	0	1.02E-02	8
Pu-239	4.66E-10	0	1.11E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.21E-08	0	1.11E-02	8
Pu-240	2.12E-10	0	1.11E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.20E-08	0	1.11E-02	8
Tc-99	5.13E-11	0	1.20E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.41E-11	0	1.20E-05	0
Th-228	9.97E-06	0	4.04E-03	3	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.62E-08	0	4.05E-03	3
Th-230	1.77E-08	0	9.25E-03	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.92E-08	0	9.25E-03	7
Th-232	3.24E-06	0	1.02E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.21E-07	0	1.02E-02	8
U-234	5.81E-09	0	8.70E-03	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.49E-07	0	8.70E-03	6
U-235	1.15E-05	0	7.87E-03	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.44E-07	0	7.88E-03	6
U-238	2.96E-06	0	7.41E-03	5	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.47E-07	0	7.41E-03	5
Total	5.52E-05	0	1.35E-01	100	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.31E-06	0	1.35E-01	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 6 years
From releases to ground water and to surface water

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Total	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 6 years

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)																
0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
Radio-Nuclide	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	8.77E-08	0	8.88E-03	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.66E-08	0	8.88E-03	7
Cs-137	1.12E-05	0	3.61E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	7.35E-09	0	1.48E-05	0
Np-237	3.90E-05	0	4.63E-02	34	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.58E-07	0	4.63E-02	34
Pu-238	3.96E-10	0	1.02E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.36E-07	0	1.02E-02	8
Pu-239	8.64E-10	0	1.11E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.52E-07	0	1.11E-02	8
Pu-240	3.94E-10	0	1.11E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.52E-07	0	1.11E-02	8
Tc-99	5.13E-11	0	1.20E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.41E-11	0	1.20E-05	0
Th-228	1.27E-05	0	4.04E-03	3	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.35E-08	0	4.05E-03	3
Th-230	5.43E-08	0	9.25E-03	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.29E-07	0	9.25E-03	7
Th-232	1.10E-05	0	1.02E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.76E-07	0	1.02E-02	8
U-234	1.02E-08	0	8.70E-03	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.60E-07	0	8.70E-03	6
U-235	2.00E-05	0	7.87E-03	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.51E-07	0	7.89E-03	6
U-238	5.18E-06	0	7.41E-03	5	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.56E-07	0	7.41E-03	5
Total	9.92E-05	0	1.35E-01	100	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.40E-06	0	1.35E-01	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

B-117

Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 10 years
From releases to ground water and to surface water

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Total	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 10 years

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)																
Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.18E-07	0	8.88E-03	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.16E-07	0	8.88E-03	7
Cs-137	1.73E-05	0	3.61E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.14E-08	0	2.09E-05	0
Np-237	6.19E-05	0	4.63E-02	34	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	1.05E-06	0	4.63E-02	34
Pu-238	6.28E-10	0	1.02E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.17E-07	0	1.02E-02	8
Pu-239	1.39E-09	0	1.11E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.45E-07	0	1.11E-02	8
Pu-240	6.34E-10	0	1.11E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.45E-07	0	1.11E-02	8
Tc-99	5.13E-11	0	1.20E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.41E-11	0	1.20E-05	0
Th-228	1.38E-05	0	4.04E-03	3	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.63E-08	0	4.05E-03	3
Th-230	1.31E-07	0	9.25E-03	7	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.08E-07	0	9.25E-03	7
Th-232	2.72E-05	0	1.02E-02	8	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.34E-07	0	1.02E-02	8
U-234	1.51E-08	0	8.70E-03	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.87E-07	0	8.70E-03	6
U-235	2.98E-05	0	7.87E-03	6	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.74E-07	0	7.90E-03	6
U-238	7.71E-06	0	7.41E-03	5	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.82E-07	0	7.42E-03	5
Total	1.58E-04	0	1.35E-01	100	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.80E-06	0	1.35E-01	100

0*Sum of dose from all releases and from primary contamination.

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Dose/Source Ratios Summed Over All Pathways								
Parent and Progeny Principal Radionuclide Contributions Indicated								
0	Parent	Product	Thread	DSR(j,t) (mrem/yr)/(pCi/g)				
	(i)	(j)	Fraction	0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
	Am-241	Am-241	1.000E+00	2.961E-03	2.961E-03	2.961E-03	2.961E-03	2.961E-03
	Am-241	Np-237+D	1.000E+00	2.223E-14	9.889E-14	4.176E-13	1.244E-12	2.801E-12
	Am-241	U-233	1.000E+00	1.045E-21	7.823E-21	6.082E-20	3.084E-19	1.087E-18
	Am-241	Th-229+D	1.000E+00	2.167E-24	2.968E-23	4.212E-22	3.609E-21	2.054E-20
	Am-241	ΣDSR (j)		2.961E-03	2.961E-03	2.961E-03	2.961E-03	2.961E-03
	0Cs-137+D	Cs-137+D	1.000E+00	1.508E-06	2.112E-06	3.281E-06	4.936E-06	6.969E-06
	0Np-237+D	Np-237+D	1.000E+00	1.542E-03	1.543E-03	1.543E-03	1.544E-03	1.544E-03
	Np-237+D	U-233	1.000E+00	7.974E-15	3.613E-14	1.584E-13	4.980E-13	1.203E-12
	Np-237+D	Th-229+D	1.000E+00	2.194E-17	1.689E-16	1.378E-15	7.495E-15	2.912E-14
	Np-237	ΣDSR (j)		1.542E-03	1.543E-03	1.543E-03	1.544E-03	1.544E-03
	0Pu-238	Pu-238	1.840E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	0Pu-238	Pu-238	1.000E+00	3.393E-03	3.393E-03	3.393E-03	3.393E-03	3.393E-03
	Pu-238	U-234	1.000E+00	4.905E-15	2.222E-14	9.739E-14	3.062E-13	7.395E-13
	Pu-238	Th-230	1.000E+00	1.635E-19	1.258E-18	1.027E-17	5.582E-17	2.168E-16
	Pu-238	Ra-226+D	1.000E+00	8.651E-22	1.205E-20	1.759E-19	1.565E-18	9.390E-18
	Pu-238	Pb-210+D	1.000E+00	8.704E-26	2.287E-24	5.912E-23	8.337E-22	7.602E-21
	Pu-238	Po-210	1.000E+00	3.716E-26	1.489E-24	5.080E-23	8.401E-22	8.519E-21
	Pu-238	ΣDSR (j)		3.393E-03	3.393E-03	3.393E-03	3.393E-03	3.393E-03
	0Pu-239	Pu-239	1.000E+00	3.701E-03	3.701E-03	3.701E-03	3.701E-03	3.702E-03
	Pu-239	U-235+D	1.000E+00	3.728E-17	1.693E-16	7.453E-16	2.361E-15	5.763E-15
	Pu-239	Pa-231	1.000E+00	2.947E-22	2.247E-21	1.804E-20	9.577E-20	3.596E-19
	Pu-239	Ac-227+D	1.000E+00	1.696E-23	2.289E-22	3.171E-21	2.629E-20	1.429E-19
	Pu-239	ΣDSR (j)		3.701E-03	3.701E-03	3.701E-03	3.701E-03	3.702E-03
	0Pu-240	Pu-240	4.950E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	0Pu-240	Pu-240	1.000E+00	3.701E-03	3.701E-03	3.701E-03	3.701E-03	3.702E-03
	Pu-240	U-236	1.000E+00	4.781E-17	2.171E-16	9.559E-16	3.028E-15	7.390E-15
	Pu-240	Th-232	1.000E+00	1.029E-26	7.932E-26	6.497E-25	3.551E-24	1.390E-23
	Pu-240	Ra-228+D	1.000E+00	7.441E-27	1.012E-25	1.421E-24	1.201E-23	6.720E-23
	Pu-240	Th-228+D	1.000E+00	1.002E-27	2.435E-26	5.576E-25	6.787E-24	5.077E-23
	Pu-240	ΣDSR (j)		3.701E-03	3.701E-03	3.701E-03	3.701E-03	3.702E-03
	0Tc-99	Tc-99	1.000E+00	4.009E-07	4.009E-07	4.009E-07	4.009E-07	4.009E-07
	0Th-228+D	Th-228+D	1.000E+00	1.346E-03	1.347E-03	1.349E-03	1.350E-03	1.350E-03
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Parent Dose Report								
Title : RESRAD-OFFSITE Effluent release								
File : PADUCAH EFFLUENT RELEASE-REV1.ROF								

Dose/Source Ratios Summed Over All Pathways								
Parent and Progeny Principal Radionuclide Contributions Indicated								
0	Parent (i)	Product (j)	Thread Fraction	DSR(j,t) (mrem/yr)/(pCi/g)				
				0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
	Th-230	Th-230	1.000E+00	3.084E-03	3.084E-03	3.084E-03	3.084E-03	3.085E-03

Th-230	Ra-226+D	1.000E+00	2.624E-10	1.196E-09	5.307E-09	1.701E-08	4.217E-08
Th-230	Pb-210+D	1.000E+00	4.376E-14	3.340E-13	2.687E-12	1.431E-11	5.395E-11
Th-230	Po-210	1.000E+00	2.499E-14	2.609E-13	2.643E-12	1.609E-11	6.540E-11
Th-230	ΣDSR(j)		3.084E-03	3.084E-03	3.084E-03	3.084E-03	3.085E-03
0Th-232	Th-232	1.000E+00	3.393E-03	3.393E-03	3.393E-03	3.393E-03	3.393E-03
Th-232	Ra-228+D	1.000E+00	3.860E-08	1.703E-07	7.082E-07	2.065E-06	4.548E-06
Th-232	Th-228+D	1.000E+00	8.413E-09	5.809E-08	3.946E-07	1.667E-06	4.697E-06
Th-232	ΣDSR(j)		3.393E-03	3.393E-03	3.394E-03	3.397E-03	3.402E-03
0U-234	U-234	1.000E+00	2.899E-04	2.899E-04	2.899E-04	2.899E-04	2.900E-04
U-234	Th-230	1.000E+00	1.381E-13	6.275E-13	2.765E-12	8.766E-12	2.143E-11
U-234	Ra-226+D	1.000E+00	9.741E-16	7.452E-15	6.019E-14	3.223E-13	1.225E-12
U-234	Pb-210+D	1.000E+00	1.224E-19	1.688E-18	2.424E-17	2.109E-16	1.224E-15
U-234	Po-210	1.000E+00	5.978E-20	1.202E-18	2.221E-17	2.243E-16	1.428E-15
U-234	ΣDSR(j)		2.899E-04	2.899E-04	2.899E-04	2.899E-04	2.900E-04
0U-235+D	U-235+D	1.000E+00	2.622E-04	2.623E-04	2.626E-04	2.629E-04	2.632E-04
U-235+D	Pa-231	1.000E+00	7.118E-13	3.192E-12	1.370E-11	4.170E-11	9.628E-11
U-235+D	Ac-227+D	1.000E+00	5.435E-14	4.002E-13	3.022E-12	1.469E-11	4.886E-11
U-235	ΣDSR(j)		2.622E-04	2.623E-04	2.626E-04	2.629E-04	2.632E-04
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	2.470E-04	2.470E-04	2.471E-04	2.472E-04	2.473E-04
U-238+D	U-234	9.999E-01	4.834E-15	2.168E-14	9.304E-14	2.832E-13	6.539E-13
U-238+D	Th-230	9.999E-01	1.617E-19	1.233E-18	9.906E-18	5.263E-17	1.978E-16
U-238+D	Ra-226+D	9.999E-01	8.575E-22	1.185E-20	1.708E-19	1.492E-18	8.719E-18
U-238+D	Pb-210+D	9.999E-01	8.728E-26	2.257E-24	5.762E-23	8.005E-22	7.140E-21
U-238+D	Po-210	9.999E-01	3.765E-26	1.472E-24	4.959E-23	8.083E-22	8.020E-21
U-238	ΣDSR(j)		2.470E-04	2.470E-04	2.471E-04	2.472E-04	2.473E-04

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

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days 06/11/2020 11:32 Page 57

Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

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

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

0Nuclide (i)	t=	0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
Am-241		8.444E+03	8.444E+03	8.443E+03	8.443E+03	8.443E+03
Cs-137		1.657E+07	1.183E+07	7.619E+06	5.065E+06	3.587E+06
Np-237		1.621E+04	1.621E+04	1.620E+04	1.620E+04	1.619E+04
Pu-238		7.369E+03	7.369E+03	7.369E+03	7.368E+03	7.368E+03
Pu-239		6.755E+03	6.755E+03	6.755E+03	6.754E+03	6.754E+03
Pu-240		6.755E+03	6.755E+03	6.755E+03	6.754E+03	6.754E+03
Tc-99		6.235E+07	6.235E+07	6.235E+07	6.235E+07	6.235E+07
Th-228		1.857E+04	1.856E+04	1.854E+04	1.852E+04	1.852E+04
Th-230		8.106E+03	8.106E+03	8.106E+03	8.105E+03	8.105E+03
Th-232		7.369E+03	7.368E+03	7.366E+03	7.360E+03	7.348E+03
U-234		8.623E+04	8.623E+04	8.623E+04	8.623E+04	8.622E+04
U-235		9.534E+04	9.530E+04	9.522E+04	9.511E+04	9.499E+04
U-238		1.012E+05	1.012E+05	1.012E+05	1.011E+05	1.011E+05

0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 40 years

ONuclide	Initial	tmin	DSR(i,tmin)	G(i,tmin)	DSR(i,tmax)	G(i,tmax)
(i)	(pCi/g)	(years)		(pCi/g)		(pCi/g)
Am-241	3.000E+00	40	2.961E-03	8.442E+03	2.961E-03	8.442E+03
Cs-137	3.000E+00	40	1.726E-05	1.448E+06	1.726E-05	1.448E+06
Np-237	3.000E+01	40	1.550E-03	1.613E+04	1.550E-03	1.613E+04
Pu-238	3.000E+00	40	3.394E-03	7.365E+03	3.394E-03	7.365E+03
Pu-239	3.000E+00	40	3.703E-03	6.751E+03	3.703E-03	6.751E+03
Pu-240	3.000E+00	40	3.703E-03	6.751E+03	3.703E-03	6.751E+03
Tc-99	3.000E+01	1.25	4.009E-07	6.235E+07	4.009E-07	6.235E+07
Th-228	3.000E+00	32.5	1.350E-03	1.852E+04	1.350E-03	1.852E+04
Th-230	3.000E+00	40	3.087E-03	8.100E+03	3.087E-03	8.100E+03
Th-232	3.000E+00	40	3.466E-03	7.214E+03	3.466E-03	7.214E+03
U-234	3.000E+01	40	2.900E-04	8.620E+04	2.900E-04	8.620E+04
U-235	3.000E+01	40	2.645E-04	9.453E+04	2.645E-04	9.453E+04
U-238	3.000E+01	40	2.476E-04	1.010E+05	2.476E-04	1.010E+05

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Parent Dose Report
Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-REV1.ROF

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

ONuclide	Parent	THF(i)	DOSE(j,t), mrem/yr				
(j)	(i)		t= 0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
Am-241	Am-241	1.000E+00	8.882E-03	8.882E-03	8.883E-03	8.883E-03	8.883E-03
ONp-237	Am-241	1.000E+00	6.670E-14	2.967E-13	1.253E-12	3.731E-12	8.404E-12
Np-237	Np-237	1.000E+00	4.627E-02	4.628E-02	4.629E-02	4.631E-02	4.633E-02
Np-237	ΣDOSE(j):		4.627E-02	4.628E-02	4.629E-02	4.631E-02	4.633E-02
OU-233	Am-241	1.000E+00	3.136E-21	2.347E-20	1.825E-19	9.251E-19	3.262E-18
U-233	Np-237	1.000E+00	2.392E-13	1.084E-12	4.751E-12	1.494E-11	3.610E-11
U-233	ΣDOSE(j):		2.392E-13	1.084E-12	4.751E-12	1.494E-11	3.610E-11
0Th-229	Am-241	1.000E+00	6.502E-24	8.903E-23	1.264E-21	1.083E-20	6.162E-20
Th-229	Np-237	1.000E+00	6.582E-16	5.066E-15	4.135E-14	2.248E-13	8.735E-13
Th-229	ΣDOSE(j):		6.582E-16	5.066E-15	4.135E-14	2.248E-13	8.735E-13
0Cs-137	Cs-137	1.000E+00	4.525E-06	6.337E-06	9.844E-06	1.481E-05	2.091E-05
0Pu-238	Pu-238	1.840E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-238	Pu-238	1.000E+00	1.018E-02	1.018E-02	1.018E-02	1.018E-02	1.018E-02
Pu-238	ΣDOSE(j):		1.018E-02	1.018E-02	1.018E-02	1.018E-02	1.018E-02
OU-234	Pu-238	1.000E+00	1.472E-14	6.667E-14	2.922E-13	9.185E-13	2.218E-12
U-234	U-234	1.000E+00	8.697E-03	8.697E-03	8.698E-03	8.698E-03	8.699E-03
U-234	U-238	9.999E-01	1.450E-13	6.504E-13	2.791E-12	8.496E-12	1.962E-11

U-234 Σ DOSE(j): 8.697E-03 8.697E-03 8.698E-03 8.698E-03 8.699E-03
 0Th-230 Pu-238 1.000E+00 4.904E-19 3.774E-18 3.080E-17 1.675E-16 6.504E-16
 Th-230 Th-230 1.000E+00 9.252E-03 9.253E-03 9.253E-03 9.253E-03 9.254E-03
 Th-230 U-234 1.000E+00 4.144E-12 1.882E-11 8.294E-11 2.630E-10 6.430E-10
 Th-230 U-238 9.999E-01 4.850E-18 3.699E-17 2.972E-16 1.579E-15 5.935E-15
 Th-230 Σ DOSE(j): 9.252E-03 9.253E-03 9.253E-03 9.253E-03 9.254E-03
 0Ra-226 Pu-238 1.000E+00 2.595E-21 3.616E-20 5.278E-19 4.696E-18 2.817E-17
 Ra-226 Th-230 1.000E+00 7.873E-10 3.588E-09 1.592E-08 5.102E-08 1.265E-07
 Ra-226 U-234 1.000E+00 2.922E-14 2.236E-13 1.806E-12 9.668E-12 3.674E-11
 Ra-226 U-238 9.999E-01 2.573E-20 3.556E-19 5.123E-18 4.476E-17 2.616E-16
 Ra-226 Σ DOSE(j): 7.873E-10 3.589E-09 1.592E-08 5.103E-08 1.265E-07
 0Pb-210 Pu-238 1.000E+00 2.611E-25 6.861E-24 1.774E-22 2.501E-21 2.281E-20
 Pb-210 Th-230 1.000E+00 1.313E-13 1.002E-12 8.061E-12 4.292E-11 1.618E-10
 Pb-210 U-234 1.000E+00 3.672E-18 5.065E-17 7.273E-16 6.327E-15 3.673E-14
 Pb-210 U-238 9.999E-01 2.618E-24 6.771E-23 1.729E-21 2.402E-20 2.142E-19
 Pb-210 Σ DOSE(j): 1.313E-13 1.002E-12 8.062E-12 4.293E-11 1.619E-10
 1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days 06/11/2020 11:32 Page 59
 Parent Dose Report
 Title : RESRAD-OFFSITE Effluent release
 File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Individual Nuclide Dose Summed Over All Pathways							
Parent Nuclide and Thread Fraction Indicated							
0Nuclide	Parent	THF(i)	DOSE(j,t), mrem/yr				
(j)	(i)		t= 0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
Po-210	Pu-238	1.000E+00	1.115E-25	4.468E-24	1.524E-22	2.520E-21	2.556E-20
Po-210	Th-230	1.000E+00	7.498E-14	7.826E-13	7.929E-12	4.826E-11	1.962E-10
Po-210	U-234	1.000E+00	1.793E-18	3.605E-17	6.664E-16	6.728E-15	4.284E-14
Po-210	U-238	9.999E-01	1.130E-24	4.417E-23	1.488E-21	2.425E-20	2.406E-19
Po-210	Σ DOSE(j):		7.499E-14	7.826E-13	7.929E-12	4.826E-11	1.962E-10
0Pu-239	Pu-239	1.000E+00	1.110E-02	1.110E-02	1.110E-02	1.110E-02	1.110E-02
0U-235	Pu-239	1.000E+00	1.118E-16	5.078E-16	2.236E-15	7.082E-15	1.729E-14
U-235	U-235	1.000E+00	7.867E-03	7.870E-03	7.877E-03	7.886E-03	7.896E-03
U-235	Σ DOSE(j):		7.867E-03	7.870E-03	7.877E-03	7.886E-03	7.896E-03
0Pa-231	Pu-239	1.000E+00	8.841E-22	6.741E-21	5.412E-20	2.873E-19	1.079E-18
Pa-231	U-235	1.000E+00	2.135E-11	9.577E-11	4.110E-10	1.251E-09	2.889E-09
Pa-231	Σ DOSE(j):		2.135E-11	9.577E-11	4.110E-10	1.251E-09	2.889E-09
0Ac-227	Pu-239	1.000E+00	5.089E-23	6.866E-22	9.513E-21	7.888E-20	4.286E-19
Ac-227	U-235	1.000E+00	1.630E-12	1.200E-11	9.067E-11	4.408E-10	1.466E-09
Ac-227	Σ DOSE(j):		1.630E-12	1.200E-11	9.067E-11	4.408E-10	1.466E-09
0Pu-240	Pu-240	4.950E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-240	Pu-240	1.000E+00	1.110E-02	1.110E-02	1.110E-02	1.110E-02	1.110E-02
Pu-240	Σ DOSE(j):		1.110E-02	1.110E-02	1.110E-02	1.110E-02	1.110E-02
0U-236	Pu-240	1.000E+00	1.434E-16	6.513E-16	2.868E-15	9.083E-15	2.217E-14
0Th-232	Pu-240	1.000E+00	3.086E-26	2.379E-25	1.949E-24	1.065E-23	4.169E-23
Th-232	Th-232	1.000E+00	1.018E-02	1.018E-02	1.018E-02	1.018E-02	1.018E-02
Th-232	Σ DOSE(j):		1.018E-02	1.018E-02	1.018E-02	1.018E-02	1.018E-02
0Ra-228	Pu-240	1.000E+00	2.232E-26	3.035E-25	4.262E-24	3.603E-23	2.016E-22
Ra-228	Th-232	1.000E+00	1.158E-07	5.110E-07	2.125E-06	6.196E-06	1.364E-05
Ra-228	Σ DOSE(j):		1.158E-07	5.110E-07	2.125E-06	6.196E-06	1.364E-05

0Th-228	Pu-240	1.000E+00	3.005E-27	7.305E-26	1.673E-24	2.036E-23	1.523E-22
Th-228	Th-228	1.000E+00	4.038E-03	4.042E-03	4.046E-03	4.049E-03	4.050E-03
Th-228	Th-232	1.000E+00	2.524E-08	1.743E-07	1.184E-06	5.000E-06	1.409E-05
Th-228	ΣDOSE(j):		4.038E-03	4.042E-03	4.047E-03	4.054E-03	4.064E-03
0Tc-99	Tc-99	1.000E+00	1.203E-05	1.203E-05	1.203E-05	1.203E-05	1.203E-05
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	7.409E-03	7.411E-03	7.412E-03	7.415E-03	7.418E-03
U-238	ΣDOSE(j):		7.409E-03	7.411E-03	7.412E-03	7.415E-03	7.418E-03

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

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Parent Dose Report

Title : RESRAD-OFFSITE Effluent release

File : PADUCAH EFFLUENT RELEASE-REV1.ROF

		Individual Nuclide Soil Concentration					
		Parent Nuclide and Thread Fraction Indicated					
0Nuclide	Parent	THF(i)	S(j,t), pCi/g				
(j)	(i)		t= 0.000E+00	1.000E+00	3.000E+00	6.000E+00	1.000E+01
Am-241	Am-241	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Np-237	Am-241	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Np-237	Np-237	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Np-237	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-233	Am-241	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-233	Np-237	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-233	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-229	Am-241	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-229	Np-237	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-229	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Cs-137	Cs-137	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Pu-238	Pu-238	1.840E-09	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-238	Pu-238	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-238	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-234	Pu-238	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-234	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-230	Pu-238	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-230	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Ra-226	Pu-238	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-226	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-226	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-226	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-226	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Pb-210	Pu-238	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pb-210	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pb-210	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Pb-210 U-238 9.999E-01 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
Pb-210 ΣS(j): 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days 06/11/2020 11:32 Page 61
Parent Dose Report
Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-REV1.ROF

		Individual Nuclide Soil Concentration					
		Parent Nuclide and Thread Fraction Indicated					
Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g				
			t=	0.000E+00	1.000E+00	3.000E+00	6.000E+00 1.000E+01
Po-210	Pu-238	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Po-210	Th-230	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Po-210	U-234	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Po-210	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Po-210	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Pu-239	Pu-239	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-235	Pu-239	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-235	U-235	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-235	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Pa-231	Pu-239	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pa-231	U-235	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pa-231	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Ac-227	Pu-239	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ac-227	U-235	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ac-227	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Pu-240	Pu-240	4.950E-08	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-240	Pu-240	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Pu-240	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-236	Pu-240	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-232	Pu-240	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-232	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-232	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Ra-228	Pu-240	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Ra-228	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Th-228	Pu-240	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-228	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Th-228	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0Tc-99	Tc-99	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0U-238	U-238	5.400E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
U-238	ΣS(j):		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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

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Parent Dose Report
Title : RESRAD-OFFSITE Effluent release
File : PADUCAH EFFLUENT RELEASE-REV1.ROF

Run Time Information

ResOCalc.EXE execution began at 11:32 on 06/11/2020

ResOCalc.EXE execution ended at 11:32 on 06/11/2020

ResOCalc.EXE execution time .216 seconds

Note: The dose at 6 years is considered for the ground external, inhalation, and soil ingestion pathways (see Table 7 in the main report). Ground concentration will increase from deposition; therefore, the dose during the last year incinerator will be operational is used because this will result in the highest dose.

B.3 RESRAD-OFFSITE RESULTS FOR LANDFILL NEIGHBOR SCENARIO

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days 06/11/2020 11:17 Page 1
Parent Dose Report
Title : Landfill Scenario
File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

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Time = 0.000E+00	50
Time = 1.000E+00	51
Time = 2.000E+00	52
Time = 9.000E+00	53
Time = 1.400E+01	54
Time = 1.700E+01	55
Time = 4.200E+02	56
Time = 7.780E+02	57
Time = 8.000E+02	58
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Parent Dose Report
 Title : Landfill Scenario
 File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Dose Conversion Factor (and Related) Parameter Summary
 Current Library: ICRP 60
 Default Library: ICRP 60

0 Menu	Parameter	Current Value	Default	Parameter Name
DCSF	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
DCSF	Ac-225 (Source: ICRP 60)	5.775E-02	5.775E-02	DCFEXT (1)
DCSF	Ac-227 (Source: ICRP 60)	4.485E-04	4.485E-04	DCFEXT (2)
DCSF	Ac-228 (Source: ICRP 60)	5.662E+00	5.662E+00	DCFEXT (3)
DCSF	Am-241 (Source: ICRP 60)	3.719E-02	3.719E-02	DCFEXT (4)
DCSF	At-217 (Source: ICRP 60)	1.654E-03	1.654E-03	DCFEXT (5)
DCSF	At-218 (Source: ICRP 60)	4.878E-03	4.878E-03	DCFEXT (6)
DCSF	Ba-137m (Source: ICRP 60)	3.383E+00	3.383E+00	DCFEXT (7)
DCSF	Bi-210 (Source: ICRP 60)	5.476E-03	5.476E-03	DCFEXT (8)
DCSF	Bi-211 (Source: ICRP 60)	2.373E-01	2.373E-01	DCFEXT (9)
DCSF	Bi-212 (Source: ICRP 60)	1.114E+00	1.114E+00	DCFEXT (10)
DCSF	Bi-213 (Source: ICRP 60)	7.158E-01	7.158E-01	DCFEXT (11)
DCSF	Bi-214 (Source: ICRP 60)	9.325E+00	9.325E+00	DCFEXT (12)
DCSF	Cs-137 (Source: ICRP 60)	8.372E-04	8.372E-04	DCFEXT (13)
DCSF	Fr-221 (Source: ICRP 60)	1.413E-01	1.413E-01	DCFEXT (14)
DCSF	Fr-223 (Source: ICRP 60)	1.813E-01	1.813E-01	DCFEXT (15)
DCSF	Np-237 (Source: ICRP 60)	6.971E-02	6.971E-02	DCFEXT (16)
DCSF	Pa-231 (Source: ICRP 60)	1.762E-01	1.762E-01	DCFEXT (17)
DCSF	Pa-233 (Source: ICRP 60)	9.419E-01	9.419E-01	DCFEXT (18)
DCSF	Pa-234 (Source: ICRP 60)	1.088E+01	1.088E+01	DCFEXT (19)
DCSF	Pa-234m (Source: ICRP 60)	9.867E-02	9.867E-02	DCFEXT (20)
DCSF	Pb-209 (Source: ICRP 60)	7.550E-04	7.550E-04	DCFEXT (21)
DCSF	Pb-210 (Source: ICRP 60)	1.981E-03	1.981E-03	DCFEXT (22)
DCSF	Pb-211 (Source: ICRP 60)	2.915E-01	2.915E-01	DCFEXT (23)
DCSF	Pb-212 (Source: ICRP 60)	6.466E-01	6.466E-01	DCFEXT (24)
DCSF	Pb-214 (Source: ICRP 60)	1.243E+00	1.243E+00	DCFEXT (25)
DCSF	Po-210 (Source: ICRP 60)	4.934E-05	4.934E-05	DCFEXT (26)
DCSF	Po-211 (Source: ICRP 60)	4.485E-02	4.485E-02	DCFEXT (27)
DCSF	Po-212 (Source: ICRP 60)	0.000E+00	0.000E+00	DCFEXT (28)
DCSF	Po-213 (Source: ICRP 60)	0.000E+00	0.000E+00	DCFEXT (29)
DCSF	Po-214 (Source: ICRP 60)	4.840E-04	4.840E-04	DCFEXT (30)
DCSF	Po-215 (Source: ICRP 60)	9.456E-04	9.456E-04	DCFEXT (31)
DCSF	Po-216 (Source: ICRP 60)	9.830E-05	9.830E-05	DCFEXT (32)
DCSF	Po-218 (Source: ICRP 60)	5.326E-05	5.326E-05	DCFEXT (33)
DCSF	Pu-238 (Source: ICRP 60)	1.166E-04	1.166E-04	DCFEXT (34)
DCSF	Pu-239 (Source: ICRP 60)	2.635E-04	2.635E-04	DCFEXT (35)
DCSF	Pu-240 (Source: ICRP 60)	1.129E-04	1.129E-04	DCFEXT (36)
DCSF	Ra-223 (Source: ICRP 60)	5.532E-01	5.532E-01	DCFEXT (37)
DCSF	Ra-224 (Source: ICRP 60)	4.728E-02	4.728E-02	DCFEXT (38)
DCSF	Ra-225 (Source: ICRP 60)	8.634E-03	8.634E-03	DCFEXT (39)
DCSF	Ra-226 (Source: ICRP 60)	2.915E-02	2.915E-02	DCFEXT (40)

DCSF	Ra-228	(Source: ICRP 60)	0.000E+00	0.000E+00	DCFEXT (41)
DCSF	Rn-219	(Source: ICRP 60)	2.859E-01	2.859E-01	DCFEXT (42)
DCSF	Rn-220	(Source: ICRP 60)	2.130E-03	2.130E-03	DCFEXT (43)
DCSF	Rn-222	(Source: ICRP 60)	2.186E-03	2.186E-03	DCFEXT (44)

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

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

Current Library: ICRP 60

Default Library: ICRP 60

0 Menu	Parameter	Current Value	Default	Parameter Name
DCSF	Tc-99 (Source: ICRP 60)	1.086E-04	1.086E-04	DCFEXT (45)
DCSF	Th-227 (Source: ICRP 60)	4.803E-01	4.803E-01	DCFEXT (46)
DCSF	Th-228 (Source: ICRP 60)	7.176E-03	7.176E-03	DCFEXT (47)
DCSF	Th-229 (Source: ICRP 60)	2.897E-01	2.897E-01	DCFEXT (48)
DCSF	Th-230 (Source: ICRP 60)	1.071E-03	1.071E-03	DCFEXT (49)
DCSF	Th-231 (Source: ICRP 60)	3.214E-02	3.214E-02	DCFEXT (50)
DCSF	Th-232 (Source: ICRP 60)	4.560E-04	4.560E-04	DCFEXT (51)
DCSF	Th-234 (Source: ICRP 60)	2.130E-02	2.130E-02	DCFEXT (52)
DCSF	Tl-207 (Source: ICRP 60)	2.299E-02	2.299E-02	DCFEXT (53)
DCSF	Tl-208 (Source: ICRP 60)	2.186E+01	2.186E+01	DCFEXT (54)
DCSF	Tl-209 (Source: ICRP 60)	1.226E+01	1.226E+01	DCFEXT (55)
DCSF	Tl-210 (Source: ICRP 60)	1.661E+01	1.661E+01	DCFEXT (56)
DCSF	U-233 (Source: ICRP 60)	1.265E-03	1.265E-03	DCFEXT (57)
DCSF	U-234 (Source: ICRP 60)	3.439E-04	3.439E-04	DCFEXT (58)
DCSF	U-235 (Source: ICRP 60)	6.597E-01	6.597E-01	DCFEXT (59)
DCSF	U-236 (Source: ICRP 60)	1.781E-04	1.781E-04	DCFEXT (60)
DCSF	U-238 (Source: ICRP 60)	7.961E-05	7.961E-05	DCFEXT (61)

Current Library: ICRP 72 (Adult)

Default Library: ICRP 72 (Adult)

0 Menu	Parameter	Current Value	Default	Parameter Name
DCSF	Dose conversion factors for inhalation, mrem/pCi:			
DCSF	Ac-227+D	2.104E+00	2.104E+00	DCF2 (1)
DCSF	Am-241	3.552E-01	3.552E-01	DCF2 (2)
DCSF	Cs-137+D	1.443E-04	1.443E-04	DCF2 (3)
DCSF	Np-237+D	1.850E-01	1.850E-01	DCF2 (4)
DCSF	Pa-231	5.180E-01	5.180E-01	DCF2 (5)
DCSF	Pb-210+D	2.106E-02	2.106E-02	DCF2 (6)
DCSF	Po-210	1.591E-02	1.591E-02	DCF2 (7)
DCSF	Pu-238	4.070E-01	4.070E-01	DCF2 (8)
DCSF	Pu-239	4.440E-01	4.440E-01	DCF2 (10)
DCSF	Pu-240	4.440E-01	4.440E-01	DCF2 (11)
DCSF	Ra-226+D	3.526E-02	3.526E-02	DCF2 (13)

DCSF	Ra-228+D	5.929E-02	5.929E-02	DCF2 (14)
DCSF	Tc-99	4.810E-05	4.810E-05	DCF2 (15)
DCSF	Th-228+D	1.614E-01	1.614E-01	DCF2 (16)
DCSF	Th-229+D	9.481E-01	9.481E-01	DCF2 (17)
DCSF	Th-230	3.700E-01	3.700E-01	DCF2 (18)
DCSF	Th-232	4.070E-01	4.070E-01	DCF2 (19)
DCSF	U-233	3.552E-02	3.552E-02	DCF2 (20)
DCSF	U-234	3.478E-02	3.478E-02	DCF2 (21)

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

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

Current Library: ICRP 72 (Adult)

Default Library: ICRP 72 (Adult)

0 Menu	Parameter	Current Value	Default	Parameter Name
DCSF	U-235+D	3.145E-02	3.145E-02	DCF2 (22)
DCSF	U-236	3.219E-02	3.219E-02	DCF2 (23)
DCSF	U-238	2.960E-02	2.960E-02	DCF2 (24)
DCSF	U-238+D	2.963E-02	2.963E-02	DCF2 (25)
DCSF	Dose conversion factors for ingestion, mrem/pCi:			
DCSF	Ac-227+D	4.473E-03	4.473E-03	DCF3 (1)
DCSF	Am-241	7.400E-04	7.400E-04	DCF3 (2)
DCSF	Cs-137+D	4.810E-05	4.810E-05	DCF3 (3)
DCSF	Np-237+D	4.102E-04	4.102E-04	DCF3 (4)
DCSF	Pa-231	2.627E-03	2.627E-03	DCF3 (5)
DCSF	Pb-210+D	2.558E-03	2.558E-03	DCF3 (6)
DCSF	Po-210	4.440E-03	4.440E-03	DCF3 (7)
DCSF	Pu-238	8.510E-04	8.510E-04	DCF3 (8)
DCSF	Pu-239	9.250E-04	9.250E-04	DCF3 (10)
DCSF	Pu-240	9.250E-04	9.250E-04	DCF3 (11)
DCSF	Ra-226+D	1.037E-03	1.037E-03	DCF3 (13)
DCSF	Ra-228+D	2.555E-03	2.555E-03	DCF3 (14)
DCSF	Tc-99	2.368E-06	2.368E-06	DCF3 (15)
DCSF	Th-228+D	5.301E-04	5.301E-04	DCF3 (16)
DCSF	Th-229+D	2.269E-03	2.269E-03	DCF3 (17)
DCSF	Th-230	7.770E-04	7.770E-04	DCF3 (18)
DCSF	Th-232	8.510E-04	8.510E-04	DCF3 (19)
DCSF	U-233	1.887E-04	1.887E-04	DCF3 (20)
DCSF	U-234	1.813E-04	1.813E-04	DCF3 (21)
DCSF	U-235+D	1.752E-04	1.752E-04	DCF3 (22)
DCSF	U-236	1.739E-04	1.739E-04	DCF3 (23)
DCSF	U-238	1.665E-04	1.665E-04	DCF3 (24)
DCSF	U-238+D	1.791E-04	1.791E-04	DCF3 (25)

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Parent Dose Report

Title : Landfill Scenario
File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Dose Conversion Factor (and Related) Parameter Summary (continued)
Current Library: RESRAD Default Transfer factors
Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	Soil to plant transfer factors:			
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,1)
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,2)
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,3)
TF	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,4)
TF				
TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,1)
TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,2)
TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,3)
TF	Am-241 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(2,4)
TF				
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,1)
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,2)
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,3)
TF	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,4)
TF				
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,1)
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,2)
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,3)
TF	Np-237+D , plant/soil concentration ratio, dimensionless	2.000E-02	2.000E-02	RTF(4,4)
TF				
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,1)
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,2)
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,3)
TF	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(5,4)
TF				
TF	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,1)
TF	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,2)
TF	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,3)
TF	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(6,4)
TF				
TF	Po-210 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,1)
TF	Po-210 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,2)
TF	Po-210 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,3)
TF	Po-210 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(7,4)
TF				
TF	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,1)
TF	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,2)
TF	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,3)
TF	Pu-238 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(8,4)
TF				
TF	Pu-239 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,1)

TF	Pu-239	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,2)
TF	Pu-239	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,3)
TF	Pu-239	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(10,4)

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,1)
TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,2)
TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,3)
TF	Pu-240 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(11,4)
TF				
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,1)
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,2)
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,3)
TF	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(13,4)
TF				
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,1)
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,2)
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,3)
TF	Ra-228+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(14,4)
TF				
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,1)
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,2)
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,3)
TF	Tc-99 , plant/soil concentration ratio, dimensionless	5.000E+00	5.000E+00	RTF(15,4)
TF				
TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,1)
TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,2)
TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,3)
TF	Th-228+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(16,4)
TF				
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,1)
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,2)
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,3)
TF	Th-229+D , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(17,4)
TF				
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,1)
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,2)
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,3)
TF	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(18,4)
TF				
TF	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,1)
TF	Th-232 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,2)

TF	Th-232	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,3)
TF	Th-232	, plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(19,4)
TF					
TF	U-233	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,1)
TF	U-233	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,2)
TF	U-233	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,3)
TF	U-233	, plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(20,4)
TF					

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,1)
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,2)
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,3)
TF	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(21,4)
TF				
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,1)
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,2)
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,3)
TF	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(22,4)
TF				
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,1)
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,2)
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,3)
TF	U-236 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(23,4)
TF				
TF	U-238 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,1)
TF	U-238 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,2)
TF	U-238 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,3)
TF	U-238 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(24,4)
TF				
TF	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,1)
TF	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,2)
TF	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,3)
TF	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(25,4)
TF				
TF	intake to meat/milk transfer factors:			
TF	Ac-227+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-05	2.000E-05	I_M(1,1)
TF	Ac-227+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	I_M(1,2)
TF				
TF	Am-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-05	5.000E-05	I_M(2,1)
TF	Am-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-06	2.000E-06	I_M(2,2)
TF				

TF	Cs-137+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.000E-02	3.000E-02	I_M(3,1)
TF	Cs-137+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	8.000E-03	8.000E-03	I_M(3,2)
TF				
TF	Np-237+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-03	1.000E-03	I_M(4,1)
TF	Np-237+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(4,2)
TF				
TF	Pa-231 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	5.000E-03	5.000E-03	I_M(5,1)
TF	Pa-231 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(5,2)
TF				
TF	Pb-210+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	8.000E-04	8.000E-04	I_M(6,1)
TF	Pb-210+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	3.000E-04	3.000E-04	I_M(6,2)
TF				

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

Current Library: RESRAD Default Transfer factors
 Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	Po-210 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	5.000E-03	5.000E-03	I_M(7,1)
TF	Po-210 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	3.400E-04	3.400E-04	I_M(7,2)
TF				
TF	Pu-238 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(8,1)
TF	Pu-238 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-06	1.000E-06	I_M(8,2)
TF				
TF	Pu-239 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(10,1)
TF	Pu-239 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-06	1.000E-06	I_M(10,2)
TF				
TF	Pu-240 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(11,1)
TF	Pu-240 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-06	1.000E-06	I_M(11,2)
TF				
TF	Ra-226+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-03	1.000E-03	I_M(13,1)
TF	Ra-226+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-03	1.000E-03	I_M(13,2)
TF				
TF	Ra-228+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-03	1.000E-03	I_M(14,1)
TF	Ra-228+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-03	1.000E-03	I_M(14,2)
TF				
TF	Tc-99 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(15,1)
TF	Tc-99 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	1.000E-03	1.000E-03	I_M(15,2)
TF				
TF	Th-228+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(16,1)
TF	Th-228+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(16,2)
TF				
TF	Th-229+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(17,1)
TF	Th-229+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(17,2)
TF				
TF	Th-230 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(18,1)

TF	Th-230	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(18,2)
TF	Th-232	, beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	1.000E-04	1.000E-04	I_M(19,1)
TF	Th-232	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	5.000E-06	5.000E-06	I_M(19,2)
TF	U-233	, beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(20,1)
TF	U-233	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(20,2)
TF	U-234	, beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(21,1)
TF	U-234	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(21,2)
TF	U-235+D	, beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(22,1)
TF	U-235+D	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(22,2)
TF	U-236	, beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(23,1)
TF	U-236	, milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(23,2)
TF					

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	U-238 , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(24,1)
TF	U-238 , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(24,2)
TF				
TF	U-238+D , beef/livestock-intake ratio, (pCi/kg) / (pCi/d)	3.400E-04	3.400E-04	I_M(25,1)
TF	U-238+D , milk/livestock-intake ratio, (pCi/L) / (pCi/d)	6.000E-04	6.000E-04	I_M(25,2)
TF	Bioaccumulation factors, fresh water, L/kg:			
TF	Ac-227+D , fish	1.500E+01	1.500E+01	BIOFA(1,1)
TF	Ac-227+D , crustacea and mollusks	1.000E+03	1.000E+03	BIOFA(1,2)
TF				
TF	Am-241 , fish	3.000E+01	3.000E+01	BIOFA(2,1)
TF	Am-241 , crustacea and mollusks	1.000E+03	1.000E+03	BIOFA(2,2)
TF				
TF	Cs-137+D , fish	2.000E+03	2.000E+03	BIOFA(3,1)
TF	Cs-137+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(3,2)
TF				
TF	Np-237+D , fish	3.000E+01	3.000E+01	BIOFA(4,1)
TF	Np-237+D , crustacea and mollusks	4.000E+02	4.000E+02	BIOFA(4,2)
TF				
TF	Pa-231 , fish	1.000E+01	1.000E+01	BIOFA(5,1)
TF	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFA(5,2)
TF				
TF	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFA(6,1)

TF	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(6,2)
TF	Po-210 , fish	1.000E+02	1.000E+02	BIOFA(7,1)
TF	Po-210 , crustacea and mollusks	2.000E+04	2.000E+04	BIOFA(7,2)
TF	Pu-238 , fish	3.000E+01	3.000E+01	BIOFA(8,1)
TF	Pu-238 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(8,2)
TF	Pu-239 , fish	3.000E+01	3.000E+01	BIOFA(10,1)
TF	Pu-239 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(10,2)
TF	Pu-240 , fish	3.000E+01	3.000E+01	BIOFA(11,1)
TF	Pu-240 , crustacea and mollusks	1.000E+02	1.000E+02	BIOFA(11,2)
TF	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFA(13,1)
TF	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFA(13,2)
TF	Ra-228+D , fish	5.000E+01	5.000E+01	BIOFA(14,1)
TF	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFA(14,2)
TF	Tc-99 , fish	2.000E+01	2.000E+01	BIOFA(15,1)
TF	Tc-99 , crustacea and mollusks	5.000E+00	5.000E+00	BIOFA(15,2)

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

Current Library: RESRAD Default Transfer factors

Default Library: RESRAD Default Transfer factors

0 Menu	Parameter	Current Value	Default	Parameter Name
TF	Th-228+D , fish	1.000E+02	1.000E+02	BIOFA(16,1)
TF	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA(16,2)
TF	Th-229+D , fish	1.000E+02	1.000E+02	BIOFA(17,1)
TF	Th-229+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA(17,2)
TF	Th-230 , fish	1.000E+02	1.000E+02	BIOFA(18,1)
TF	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA(18,2)
TF	Th-232 , fish	1.000E+02	1.000E+02	BIOFA(19,1)
TF	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFA(19,2)
TF	U-233 , fish	1.000E+01	1.000E+01	BIOFA(20,1)
TF	U-233 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA(20,2)
TF	U-234 , fish	1.000E+01	1.000E+01	BIOFA(21,1)
TF	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA(21,2)

TF	U-235+D , fish	1.000E+01	1.000E+01	BIOFA (22,1)
TF	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (22,2)
TF				
TF	U-236 , fish	1.000E+01	1.000E+01	BIOFA (23,1)
TF	U-236 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (23,2)
TF				
TF	U-238 , fish	1.000E+01	1.000E+01	BIOFA (24,1)
TF	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (24,2)
TF				
TF	U-238+D , fish	1.000E+01	1.000E+01	BIOFA (25,1)
TF	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFA (25,2)

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Site-Specific Parameter Summary					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
FSTI	Exposure duration for risk	3.000E+01	3.000E+01	---	ED
FSTI	Basic radiation dose limit (mrem/yr)	2.500E+01	2.500E+01	---	BRDL
RELT	1st release time (years)	0.000E+00		---	RelTime (1)
CONC	Initial concentration of Am-241 (pCi/g)	9.640E-02	0.000E+00	---	S1 (2)
CONC	Initial concentration of Cs-137 (pCi/g)	9.640E-02	0.000E+00	---	S1 (3)
CONC	Initial concentration of Np-237 (pCi/g)	9.640E-01	0.000E+00	---	S1 (4)
CONC	Initial concentration of Pu-238 (pCi/g)	9.640E-02	0.000E+00	---	S1 (8)
CONC	Initial concentration of Pu-239 (pCi/g)	9.640E-02	0.000E+00	---	S1 (10)
CONC	Initial concentration of Pu-240 (pCi/g)	9.640E-02	0.000E+00	---	S1 (11)
CONC	Initial concentration of Tc-99 (pCi/g)	9.640E-01	0.000E+00	---	S1 (15)
CONC	Initial concentration of Th-228 (pCi/g)	9.640E-02	0.000E+00	---	S1 (16)
CONC	Initial concentration of Th-230 (pCi/g)	9.640E-02	0.000E+00	---	S1 (18)
CONC	Initial concentration of Th-232 (pCi/g)	9.640E-02	0.000E+00	---	S1 (19)
CONC	Initial concentration of U-234 (pCi/g)	9.640E-01	0.000E+00	---	S1 (21)
CONC	Initial concentration of U-235 (pCi/g)	9.640E-01	0.000E+00	---	S1 (22)
CONC	Initial concentration of U-238 (pCi/g)	9.640E-01	0.000E+00	---	S1 (24)
VDEP	Deposition velocity of Ac-227 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (1)
VDEP	Dep. velocity of Ac-227 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (1)
VDEP	Deposition velocity of Am-241 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (2)
VDEP	Dep. velocity of Am-241 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (2)
VDEP	Deposition velocity of Cs-137 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (3)
VDEP	Dep. velocity of Cs-137 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (3)
VDEP	Deposition velocity of Np-237 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (4)
VDEP	Dep. velocity of Np-237 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (4)
VDEP	Deposition velocity of Pa-231 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (5)
VDEP	Dep. velocity of Pa-231 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (5)
VDEP	Deposition velocity of Pb-210 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (6)
VDEP	Dep. velocity of Pb-210 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (6)

VDEP	Deposition velocity of Po-210 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (7)
VDEP	Dep. velocity of Po-210 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (7)
VDEP	Deposition velocity of Pu-238 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (8)
VDEP	Dep. velocity of Pu-238 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (8)
VDEP	Deposition velocity of Pu-239 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (10)
VDEP	Dep. velocity of Pu-239 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (10)
VDEP	Deposition velocity of Pu-240 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (11)
VDEP	Dep. velocity of Pu-240 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (11)
VDEP	Deposition velocity of Ra-226 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (13)
VDEP	Dep. velocity of Ra-226 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (13)
VDEP	Deposition velocity of Ra-228 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (14)
VDEP	Dep. velocity of Ra-228 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (14)
VDEP	Deposition velocity of Tc-99 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (15)
VDEP	Dep. velocity of Tc-99 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (15)
VDEP	Deposition velocity of Th-228 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (16)
VDEP	Dep. velocity of Th-228 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (16)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
VDEP	Deposition velocity of Th-229 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (17)
VDEP	Dep. velocity of Th-229 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (17)
VDEP	Deposition velocity of Th-230 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (18)
VDEP	Dep. velocity of Th-230 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (18)
VDEP	Deposition velocity of Th-232 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (19)
VDEP	Dep. velocity of Th-232 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (19)
VDEP	Deposition velocity of U-233 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (20)
VDEP	Dep. velocity of U-233 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (20)
VDEP	Deposition velocity of U-234 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (21)
VDEP	Dep. velocity of U-234 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (21)
VDEP	Deposition velocity of U-235 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (22)
VDEP	Dep. velocity of U-235 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (22)
VDEP	Deposition velocity of U-236 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (23)
VDEP	Dep. velocity of U-236 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (23)
VDEP	Deposition velocity of U-238 on total particulates	1.000E-03	1.000E-03	---	DEPVEL (24)
VDEP	Dep. velocity of U-238 on respirable particulates	1.000E-03	1.000E-03	---	DEPVELT (24)
DCLR	Distribution coefficients for Am-241				
DCLR	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC (2)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCU (2,1)
DCLR	Saturated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCS (2)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWB (2)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWS (2)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (2,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (2,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (2,3)

DCLR	Agricultural area 4 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (2,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCDWE (2)
DCLR	Leach rate constant of Am-241 (/yr)	0.000E+00	0.000E+00	8.245E-03	Rleach (1,2)
DCLR	Distribution coefficients for Cs-137				
DCLR	Contaminated zone (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCC (3)
DCLR	Unsaturated zone 1 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCU (3,1)
DCLR	Saturated zone (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCS (3)
DCLR	Bottom sediment in surface water body (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCSWB (3)
DCLR	Suspended sediment in surface water body (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCSWS (3)
DCLR	Agricultural area 1 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF (3,1)
DCLR	Agricultural area 2 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF (3,2)
DCLR	Agricultural area 3 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF (3,3)
DCLR	Agricultural area 4 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCOF (3,4)
DCLR	Offsite Dwelling (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCDWE (3)
DCLR	Leach rate constant of Cs-137 (/yr)	0.000E+00	0.000E+00	3.623E-05	Rleach (1,3)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for Np-237				
DCLR	Contaminated zone (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCC (4)
DCLR	Unsaturated zone 1 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCU (4,1)
DCLR	Saturated zone (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCS (4)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCSWB (4)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCSWS (4)
DCLR	Agricultural area 1 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF (4,1)
DCLR	Agricultural area 2 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF (4,2)
DCLR	Agricultural area 3 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF (4,3)
DCLR	Agricultural area 4 (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCOF (4,4)
DCLR	Offsite Dwelling (cm**3/g)	2.570E+02	2.570E+02	---	DCNUCDWE (4)
DCLR	Leach rate constant of Np-237 (/yr)	0.000E+00	0.000E+00	6.480E-04	Rleach (1,4)
DCLR	Distribution coefficients for Pu-238				
DCLR	Contaminated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCC (8)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCU (8,1)
DCLR	Saturated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCS (8)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWB (8)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWS (8)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (8,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (8,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (8,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (8,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCDWE (8)
DCLR	Leach rate constant of Pu-238 (/yr)	0.000E+00	0.000E+00	8.332E-05	Rleach (1,8)

DCLR	Distribution coefficients for Pu-239				
DCLR	Contaminated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCC (10)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCU (10,1)
DCLR	Saturated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCS (10)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWB (10)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWS (10)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (10,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (10,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (10,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (10,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCDWE (10)
DCLR	Leach rate constant of Pu-239 (/yr)	0.000E+00	0.000E+00	8.332E-05	Rleach (1,10)
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Site-Specific Parameter Summary (continued)					
0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for Pu-240				
DCLR	Contaminated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCC (11)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCU (11,1)
DCLR	Saturated zone (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCS (11)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWB (11)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCSWS (11)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (11,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (11,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (11,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCOF (11,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+03	2.000E+03	---	DCNUCDWE (11)
DCLR	Leach rate constant of Pu-240 (/yr)	0.000E+00	0.000E+00	8.332E-05	Rleach (1,11)
DCLR	Distribution coefficients for Tc-99				
DCLR	Contaminated zone (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCC (15)
DCLR	Unsaturated zone 1 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCU (15,1)
DCLR	Saturated zone (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCS (15)
DCLR	Bottom sediment in surface water body (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCSWB (15)
DCLR	Suspended sediment in surface water body (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCSWS (15)
DCLR	Agricultural area 1 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,1)
DCLR	Agricultural area 2 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,2)
DCLR	Agricultural area 3 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,3)
DCLR	Agricultural area 4 (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCOF (15,4)
DCLR	Offsite Dwelling (cm**3/g)	0.000E+00	0.000E+00	---	DCNUCDWE (15)
DCLR	Leach rate constant of Tc-99 (/yr)	0.000E+00	0.000E+00	7.790E-01	Rleach (1,15)
DCLR	Distribution coefficients for Th-228				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (16)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (16,1)
DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (16)

DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (16)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (16)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (16,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (16)
DCLR	Leach rate constant of Th-228 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,16)

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Site-Specific Parameter Summary (continued)					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for Th-230				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (18)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (18,1)
DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (18)
DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (18)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (18)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (18,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (18)
DCLR	Leach rate constant of Th-230 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,18)
DCLR	Distribution coefficients for Th-232				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (19)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (19,1)
DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (19)
DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (19)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (19)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (19,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (19)
DCLR	Leach rate constant of Th-232 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,19)
DCLR	Distribution coefficients for U-234				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (21)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (21,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (21)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (21)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (21)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,2)

DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (21,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (21)
DCLR	Leach rate constant of U-234 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,21)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for U-235				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (22)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (22,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (22)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (22)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (22)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (22,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (22)
DCLR	Leach rate constant of U-235 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,22)
DCLR	Distribution coefficients for U-238				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (24)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (24,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (24)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (24)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (24)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (24,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (24)
DCLR	Leach rate constant of U-238 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,24)
DCLR	Distribution coefficients for progeny Ac-227				
DCLR	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC (1)
DCLR	Unsaturated zone 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCU (1,1)
DCLR	Saturated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCS (1)
DCLR	Bottom sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWB (1)
DCLR	Suspended sediment in surface water body (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCSWS (1)
DCLR	Agricultural area 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,1)
DCLR	Agricultural area 2 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,2)
DCLR	Agricultural area 3 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,3)
DCLR	Agricultural area 4 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCOF (1,4)
DCLR	Offsite Dwelling (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCDWE (1)
DCLR	Leach rate constant of Ac-227 (/yr)	0.000E+00	0.000E+00	8.245E-03	Rleach (1,1)

Site-Specific Parameter Summary (continued)					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for progeny Pa-231				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (5)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (5,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (5)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (5)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (5)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (5,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (5)
DCLR	Leach rate constant of Pa-231 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,5)
DCLR	Distribution coefficients for progeny Pb-210				
DCLR	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC (6)
DCLR	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU (6,1)
DCLR	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS (6)
DCLR	Bottom sediment in surface water body (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCSWB (6)
DCLR	Suspended sediment in surface water body (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCSWS (6)
DCLR	Agricultural area 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,1)
DCLR	Agricultural area 2 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,2)
DCLR	Agricultural area 3 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,3)
DCLR	Agricultural area 4 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCOF (6,4)
DCLR	Offsite Dwelling (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCDWE (6)
DCLR	Leach rate constant of Pb-210 (/yr)	0.000E+00	0.000E+00	1.663E-03	Rleach (1,6)
DCLR	Distribution coefficients for progeny Po-210				
DCLR	Contaminated zone (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCC (7)
DCLR	Unsaturated zone 1 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCU (7,1)
DCLR	Saturated zone (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCS (7)
DCLR	Bottom sediment in surface water body (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCSWB (7)
DCLR	Suspended sediment in surface water body (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCSWS (7)
DCLR	Agricultural area 1 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,1)
DCLR	Agricultural area 2 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,2)
DCLR	Agricultural area 3 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,3)
DCLR	Agricultural area 4 (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCOF (7,4)
DCLR	Offsite Dwelling (cm**3/g)	1.000E+01	1.000E+01	---	DCNUCDWE (7)
DCLR	Leach rate constant of Po-210 (/yr)	0.000E+00	0.000E+00	1.632E-02	Rleach (1,7)

Site-Specific Parameter Summary (continued)					
0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
DCLR	Distribution coefficients for progeny Ra-226				
DCLR	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC (13)
DCLR	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU (13,1)
DCLR	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS (13)
DCLR	Bottom sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWB (13)
DCLR	Suspended sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWS (13)
DCLR	Agricultural area 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,1)
DCLR	Agricultural area 2 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,2)
DCLR	Agricultural area 3 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,3)
DCLR	Agricultural area 4 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (13,4)
DCLR	Offsite Dwelling (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCDWE (13)
DCLR	Leach rate constant of Ra-226 (/yr)	0.000E+00	0.000E+00	2.374E-03	Rleach (1,13)
DCLR	Distribution coefficients for progeny Ra-228				
DCLR	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC (14)
DCLR	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU (14,1)
DCLR	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS (14)
DCLR	Bottom sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWB (14)
DCLR	Suspended sediment in surface water body (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCSWS (14)
DCLR	Agricultural area 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,1)
DCLR	Agricultural area 2 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,2)
DCLR	Agricultural area 3 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,3)
DCLR	Agricultural area 4 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCOF (14,4)
DCLR	Offsite Dwelling (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCDWE (14)
DCLR	Leach rate constant of Ra-228 (/yr)	0.000E+00	0.000E+00	2.374E-03	Rleach (1,14)
DCLR	Distribution coefficients for progeny Th-229				
DCLR	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC (17)
DCLR	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU (17,1)
DCLR	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS (17)
DCLR	Bottom sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWB (17)
DCLR	Suspended sediment in surface water body (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCSWS (17)
DCLR	Agricultural area 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,1)
DCLR	Agricultural area 2 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,2)
DCLR	Agricultural area 3 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,3)
DCLR	Agricultural area 4 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCOF (17,4)
DCLR	Offsite Dwelling (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCDWE (17)
DCLR	Leach rate constant of Th-229 (/yr)	0.000E+00	0.000E+00	2.778E-06	Rleach (1,17)

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DCLR	Distribution coefficients for progeny U-233				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (20)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (20,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (20)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (20)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (20)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (20,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (20)
DCLR	Leach rate constant of U-233 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,20)
DCLR	Distribution coefficients for progeny U-236				
DCLR	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC (23)
DCLR	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU (23,1)
DCLR	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS (23)
DCLR	Bottom sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWB (23)
DCLR	Suspended sediment in surface water body (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCSWS (23)
DCLR	Agricultural area 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,1)
DCLR	Agricultural area 2 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,2)
DCLR	Agricultural area 3 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,3)
DCLR	Agricultural area 4 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCOF (23,4)
DCLR	Offsite Dwelling (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCDWE (23)
DCLR	Leach rate constant of U-236 (/yr)	0.000E+00	0.000E+00	3.319E-03	Rleach (1,23)
LYOT	Bearing of X axis (clockwise angle N-->X in degrees)	9.000E+01	9.000E+01	---	DNXBearing
LYOT	Length of Primary contamination in X Direction	2.000E+02	1.000E+02	---	SOURCEXY (1)
LYOT	Length of Primary contamination in Y Direction	2.000E+02	1.000E+02	---	SOURCEXY (2)
LYOT	Smaller X coordinate of Agricultural Area 1	8.438E+01	3.438E+01	---	AGRIXY (1,1)
LYOT	Larger X coordinate of Agricultural Area 1	1.156E+02	6.562E+01	---	AGRIXY (2,1)
LYOT	Smaller Y coordinate of Agricultural Area 1	3.340E+02	2.340E+02	---	AGRIXY (3,1)
LYOT	Larger Y coordinate of Agricultural Area 1	3.660E+02	2.660E+02	---	AGRIXY (4,1)
LYOT	Smaller X coordinate of Agricultural Area 2	8.438E+01	3.438E+01	---	AGRIXY (1,2)
LYOT	Larger X coordinate of Agricultural Area 2	1.156E+02	6.562E+01	---	AGRIXY (2,2)
LYOT	Smaller Y coordinate of Agricultural Area 2	3.680E+02	2.680E+02	---	AGRIXY (3,2)
LYOT	Larger Y coordinate of Agricultural Area 2	4.000E+02	3.000E+02	---	AGRIXY (4,2)
LYOT	Smaller X coordinate of Agricultural Area 3	5.000E+01	0.000E+00	---	AGRIXY (1,3)
LYOT	Larger X coordinate of Agricultural Area 3	1.500E+02	1.000E+02	---	AGRIXY (2,3)
LYOT	Smaller Y coordinate of Agricultural Area 3	5.500E+02	4.500E+02	---	AGRIXY (3,3)
LYOT	Larger Y coordinate of Agricultural Area 3	6.500E+02	5.500E+02	---	AGRIXY (4,3)
LYOT	Smaller X coordinate of Agricultural Area 4	5.000E+01	0.000E+00	---	AGRIXY (1,4)
LYOT	Larger X coordinate of Agricultural Area 4	1.500E+02	1.000E+02	---	AGRIXY (2,4)
LYOT	Smaller Y coordinate of Agricultural Area 4	4.000E+02	3.000E+02	---	AGRIXY (3,4)
LYOT	Larger Y coordinate of Agricultural Area 4	5.000E+02	4.000E+02	---	AGRIXY (4,4)
LYOT	Smaller X coordinate of Dwelling Area	8.438E+01	3.438E+01	---	DWELLXY (1)
LYOT	Larger X coordinate of Dwelling Area	1.156E+02	6.562E+01	---	DWELLXY (2)

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LYOT	Smaller Y coordinate of Dwelling Area	2.340E+02	1.340E+02	---	DWELLXY (3)
LYOT	Larger Y coordinate of Dwelling Area	2.660E+02	1.660E+02	---	DWELLXY (4)
LYOT	Smaller X coordinate of Surface water body	-5.000E+01	-1.000E+02	---	SWXY (1)
LYOT	Larger X coordinate of Surface water body	2.500E+02	2.000E+02	---	SWXY (2)
LYOT	Smaller Y coordinate of Surface water body	6.500E+02	5.500E+02	---	SWXY (3)
LYOT	Larger Y coordinate of Surface water body	9.500E+02	8.500E+02	---	SWXY (4)
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T (1)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T (2)
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T (3)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T (4)
STOR	Livestock feed - pasture or silage	1.000E+00	1.000E+00	---	STOR_T (5)
STOR	Livestock feed - grain	4.500E+01	4.500E+01	---	STOR_T (6)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T (7)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T (8)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T (9)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T (10)
TIME	Times at which dose/risk are to be reported (yr)	1.000E+00	1.000E+00	---	T (2)
TIME	Times at which dose/risk are to be reported (yr)	2.000E+00	3.000E+00	---	T (3)
TIME	Times at which dose/risk are to be reported (yr)	9.000E+00	6.000E+00	---	T (4)
TIME	Times at which dose/risk are to be reported (yr)	1.400E+01	1.200E+01	---	T (5)
TIME	Times at which dose/risk are to be reported (yr)	1.700E+01	3.000E+01	---	T (6)
TIME	Times at which dose/risk are to be reported (yr)	4.200E+02	7.500E+01	---	T (7)
TIME	Times at which dose/risk are to be reported (yr)	7.780E+02	1.750E+02	---	T (8)
TIME	Times at which dose/risk are to be reported (yr)	8.000E+02	4.200E+02	---	T (9)
TIME	Times at which dose/risk are to be reported (yr)	1.000E+03	9.700E+02	---	T (10)
SITE	Precipitation (m/yr)	1.000E+00	1.000E+00	---	PRECIP
SITE	Rainfall Erosion Index	1.600E+02	1.600E+02	---	RAINEROS
PRCZ	Area of primary contamination (m**2)	4.000E+04	1.000E+04	---	AREA
PRCZ	Length parallel to aquifer flow (m)	2.000E+02	1.000E+02	---	LCZPAQ
PRCZ	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
PRCZ	Mass loading of all particulates for release(g/m**3)	1.000E-04	1.000E-04	---	MLFD
PRCZ	DepositionVelocityOfAllParticulates for release(m/s)	1.000E-03	1.000E-03	---	DEPVEL_DUSTT
PRCZ	Respirable particulates as a fraction of total	1.000E+00	1.000E+00	---	RESPFRACPC
PRCZ	DepositionVelocityOfRespirableParticulatesForRe(m/s)	1.000E-03	1.000E-03	---	DEPVEL_DUST
PRCZ	Irrigation (m/yr)	2.000E-01	2.000E-01	---	RI
PRCZ	Evapotranspiration coefficient	5.000E-01	5.000E-01	---	EVAPTR
PRCZ	Runoff coefficient	2.000E-01	2.000E-01	---	RUNOFF
PRCZ	Slope-length-steepness factor of prim. contamination	4.000E-01	4.000E-01	---	SLPLENSTPPC
PRCZ	Cropping-management factor of primary contamination	3.000E-03	3.000E-03	---	CRPMANGPC
PRCZ	Conservation practice factor of prim. contamination	1.000E+00	1.000E+00	---	CONVPRACPC

PRCZ	Fraction of primary contamination that is submerged	0.000E+00	0.000E+00	---	SUBMERGEDF
PRCZ	Thickness of primary contamination (m)	2.000E+00	2.000E+00	---	THICK0

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PRCZ	Soil erodibility factor of contamination (tons/acre)	4.000E-01	4.000E-01	---	ERODIBILITYCZ
PRCZ	Density of primary contamination (g/cm**3)	1.500E+00	1.500E+00	---	DENSCZ
PRCZ	Computed erosion rate of contamination (m/yr)	1.147E-05	1.147E-05	---	VCZ
PRCZ	Total porosity of primary contamination	4.000E-01	4.000E-01	---	TPCZ
PRCZ	Field capacity of primary contamination	3.000E-01	3.000E-01	---	FCCZ
PRCZ	Effective porosity of primary contamination	4.000E-01	4.000E-01	---	EPCZ
PRCZ	Hydraulic conductivity of prime contamination (m/yr)	1.000E+01	1.000E+01	---	HCCZ
PRCZ	b parameter of primary contamination	5.300E+00	5.300E+00	---	BCZ
PRCZ	longitudinal dispersivity of prime contamination (m)	5.000E-02	5.000E-02	---	ALPHALCZ
PRCZ	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
PRCZ	Soil erodibility factor of cover (tons/acre)	not used	4.000E-01	---	ERODIBILITYCV
PRCZ	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
PRCZ	Computed erosion rate of cover material (m/yr)	not used	1.147E-05	---	VCV
PRCZ	Total porosity of the cover material	not used	4.000E-01	---	TPCV
PRCZ	Volumetric water content of the cover material	not used	5.000E-02	---	PH2OCV
PSDR	Sediment Delivery Ratio, SDR				
PSDR	from primary contamination to surface water body	0.000E+00	0.000E+00	---	SDRDWELL
PSDR	from primary contamination to non-leafy veg. field	0.000E+00	0.000E+00	---	SDROF(1)
PSDR	from primary contamination to leafy veg. field	0.000E+00	0.000E+00	---	SDROF(2)
PSDR	from primary contamination to pasture	0.000E+00	0.000E+00	---	SDROF(3)
PSDR	from primary contamination to feed grain field	0.000E+00	0.000E+00	---	SDROF(4)
PSDR	from primary contamination to surface water body	1.000E+00	1.000E+00	---	SDR
AGRI	Areal extent of Agricultural Area 1 (m**2)	1.000E+03	1.000E+03	---	AREAO(1)
AGRI	Fraction of Agri. Area 1 directly over the c.z.	0.000E+00	0.000E+00	---	FAREA_PLANT(1)
AGRI	Evapotranspiration coefficient in Agri. Area 1	5.000E-01	5.000E-01	---	EVAPTRN(1)
AGRI	Runoff coefficient in Agricultural Area 1	2.000E-01	2.000E-01	---	RUNOF(1)
AGRI	Mixing depth/plow layer of Agricultural Area 1	1.500E-01	1.500E-01	---	DPTHMIXG(1)
AGRI	Water filled porosity of soil in Agri. Area 1	3.000E-01	3.000E-01	---	TMOF(1)
AGRI	Computed erosion rate of soil in Agri. Area 1	1.147E-05	1.147E-05	---	EROSN(1)
AGRI	Dry Bulk Density of soil in Agricultural Area 1	1.500E+00	1.500E+00	---	RHOB(1)
AGRI	Soil erodibility factor of Agricultural Area 1	4.000E-01	4.000E-01	---	ERODIBILITY(1)
AGRI	Slope-length-steepness factor, Agricultural Area 1	4.000E-01	4.000E-01	---	SLPLENSTP(1)
AGRI	Cropping-management factor of Agricultural Area 1	3.000E-03	3.000E-03	---	CRPMANG(1)
AGRI	Conservation practice factor of Agricultural Area 1	1.000E+00	1.000E+00	---	CONVPRAC(1)
AGRI	Total porosity of soil in Agricultural Area 1	not used	4.000E-01	---	TPOF(1)
AGRI	Areal extent of Agricultural Area 2 (m**2)	1.000E+03	1.000E+03	---	AREAO(2)
AGRI	Fraction of Agri. Area 2 directly over the c.z.	0.000E+00	0.000E+00	---	FAREA_PLANT(2)
AGRI	Evapotranspiration coefficient in Agri. Area 2	5.000E-01	5.000E-01	---	EVAPTRN(2)

AGRI	Runoff coefficient in Agricultural Area 2	2.000E-01	2.000E-01	---	RUNOF (2)
AGRI	Mixing depth/plow layer of Agricultural Area 2	1.500E-01	1.500E-01	---	DPTHMIXG (2)
AGRI	Water filled porosity of soil in Agri. Area 2	3.000E-01	3.000E-01	---	TMOF (2)
AGRI	Computed erosion rate of soil in Agri. Area 2	1.147E-05	1.147E-05	---	EROSN (2)
AGRI	Dry Bulk Density of soil in Agricultural Area 2	1.500E+00	1.500E+00	---	RHOB (2)
AGRI	Soil erodibility factor of Agricultural Area 2	4.000E-01	4.000E-01	---	ERODIBILITY (2)
AGRI	Slope-length-steepness factor, Agricultural Area 2	4.000E-01	4.000E-01	---	SLPLENSTP (2)

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AGRI	Cropping-management factor of Agricultural Area 2	3.000E-03	3.000E-03	---	CRPMANG (2)
AGRI	Conservation practice factor of Agricultural Area 2	1.000E+00	1.000E+00	---	CONVPAC (2)
AGRI	Total porosity of soil in Agricultural Area 2	not used	4.000E-01	---	TPOF (2)
AGRI	Areal extent of Agricultural Area 3 (m**2)	1.000E+04	1.000E+04	---	AREAO (3)
AGRI	Fraction of Agri. Area 3 directly over the c.z.	0.000E+00	0.000E+00	---	FAREA_PLANT (3)
AGRI	Evapotranspiration coefficient in Agri. Area 3	5.000E-01	5.000E-01	---	EVAPTRN (3)
AGRI	Runoff coefficient in Agricultural Area 3	2.000E-01	2.000E-01	---	RUNOF (3)
AGRI	Mixing depth/plow layer of Agricultural Area 3	1.500E-01	1.500E-01	---	DPTHMIXG (3)
AGRI	Water filled porosity of soil in Agri. Area 3	3.000E-01	3.000E-01	---	TMOF (3)
AGRI	Computed erosion rate of soil in Agri. Area 3	1.147E-05	1.147E-05	---	EROSN (3)
AGRI	Dry Bulk Density of soil in Agricultural Area 3	1.500E+00	1.500E+00	---	RHOB (3)
AGRI	Soil erodibility factor of Agricultural Area 3	4.000E-01	4.000E-01	---	ERODIBILITY (3)
AGRI	Slope-length-steepness factor, Agricultural Area 3	4.000E-01	4.000E-01	---	SLPLENSTP (3)
AGRI	Cropping-management factor of Agricultural Area 3	3.000E-03	3.000E-03	---	CRPMANG (3)
AGRI	Conservation practice factor of Agricultural Area 3	1.000E+00	1.000E+00	---	CONVPAC (3)
AGRI	Total porosity of soil in Agricultural Area 3	not used	4.000E-01	---	TPOF (3)
AGRI	Areal extent of Agricultural Area 4 (m**2)	1.000E+04	1.000E+04	---	AREAO (4)
AGRI	Fraction of Agri. Area 4 directly over the c.z.	0.000E+00	0.000E+00	---	FAREA_PLANT (4)
AGRI	Evapotranspiration coefficient in Agri. Area 4	5.000E-01	5.000E-01	---	EVAPTRN (4)
AGRI	Runoff coefficient in Agricultural Area 4	2.000E-01	2.000E-01	---	RUNOF (4)
AGRI	Mixing depth/plow layer of Agricultural Area 4	1.500E-01	1.500E-01	---	DPTHMIXG (4)
AGRI	Water filled porosity of soil in Agri. Area 4	3.000E-01	3.000E-01	---	TMOF (4)
AGRI	Computed erosion rate of soil in Agri. Area 4	1.147E-05	1.147E-05	---	EROSN (4)
AGRI	Dry Bulk Density of soil in Agricultural Area 4	1.500E+00	1.500E+00	---	RHOB (4)
AGRI	Soil erodibility factor of Agricultural Area 4	4.000E-01	4.000E-01	---	ERODIBILITY (4)
AGRI	Slope-length-steepness factor, Agricultural Area 4	4.000E-01	4.000E-01	---	SLPLENSTP (4)
AGRI	Cropping-management factor of Agricultural Area 4	3.000E-03	3.000E-03	---	CRPMANG (4)
AGRI	Conservation practice factor of Agricultural Area 4	1.000E+00	1.000E+00	---	CONVPAC (4)
AGRI	Total porosity of soil in Agricultural Area 4	not used	4.000E-01	---	TPOF (4)
DWEL	Areal extent of Offsite dwelling site (m**2)	1.000E+03	1.000E+03	---	AREADWELL
DWEL	Evapotranspiration coefficient in dwelling (Off)site	5.000E-01	5.000E-01	---	EVAPTRNDWELL
DWEL	Runoff coefficient in Offsite dwelling site	2.000E-01	2.000E-01	---	RUNOFDWELL
DWEL	Mixing depth of Offsite dwelling site	1.500E-01	1.500E-01	---	DPTHMIXGDWELL
DWEL	Water filled porosity of soil in Offsite Dwelling	3.000E-01	3.000E-01	---	TMOFDWELL

DWEL	Computed erosion rate of soil in Offsite Dwelling	0.000E+00	0.000E+00	---	EROSNDWELL
DWEL	Dry Bulk Density of soil in Offsite dwelling site	1.500E+00	1.500E+00	---	RHOBWELL
DWEL	Soil erodibility factor of soil in Dwelling site	0.000E+00	0.000E+00	---	ERODIBILITYDWELL
DWEL	Slope-length-steepness factor of Dwelling site	4.000E-01	4.000E-01	---	SLPLENSTPDWELL
DWEL	Cropping-management factor of Dwelling site	3.000E-03	3.000E-03	---	CRPMANGDWELL
DWEL	Conservation practice factor of Offsite Dwelling sit	1.000E+00	1.000E+00	---	CONVPACDWELL
DWEL	Total porosity of soil in Offsite Dwelling	not used	4.000E-01	---	TPOFDWELL
AIRT	Dispersion Coefficients; 1 = Pasquill-Gifford	1	1	---	IDISPMOD
AIRT	Population zone; 1 = Rural	1	1	---	IZONE
AIRT	Release height, (m)	1.000E+00	1.000E+00	---	AIRRELHT
AIRT	Heat flux for buoyant plume (cal/s),	0.000E+00	0.000E+00	---	HEATFLX

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AIRT	Anemometer height, (m)	1.000E+01	1.000E+01	---	ANH
AIRT	Absolute temperature (Kelvin)	2.850E+02	2.850E+02	---	TABK
AIRT	AM atmospheric mixing height (m)	4.000E+02	4.000E+02	---	AMIX
AIRT	PM atmospheric mixing height (m)	1.600E+03	1.600E+03	---	PMIX
AIRT	Elevation of Agricultural Area 1 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV(1)
AIRT	Elevation of Agricultural Area 2 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV(2)
AIRT	Elevation of Agricultural Area 3 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV(3)
AIRT	Elevation of Agricultural Area 4 above primary cont.	0.000E+00	0.000E+00	---	AGRIELEV(4)
AIRT	Elevation of Dwelling Site relative to primary cont.	0.000E+00	0.000E+00	---	DWELLELEV
AIRT	Elevation of Surf.Wtr body relative to primary cont.	0.000E+00	0.000E+00	---	SWELEV
AIRT	Joint frequency Meteorological data:				
AIRT	Upper limit for windspeed class 1 (m/s)	8.900E-01	8.900E-01	---	WINDSPEED(1)
AIRT	Upper limit for windspeed class 2 (m/s)	2.460E+00	2.460E+00	---	WINDSPEED(2)
AIRT	Upper limit for windspeed class 3 (m/s)	4.470E+00	4.470E+00	---	WINDSPEED(3)
AIRT	Upper limit for windspeed class 4 (m/s)	6.930E+00	6.930E+00	---	WINDSPEED(4)
AIRT	Upper limit for windspeed class 5 (m/s)	9.610E+00	9.610E+00	---	WINDSPEED(5)
AIRT	Upper limit for windspeed class 6 (m/s)	1.252E+01	1.252E+01	---	WINDSPEED(6)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,1)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,1)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,1)
AIRT	for wind speed class 1 and stability class D	1.000E-01	1.000E-01	---	DFREQ(1,4,1)
AIRT	for wind speed class 1 and stability class E	2.000E-01	2.000E-01	---	DFREQ(1,5,1)
AIRT	for wind speed class 1 and stability class F	7.000E-01	7.000E-01	---	DFREQ(1,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,1)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,1)

AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,1)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,1)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,1)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,1)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,1)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,1)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,1)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,1)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,1)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days
Parent Dose Report
Title : Landfill Scenario
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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,1)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,1)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,1)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,1)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,1)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,1)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,1)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,1)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,1)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,1)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,1)
AIRT	Joint Frequency in N Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,1)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,1)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,1)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,1)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,1)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,1)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,2)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,2)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,2)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,2)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,2)

AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,2)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,2)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,2)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,2)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,2)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,2)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,2)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,2)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,2)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,2)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,2)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,2)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,2)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : Landfill Scenario

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,2)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,2)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,2)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,2)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,2)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,2)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,2)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,2)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,2)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,2)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,2)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,2)
AIRT	Joint Frequency in NNE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,2)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,2)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,2)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,2)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,2)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,2)
AIRT	Joint Frequency in NE Sector				

AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,3)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,3)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,3)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,3)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,3)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,3)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,3)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,3)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,3)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,3)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,3)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,3)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,3)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,3)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,3)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,3)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : Landfill Scenario

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,3)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,3)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,3)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,3)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,3)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,3)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,3)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,3)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,3)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,3)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,3)
AIRT	Joint Frequency in NE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,3)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,3)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,3)

AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,3)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,3)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,3)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,4)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,4)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,4)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,4)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,4)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,4)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,4)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,4)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,4)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,4)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,4)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,4)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,4)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,4)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,4)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,4)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,4)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,4)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : Landfill Scenario

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,4)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,4)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,4)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,4)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,4)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,4)
AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,4)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,4)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,4)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,4)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,4)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,4)

AIRT	Joint Frequency in ENE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,4)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,4)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,4)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,4)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,4)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,4)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,5)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,5)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,5)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,5)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,5)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,5)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,5)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,5)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,5)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,5)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,5)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,5)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,5)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,5)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,5)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,5)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,5)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,5)

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days
Parent Dose Report
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Site-Specific Parameter Summary (continued)					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,5)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,5)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,5)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,5)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,5)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,5)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,5)

AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,5)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,5)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,5)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,5)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,5)
AIRT	Joint Frequency in E Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,5)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,5)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,5)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,5)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,5)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,5)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,6)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,6)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,6)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,6)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,6)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,6)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,6)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,6)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,6)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,6)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,6)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,6)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,6)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,6)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,6)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,6)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,6)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,6)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,6)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,6)

AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,6)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,6)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,6)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,6)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,6)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,6)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,6)
AIRT	Joint Frequency in ESE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,6)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,6)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,6)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,6)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,6)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,6)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,7)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,7)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,7)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,7)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,7)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,7)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,7)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,7)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,7)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,7)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,7)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,7)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,7)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,7)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,7)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,7)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,7)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,7)

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Site-Specific Parameter Summary (continued)					
0	Parameter	User Input	Default	RESRAD computed	Parameter Name
Menu					

AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,7)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,7)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,7)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,7)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,7)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,7)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,7)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,7)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,7)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,7)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,7)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,7)
AIRT	Joint Frequency in SE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,7)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,7)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,7)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,7)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,7)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,7)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,8)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,8)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,8)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,8)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,8)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,8)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,8)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,8)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,8)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,8)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,8)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,8)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,8)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,8)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,8)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,8)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,8)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,8)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,8)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,8)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,8)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,8)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,8)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,8)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,8)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,8)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,8)
AIRT	Joint Frequency in SSE Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,8)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,8)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,8)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,8)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,8)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,8)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,9)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,9)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,9)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,9)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,9)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,9)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,9)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,9)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,9)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,9)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,9)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,9)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,9)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,9)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,9)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,9)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,9)

AIRT | for wind speed class 3 and stability class F | 0.000E+00 | 0.000E+00 | --- | DFREQ(3,6,9)
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0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,9)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,9)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,9)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,9)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,9)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,9)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,9)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,9)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,9)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,9)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,9)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,9)
AIRT	Joint Frequency in S Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,9)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,9)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,9)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,9)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,9)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,9)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,10)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,10)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,10)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,10)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,10)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,10)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,10)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,10)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,10)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,10)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,10)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,10)
AIRT	Joint Frequency in SSW Sector				

AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,10)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,10)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,10)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,10)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,10)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,10)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,10)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,10)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,10)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,10)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,10)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,10)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,10)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,10)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,10)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,10)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,10)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,10)
AIRT	Joint Frequency in SSW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,10)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,10)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,10)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,10)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,10)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,10)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,11)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,11)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,11)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,11)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,11)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,11)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,11)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,11)

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AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,11)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,11)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,11)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,11)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,11)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,11)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,11)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,11)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,11)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,11)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,11)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,11)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,11)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,11)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,11)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,11)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,11)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,11)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,11)
AIRT	Joint Frequency in SW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,11)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,11)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,11)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,11)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,11)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,11)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,12)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,12)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,12)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,12)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,12)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,12)

AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,12)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,12)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,12)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,12)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,12)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,12)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,12)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,12)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,12)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,12)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,12)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,12)
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Site-Specific Parameter Summary (continued)					
Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,12)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,12)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,12)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,12)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,12)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,12)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,12)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,12)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,12)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,12)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,12)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,12)
AIRT	Joint Frequency in WSW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,12)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,12)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,12)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,12)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,12)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,12)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,13)

AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,13)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,13)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,13)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,13)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,13)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,13)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,13)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,13)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,13)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,13)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,13)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,13)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,13)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,13)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,13)

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,13)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,13)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,13)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,13)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,13)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,13)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,13)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,13)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,13)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,13)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,13)
AIRT	Joint Frequency in W Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,13)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,13)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,13)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,13)

AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,13)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,13)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,14)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,14)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,14)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,14)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,14)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,14)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,14)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,14)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,14)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,14)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,14)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,14)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,14)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,14)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,14)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,14)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,14)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,14)

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0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,14)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,14)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,14)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,14)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,14)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,14)
AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,14)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,14)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ (5,3,14)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ (5,4,14)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ (5,5,14)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ (5,6,14)

AIRT	Joint Frequency in WNW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ (6,1,14)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ (6,2,14)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ (6,3,14)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ (6,4,14)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ (6,5,14)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ (6,6,14)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ (1,1,15)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ (1,2,15)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ (1,3,15)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ (1,4,15)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ (1,5,15)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ (1,6,15)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ (2,1,15)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ (2,2,15)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ (2,3,15)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ (2,4,15)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ (2,5,15)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ (2,6,15)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ (3,1,15)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ (3,2,15)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ (3,3,15)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ (3,4,15)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ (3,5,15)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ (3,6,15)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ (4,1,15)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ (4,2,15)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ (4,3,15)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ (4,4,15)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ (4,5,15)
AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ (4,6,15)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ (5,1,15)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ (5,2,15)

AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,15)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,15)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,15)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,15)
AIRT	Joint Frequency in NW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,15)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,15)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,15)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,15)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,15)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,15)
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 1 and stability class A	0.000E+00	0.000E+00	---	DFREQ(1,1,16)
AIRT	for wind speed class 1 and stability class B	0.000E+00	0.000E+00	---	DFREQ(1,2,16)
AIRT	for wind speed class 1 and stability class C	0.000E+00	0.000E+00	---	DFREQ(1,3,16)
AIRT	for wind speed class 1 and stability class D	0.000E+00	1.000E-01	---	DFREQ(1,4,16)
AIRT	for wind speed class 1 and stability class E	0.000E+00	2.000E-01	---	DFREQ(1,5,16)
AIRT	for wind speed class 1 and stability class F	0.000E+00	7.000E-01	---	DFREQ(1,6,16)
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 2 and stability class A	0.000E+00	0.000E+00	---	DFREQ(2,1,16)
AIRT	for wind speed class 2 and stability class B	0.000E+00	0.000E+00	---	DFREQ(2,2,16)
AIRT	for wind speed class 2 and stability class C	0.000E+00	0.000E+00	---	DFREQ(2,3,16)
AIRT	for wind speed class 2 and stability class D	0.000E+00	0.000E+00	---	DFREQ(2,4,16)
AIRT	for wind speed class 2 and stability class E	0.000E+00	0.000E+00	---	DFREQ(2,5,16)
AIRT	for wind speed class 2 and stability class F	0.000E+00	0.000E+00	---	DFREQ(2,6,16)
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 3 and stability class A	0.000E+00	0.000E+00	---	DFREQ(3,1,16)
AIRT	for wind speed class 3 and stability class B	0.000E+00	0.000E+00	---	DFREQ(3,2,16)
AIRT	for wind speed class 3 and stability class C	0.000E+00	0.000E+00	---	DFREQ(3,3,16)
AIRT	for wind speed class 3 and stability class D	0.000E+00	0.000E+00	---	DFREQ(3,4,16)
AIRT	for wind speed class 3 and stability class E	0.000E+00	0.000E+00	---	DFREQ(3,5,16)
AIRT	for wind speed class 3 and stability class F	0.000E+00	0.000E+00	---	DFREQ(3,6,16)

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Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 4 and stability class A	0.000E+00	0.000E+00	---	DFREQ(4,1,16)
AIRT	for wind speed class 4 and stability class B	0.000E+00	0.000E+00	---	DFREQ(4,2,16)
AIRT	for wind speed class 4 and stability class C	0.000E+00	0.000E+00	---	DFREQ(4,3,16)
AIRT	for wind speed class 4 and stability class D	0.000E+00	0.000E+00	---	DFREQ(4,4,16)
AIRT	for wind speed class 4 and stability class E	0.000E+00	0.000E+00	---	DFREQ(4,5,16)

AIRT	for wind speed class 4 and stability class F	0.000E+00	0.000E+00	---	DFREQ(4,6,16)
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 5 and stability class A	0.000E+00	0.000E+00	---	DFREQ(5,1,16)
AIRT	for wind speed class 5 and stability class B	0.000E+00	0.000E+00	---	DFREQ(5,2,16)
AIRT	for wind speed class 5 and stability class C	0.000E+00	0.000E+00	---	DFREQ(5,3,16)
AIRT	for wind speed class 5 and stability class D	0.000E+00	0.000E+00	---	DFREQ(5,4,16)
AIRT	for wind speed class 5 and stability class E	0.000E+00	0.000E+00	---	DFREQ(5,5,16)
AIRT	for wind speed class 5 and stability class F	0.000E+00	0.000E+00	---	DFREQ(5,6,16)
AIRT	Joint Frequency in NNW Sector				
AIRT	for wind speed class 6 and stability class A	0.000E+00	0.000E+00	---	DFREQ(6,1,16)
AIRT	for wind speed class 6 and stability class B	0.000E+00	0.000E+00	---	DFREQ(6,2,16)
AIRT	for wind speed class 6 and stability class C	0.000E+00	0.000E+00	---	DFREQ(6,3,16)
AIRT	for wind speed class 6 and stability class D	0.000E+00	0.000E+00	---	DFREQ(6,4,16)
AIRT	for wind speed class 6 and stability class E	0.000E+00	0.000E+00	---	DFREQ(6,5,16)
AIRT	for wind speed class 6 and stability class F	0.000E+00	0.000E+00	---	DFREQ(6,6,16)
AIRT	Average annual wind speed (m/sec)	8.900E-01	8.900E-01	---	WIND
AIRT	Spacing of points used for areal integration, (m)	1.000E+01	1.000E+01	---	ATGRID
GWTR	convergence criterion for groundwater transport calc	1.000E-03	1.000E-03	---	EPS
GWTR	Distance from d/g edge of contamination to Well, (m)	5.000E+01	1.000E+02	---	OFFFLPAQW
GWTR	Contamination to Well c/c distance normal to flow, m	0.000E+00	0.000E+00	---	OFFFLNAQW
GWTR	Distance from d/g edge of cz to surface water, (m)	4.500E+02	4.500E+02	---	OFFFLPAQS
GWTR	Contamination to near edge of swb,c/c normal to flow	-1.500E+02	-1.500E+02	---	OFFFLNAQSN
GWTR	Contamination to far edge of swb, c/c normal to flow	1.500E+02	1.500E+02	---	OFFFLNAQSF
GWTR	Number of main sub zones in contaminated medium	1	1	---	NPCM
GWTR	Number of minor sub zones in last main CM sub zone	1	1	---	NPCMF
GWTR	Number of main sub zones in primary contamination	1	1	---	NPCZ
GWTR	Number of minor sub zones in last main PC sub zone	1	1	---	NPCZF
GWTR	Number of main sub zones in submerged prim. contami.	1	1	---	NSPCZ
GWTR	Number of minor sub zones in last main SPC sub zone	1	1	---	NSPCZF
GWTR	Number of main sub zones in each unsaturated stratum	1	1	---	NPSS
GWTR	Number of minor sub zones in last main UZ sub zone	1	1	---	NPSSF
GWTR	Number of main sub zones in saturated stratum	1	1	---	NAQS
GWTR	Number of minor sub zones in last main SZ sub zone	1	1	---	NAQSF
GWTR	Distribution coefficient and longitudinal dispersion	1	1	---	

1 = Nuclide specific distribution coefficients in all subzones. Longitudinal dispersion in all but the subzone of transformation.

GWTR	Retardation factor flag for groundwater transport	0	0	---	
0 = (total porosity + distribution coefficient*dry bulk density) / total porosity					

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
USZN	Number of unsaturated zone strata	1	1	---	NS

USZN	Unsat. zone 1, thickness (m)	4.000E+00	4.000E+00	---	H (1)
USZN	Unsat. zone 1, soil density (g/cm**3)	1.500E+00	1.500E+00	---	DENSUZ (1)
USZN	Unsat. zone 1, total porosity	4.000E-01	4.000E-01	---	TPUZ (1)
USZN	Unsat. zone 1, effective porosity	2.000E-01	2.000E-01	---	EPUZ (1)
USZN	Unsat. zone 1, field capacity	3.000E-01	3.000E-01	---	FCUZ (1)
USZN	Unsat. zone 1, hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCUZ (1)
USZN	Unsat. zone 1, soil-specific b parameter	5.300E+00	5.300E+00	---	BUZ (1)
USZN	Unsat. zone 1, longitudinal dispersivity (m)	1.000E-01	1.000E-01	---	ALPHALU (1)
SZNE	Well pump intake depth (m below water table)	1.000E+01	1.000E+01	---	DWIBWT
SZNE	Depth of aquifer contributing to surface water body	5.000E+00	5.000E+00	---	DPTHAQSW
SZNE	Thickness of saturated zone (m)	1.000E+02	1.000E+02	---	DPTHAQ
SZNE	Density of saturated zone (g/cm**3)	1.500E+00	1.500E+00	---	DENSAQ
SZNE	Saturated zone total porosity	4.000E-01	4.000E-01	---	TPSZ
SZNE	Saturated zone effective porosity	2.000E-01	2.000E-01	---	EPSZ
SZNE	Saturated zone hydraulic conductivity (m/yr)	1.000E+02	1.000E+02	---	HCSZ
SZNE	Saturated zone hydraulic gradient to well	2.000E-02	2.000E-02	---	HGW
SZNE	Satur. zone hydraulic gradient to surface water body	2.000E-02	2.000E-02	---	HGSW
SZNE	longitudinal dispersivity to well (m)	3.000E+00	3.000E+00	---	ALPHALOW
SZNE	longitudinal dispersivity to SWB (m)	1.000E+01	1.000E+01	---	ALPHALOSW
SZNE	lateral (horizontal) dispersivity to well (m)	4.000E-01	4.000E-01	---	ALPHATW
SZNE	lateral (horizontal) dispersivity to SWB (m)	1.000E+00	1.000E+00	---	ALPHATSW
SZNE	lateral (vertical) dispersivity to well (m)	2.000E-02	2.000E-02	---	ALPHAVW
SZNE	lateral (vertical) dispersivity to SWB (m)	6.000E-02	6.000E-02	---	ALPHAVSW
SZNE	Irrigation rate over aquifer to well (m/yr)	not used	0.000E+00	---	RIAQW
SZNE	Irrigation rate over aquifer to SWB (m/yr)	not used	0.000E+00	---	RIAQSW
SZNE	Evapotranspiration coefficient over aquifer to well	not used	1.000E+00	---	EVAPTRAQW
SZNE	Evapotranspiration coefficient over aquifer to SWB	not used	1.000E+00	---	EVAPTRAQSW
SZNE	Runoff coefficient over aquifer to well	not used	1.000E+00	---	RUNOFFAQW
SZNE	Runoff coefficient over aquifer to SWB	not used	1.000E+00	---	RUNOFFAQSW
SZNE	Concentration of mobile colloids in the aquifer	0.000E+00	0.000E+00	---	CCOL
SZNE	Water - Soil Distribution coefficient of colloids	0.000E+00	0.000E+00	---	K1Col
SZNE	Water - Mobile Colloids Distribution coefficient	0.000E+00	0.000E+00	---	K3Col
WTRU	Drinking water intake (L/yr)	5.100E+02	5.100E+02	---	DWI
WTRU	Fraction of drinking water from surface water	0.000E+00	0.000E+00	---	FSWD
WTRU	Fraction of drinking water from well water	1.000E+00	1.000E+00	---	FWWD
WTRU	Fraction of household water from surface water	0.000E+00	0.000E+00	---	FSWHH
WTRU	Fraction of household water from well water	1.000E+00	1.000E+00	---	FWWHH
WTRU	Livestock water intake for meat 1 (L/day)	5.000E+01	5.000E+01	---	LWI (1)
WTRU	Fraction of livestock water 1 from surface water	0.000E+00	0.000E+00	---	FSWL1 (1)
WTRU	Fraction of livestock water 1 from well water	1.000E+00	1.000E+00	---	FWWL1 (1)
WTRU	Livestock water intake for milk (L/day)	1.600E+02	1.600E+02	---	LWI (2)
WTRU	Fraction of dairy cow water from surface water	0.000E+00	0.000E+00	---	FSWL2 (2)
WTRU	Fraction of dairy cow water from well water	1.000E+00	1.000E+00	---	FWWL2 (2)
WTRU	Irrigation rate in Agricultural Area 1 (m/yr)	2.000E-01	2.000E-01	---	RIRRIG (1)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
WTRU	Fraction of irrigation water 1 from surface water	0.000E+00	0.000E+00	---	FSWIR(1)
WTRU	Fraction of irrigation water 1 from well water	1.000E+00	1.000E+00	---	FWWIR(1)
WTRU	Irrigation rate in Agricultural Area 2 (m/yr)	2.000E-01	2.000E-01	---	RIRRIG(2)
WTRU	Fraction of irrigation water 2 from surface water	0.000E+00	0.000E+00	---	FSWIR(2)
WTRU	Fraction of irrigation water 2 from well water	1.000E+00	1.000E+00	---	FWWIR(2)
WTRU	Irrigation rate in Agricultural Area 3 (m/yr)	2.000E-01	2.000E-01	---	RIRRIG(3)
WTRU	Fraction of irrigation water 3 from surface water	0.000E+00	0.000E+00	---	FSWIR(3)
WTRU	Fraction of irrigation water 3 from well water	1.000E+00	1.000E+00	---	FWWIR(3)
WTRU	Irrigation rate in Agricultural Area 4 (m/yr)	2.000E-01	2.000E-01	---	RIRRIG(4)
WTRU	Fraction of irrigation water 4 from surface water	0.000E+00	0.000E+00	---	FSWIR(4)
WTRU	Fraction of irrigation water 4 from well water	1.000E+00	1.000E+00	---	FWWIR(4)
WTRU	Irrigation rate in Offsite dwelling site (m/yr)	2.000E-01	2.000E-01	---	RIRRIGDWELL
WTRU	Fraction of irrigation water from surface water	0.000E+00	0.000E+00	---	FSWIRDWELL
WTRU	Fraction of irrigation water from well water	1.000E+00	1.000E+00	---	FWWIRDWELL
WTRU	Well pumping rate (m**3/yr)	5.100E+03	5.100E+03	---	UW
SWBY	Surface area of water in surface water body, m**2	9.000E+04	9.000E+04	---	ALAKE
SWBY	Volume of surface water body, m**3	1.500E+05	1.500E+05	---	VLAKE
SWBY	Potential evaporation, m/y	1.000E+00	1.000E+00	---	EVAPOT
SWBY	Stream outflow as a fraction of seepage+stm outflows	9.983E-01	9.983E-01	---	FSTMFLOW
SWBY	Use inflow ratio for outflow ratio, 1 yes, 0 no	1	1	---	FSTMFLOWIN
SWBY	Settling velocity of suspended sediments, cm/s	1.000E-01	1.000E-01	---	Vsettle
SWBY	Dry bulk density of bottom sediments, g/cm**3	1.500E+00	1.500E+00	---	RhobSed
SWBY	Thickness of bottom sediment absorbing nuclides, m	5.000E-02	5.000E-02	---	ThickSed
SWBY	Number of distinct catchments	1	1	---	NCATCH
SWBY	Catchment 1, smaller X coordinate (m)	-1.450E+03	-1.450E+03	---	CATCHXY(1,1)
SWBY	Catchment 1, larger X coordinate (m)	1.550E+03	1.550E+03	---	CATCHXY(2,1)
SWBY	Catchment 1, smaller Y coordinate (m)	-2.450E+03	-2.450E+03	---	CATCHXY(3,1)
SWBY	Catchment 1, larger Y coordinate (m)	5.500E+02	5.500E+02	---	CATCHXY(4,1)
SWBY	Catchment 1, area, m**2	9.000E+06	9.000E+06	---	AREACA(1)
SWBY	Catchment 1, runoff coefficient	2.000E-01	2.000E-01	---	RUNOFFCA(1)
SWBY	Catchment 1, soil erodibility factor, tons/acre	4.000E-01	4.000E-01	---	ERODIBILITYCA(1)
SWBY	Catchment 1, Slope-length-steepness factor	4.000E-01	4.000E-01	---	SLPLENSTPCA(1)
SWBY	Catchment 1, Cover and management factor	3.000E-03	3.000E-03	---	CRPMANGCA(1)
SWBY	Catchment 1, support practice factor	1.000E+00	1.000E+00	---	CONVPRACCA(1)
SWBY	Catchment 1, sediment delivery ratio	2.121E-01	2.121E-01	---	SDRCA(1)
SWBY	Catchment 1, use SRD - Area correlation, 1 yes, 0 no	1	1	---	SDRACOR
SWBY	Catchment 1, deposited radionuclide delivery ratio	2.000E-02	2.000E-02	---	DDRCA(1)
SWBY	Compute atmospheric deposition on catchment	yes	no	---	ComputeDep
SWBY	Convergence criterion for deposition calculations	1.000E-03	1.000E-03	---	ConvCritAtm
INGE	Fish consumption (kg/yr)	5.400E+00	5.400E+00	---	DFI(1)
INGE	Fraction of Fish from affected area	5.000E-01	5.000E-01	---	FFISH(1)
INGE	Other Aquatic food consumption (kg/yr)	9.000E-01	9.000E-01	---	DFI(2)
INGE	Fraction of Aquatic food from affected area	5.000E-01	5.000E-01	---	FFISH(2)
INGE	Non-Leafy vegetables consumption (kg/yr)	1.600E+02	1.600E+02	---	DVI(1)
INGE	Fraction of vegetable 1 from affected area	5.000E-01	5.000E-01	---	FVEG(1)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
INGE	Leafy vegetable consumption (kg/yr)	1.400E+01	1.400E+01	---	DVI (2)
INGE	Fraction of vegetable 2 from affected area	5.000E-01	5.000E-01	---	FVEG (2)
INGE	Meat 1 consumption (kg/yr)	6.300E+01	6.300E+01	---	DMI (1)
INGE	Fraction of meat 1 from affected area	1.000E+00	1.000E+00	---	FMEMI (1)
INGE	Milk consumption (L/yr)	9.200E+01	9.200E+01	---	DMI (2)
INGE	Fraction of milk from affected area	1.000E+00	1.000E+00	---	FMEMI (2)
INGE	Soil ingestion rate (g/yr)	3.650E+01	3.650E+01	---	SOIL
VEGE	Wet weight crop yield for Non-Leafy (kg/m**2)	7.000E-01	7.000E-01	---	YIELD (1)
VEGE	Growing Season for Non-Leafy (years)	1.700E-01	1.700E-01	---	GROWTIME (1)
VEGE	Translocation Factor for Non-Leafy	1.000E-01	1.000E-01	---	FOLI_F (1)
VEGE	Weathering Removal Constant for Non-Leafy	2.000E+01	2.000E+01	---	RWEATHER (1)
VEGE	Foliar Interception Fraction for dust Non-Leafy	2.500E-01	2.500E-01	---	FINTCEPT (1,1)
VEGE	Foliar Interception-n Fract-n for irrigation Non-Leafy	2.500E-01	2.500E-01	---	FINTCEPT (1,2)
VEGE	Depth of roots for Non-Leafy (m)	1.200E+00	1.200E+00	---	DROOT (1)
VEGE	Wet weight crop yield for Leafy (kg/m**2)	1.500E+00	1.500E+00	---	YIELD (2)
VEGE	Growing Season for Leafy (years)	2.500E-01	2.500E-01	---	GROWTIME (2)
VEGE	Translocation Factor for Leafy	1.000E+00	1.000E+00	---	FOLI_F (2)
VEGE	Weathering Removal Constant for Leafy	2.000E+01	2.000E+01	---	RWEATHER (2)
VEGE	Foliar Interception Fraction for dust Leafy	2.500E-01	2.500E-01	---	FINTCEPT (2,1)
VEGE	Foliar Interception-n Fract-n for irrigation Leafy	2.500E-01	2.500E-01	---	FINTCEPT (2,2)
VEGE	Depth of roots for Leafy (m)	9.000E-01	9.000E-01	---	DROOT (2)
VEGE	Wet weight crop yield for Pasture (kg/m**2)	1.100E+00	1.100E+00	---	YIELD (3)
VEGE	Growing Season for Pasture (years)	8.000E-02	8.000E-02	---	GROWTIME (3)
VEGE	Translocation Factor for Pasture	1.000E+00	1.000E+00	---	FOLI_F (3)
VEGE	Weathering Removal Constant for Pasture	2.000E+01	2.000E+01	---	RWEATHER (3)
VEGE	Foliar Interception Fraction for dust Pasture	2.500E-01	2.500E-01	---	FINTCEPT (3,1)
VEGE	Foliar Interception-n Fract-n for irrigation Pasture	2.500E-01	2.500E-01	---	FINTCEPT (3,2)
VEGE	Depth of roots for Pasture (m)	9.000E-01	9.000E-01	---	DROOT (3)
VEGE	Wet weight crop yield for Grain (kg/m**2)	7.000E-01	7.000E-01	---	YIELD (4)
VEGE	Growing Season for Grain (years)	1.700E-01	1.700E-01	---	GROWTIME (4)
VEGE	Translocation Factor for Grain	1.000E-01	1.000E-01	---	FOLI_F (4)
VEGE	Weathering Removal Constant for Grain	2.000E+01	2.000E+01	---	RWEATHER (4)
VEGE	Foliar Interception Fraction for dust Grain	2.500E-01	2.500E-01	---	FINTCEPT (4,1)
VEGE	Foliar Interception-n Fract-n for irrigation Grain	2.500E-01	2.500E-01	---	FINTCEPT (4,2)
VEGE	Depth of roots for Grain (m)	1.200E+00	1.200E+00	---	DROOT (4)
LINT	Feed 1 intake by livestock 1 (kg/day)	1.400E+01	1.400E+01	---	LFI (1,1)
LINT	Soil intake with feed 1 by livestock 1 (kg/day)	1.000E-01	1.000E-01	---	LSI (1,1)
LINT	Feed 1 intake by dairy cow (kg/day)	4.400E+01	4.400E+01	---	LFI (2,1)
LINT	Soil intake with feed 1 by dairy cow (kg/day)	4.000E-01	4.000E-01	---	LSI (2,1)
LINT	Feed 2 intake by livestock 1 (kg/day)	5.400E+01	5.400E+01	---	LFI (1,2)

LINT	Soil intake with feed 2 by livestock 1 (kg/day)	4.000E-01	4.000E-01	---	LSI(1,2)
LINT	Feed 2 intake by dairy cow (kg/day)	1.100E+01	1.100E+01	---	LFI(2,2)
LINT	Soil intake with feed 2 by dairy cow (kg/day)	1.000E-01	1.000E-01	---	LSI(2,2)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
INHE	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
INHE	Mass loading of all particulates from Primary contam	1.000E-04	1.000E-04	---	MLFD
INHE	Respirable particulates as a fraction of total	1.000E+00	1.000E+00	---	RESPFRACPC
INHE	Offsite mass loading same as onsite mass loading?	0.000E+00	0.000E+00	---	SAMEMLRF
INHE	Total mass loading at agricultural area 1 (g/m**3)	1.000E-04	1.000E-04	---	MLTTOF(1)
INHE	Respirable fraction at agricultural area 1	1.000E+00	1.000E+00	---	RESPFRACOF(1)
INHE	Total mass loading at agricultural area 2 (g/m**3)	1.000E-04	1.000E-04	---	MLTTOF(2)
INHE	Respirable fraction at agricultural area 2	1.000E+00	1.000E+00	---	RESPFRACOF(2)
INHE	Total mass loading at agricultural area 3 (g/m**3)	1.000E-04	1.000E-04	---	MLTTOF(3)
INHE	Respirable fraction at agricultural area 3	1.000E+00	1.000E+00	---	RESPFRACOF(3)
INHE	Total mass loading at agricultural area 4 (g/m**3)	1.000E-04	1.000E-04	---	MLTTOF(4)
INHE	Respirable fraction at agricultural area 4	1.000E+00	1.000E-04	---	RESPFRACOF(4)
INHE	Total mass loading at offsite dwelling(g/m**3)	1.000E-04	1.000E-04	---	MLTOTDWELL
INHE	Respirable fraction at offsite dwelling(g/m**3)	1.000E+00	1.000E+00	---	RESPFRACDWELL
INHE	Indoor dust filtration factor, inhalation	4.000E-01	4.000E-01	---	SHF3
INHE	Shielding factor, external gamma	7.000E-01	7.000E-01	---	SHF1
INHE	Shape factor flag, external gamma	-1.000E+00	1.000E+00	noncircular	FS
SEXT	Onsite shape factor array (used if non-circular):				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 1:	1.208E+01	6.000E+00	---	RAD_SHAPE(1)
SEXT	Outer annular radius (m), ring 2:	2.417E+01	1.200E+01	---	RAD_SHAPE(2)
SEXT	Outer annular radius (m), ring 3:	3.625E+01	1.800E+01	---	RAD_SHAPE(3)
SEXT	Outer annular radius (m), ring 4:	4.833E+01	2.400E+01	---	RAD_SHAPE(4)
SEXT	Outer annular radius (m), ring 5:	6.042E+01	3.000E+01	---	RAD_SHAPE(5)
SEXT	Outer annular radius (m), ring 6:	7.250E+01	3.600E+01	---	RAD_SHAPE(6)
SEXT	Outer annular radius (m), ring 7:	8.458E+01	4.200E+01	---	RAD_SHAPE(7)
SEXT	Outer annular radius (m), ring 8:	9.667E+01	4.800E+01	---	RAD_SHAPE(8)
SEXT	Outer annular radius (m), ring 9:	1.088E+02	5.400E+01	---	RAD_SHAPE(9)
SEXT	Outer annular radius (m), ring 10:	1.208E+02	6.000E+01	---	RAD_SHAPE(10)
SEXT	Outer annular radius (m), ring 11:	1.329E+02	6.600E+01	---	RAD_SHAPE(11)
SEXT	Outer annular radius (m), ring 12:	1.450E+02	7.200E+01	---	RAD_SHAPE(12)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 1	1.000E+00	1.000E+00	---	FRACA(1)
SEXT	Ring 2	1.000E+00	1.000E+00	---	FRACA(2)
SEXT	Ring 3	1.000E+00	1.000E+00	---	FRACA(3)
SEXT	Ring 4	1.000E+00	1.000E+00	---	FRACA(4)
SEXT	Ring 5	1.000E+00	1.000E+00	---	FRACA(5)
SEXT	Ring 6	9.800E-01	1.000E+00	---	FRACA(6)
SEXT	Ring 7	1.000E+00	1.000E+00	---	FRACA(7)

SEXT	Ring 8	1.000E+00	1.000E+00	---	FRACA (8)
SEXT	Ring 9	7.800E-01	7.700E-01	---	FRACA (9)
SEXT	Ring 10	3.600E-01	3.700E-01	---	FRACA(10)
SEXT	Ring 11	1.600E-01	1.700E-01	---	FRACA(11)
SEXT	Ring 12	3.400E-02	3.100E-02	---	FRACA(12)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
SEXT	Shape factor array from offsite dwelling:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 13:	2.267E+01	1.325E+01	---	RAD_SHAPE(13)
SEXT	Outer annular radius (m), ring 14:	4.533E+01	2.650E+01	---	RAD_SHAPE(14)
SEXT	Outer annular radius (m), ring 15:	6.800E+01	3.975E+01	---	RAD_SHAPE(15)
SEXT	Outer annular radius (m), ring 16:	9.067E+01	5.300E+01	---	RAD_SHAPE(16)
SEXT	Outer annular radius (m), ring 17:	1.133E+02	6.625E+01	---	RAD_SHAPE(17)
SEXT	Outer annular radius (m), ring 18:	1.360E+02	7.950E+01	---	RAD_SHAPE(18)
SEXT	Outer annular radius (m), ring 19:	1.587E+02	9.275E+01	---	RAD_SHAPE(19)
SEXT	Outer annular radius (m), ring 20:	1.813E+02	1.060E+02	---	RAD_SHAPE(20)
SEXT	Outer annular radius (m), ring 21:	2.040E+02	1.192E+02	---	RAD_SHAPE(21)
SEXT	Outer annular radius (m), ring 22:	2.267E+02	1.325E+02	---	RAD_SHAPE(22)
SEXT	Outer annular radius (m), ring 23:	2.493E+02	1.458E+02	---	RAD_SHAPE(23)
SEXT	Outer annular radius (m), ring 24:	2.720E+02	1.590E+02	---	RAD_SHAPE(24)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 13	0.000E+00	0.000E+00	---	FRACA(13)
SEXT	Ring 14	0.000E+00	0.000E+00	---	FRACA(14)
SEXT	Ring 15	2.000E-01	0.000E+00	---	FRACA(15)
SEXT	Ring 16	2.900E-01	2.400E-02	---	FRACA(16)
SEXT	Ring 17	3.400E-01	1.900E-01	---	FRACA(17)
SEXT	Ring 18	3.000E-01	2.400E-01	---	FRACA(18)
SEXT	Ring 19	2.400E-01	2.000E-01	---	FRACA(19)
SEXT	Ring 20	2.000E-01	1.700E-01	---	FRACA(20)
SEXT	Ring 21	1.700E-01	1.500E-01	---	FRACA(21)
SEXT	Ring 22	1.600E-01	1.300E-01	---	FRACA(22)
SEXT	Ring 23	1.400E-01	1.200E-01	---	FRACA(23)
SEXT	Ring 24	4.200E-02	5.200E-02	---	FRACA(24)
SEXT	Shape factor array from offsite area 1:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 25:	1.500E+02	1.500E+02	---	RAD_SHAPE(25)
SEXT	Outer annular radius (m), ring 26:	1.651E+02	1.651E+02	---	RAD_SHAPE(26)
SEXT	Outer annular radius (m), ring 27:	1.803E+02	1.803E+02	---	RAD_SHAPE(27)
SEXT	Outer annular radius (m), ring 28:	2.015E+02	2.015E+02	---	RAD_SHAPE(28)
SEXT	Outer annular radius (m), ring 29:	2.227E+02	2.227E+02	---	RAD_SHAPE(29)
SEXT	Outer annular radius (m), ring 30:	2.439E+02	2.439E+02	---	RAD_SHAPE(30)
SEXT	Outer annular radius (m), ring 31:	2.651E+02	2.651E+02	---	RAD_SHAPE(31)
SEXT	Outer annular radius (m), ring 32:	2.864E+02	2.864E+02	---	RAD_SHAPE(32)

SEXT	Outer annular radius (m), ring 33:	3.076E+02	3.076E+02	---	RAD_SHAPE(33)
SEXT	Outer annular radius (m), ring 34:	3.288E+02	3.288E+02	---	RAD_SHAPE(34)
SEXT	Outer annular radius (m), ring 35:	3.500E+02	3.500E+02	---	RAD_SHAPE(35)
SEXT	Outer annular radius (m), ring 36:	3.640E+02	3.640E+02	---	RAD_SHAPE(36)

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SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 25	0.000E+00	0.000E+00	---	FRACA(25)
SEXT	Ring 26	7.198E-02	7.198E-02	---	FRACA(26)
SEXT	Ring 27	1.634E-01	1.634E-01	---	FRACA(27)
SEXT	Ring 28	1.756E-01	1.756E-01	---	FRACA(28)
SEXT	Ring 29	1.563E-01	1.563E-01	---	FRACA(29)
SEXT	Ring 30	1.410E-01	1.410E-01	---	FRACA(30)
SEXT	Ring 31	1.285E-01	1.285E-01	---	FRACA(31)
SEXT	Ring 32	1.181E-01	1.181E-01	---	FRACA(32)
SEXT	Ring 33	1.093E-01	1.093E-01	---	FRACA(33)
SEXT	Ring 34	1.018E-01	1.018E-01	---	FRACA(34)
SEXT	Ring 35	9.521E-02	9.521E-02	---	FRACA(35)
SEXT	Ring 36	4.521E-02	4.521E-02	---	FRACA(36)
SEXT	Shape factor array from offsite area 2:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 37:	1.840E+02	1.840E+02	---	RAD_SHAPE(37)
SEXT	Outer annular radius (m), ring 38:	2.094E+02	2.094E+02	---	RAD_SHAPE(38)
SEXT	Outer annular radius (m), ring 39:	2.288E+02	2.288E+02	---	RAD_SHAPE(39)
SEXT	Outer annular radius (m), ring 40:	2.482E+02	2.482E+02	---	RAD_SHAPE(40)
SEXT	Outer annular radius (m), ring 41:	2.676E+02	2.676E+02	---	RAD_SHAPE(41)
SEXT	Outer annular radius (m), ring 42:	2.870E+02	2.870E+02	---	RAD_SHAPE(42)
SEXT	Outer annular radius (m), ring 43:	3.064E+02	3.064E+02	---	RAD_SHAPE(43)
SEXT	Outer annular radius (m), ring 44:	3.258E+02	3.258E+02	---	RAD_SHAPE(44)
SEXT	Outer annular radius (m), ring 45:	3.452E+02	3.452E+02	---	RAD_SHAPE(45)
SEXT	Outer annular radius (m), ring 46:	3.646E+02	3.646E+02	---	RAD_SHAPE(46)
SEXT	Outer annular radius (m), ring 47:	3.840E+02	3.840E+02	---	RAD_SHAPE(47)
SEXT	Outer annular radius (m), ring 48:	3.968E+02	3.968E+02	---	RAD_SHAPE(48)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 37	0.000E+00	0.000E+00	---	FRACA(37)
SEXT	Ring 38	8.435E-02	8.435E-02	---	FRACA(38)
SEXT	Ring 39	1.509E-01	1.509E-01	---	FRACA(39)
SEXT	Ring 40	1.377E-01	1.377E-01	---	FRACA(40)
SEXT	Ring 41	1.268E-01	1.268E-01	---	FRACA(41)
SEXT	Ring 42	1.174E-01	1.174E-01	---	FRACA(42)
SEXT	Ring 43	1.094E-01	1.094E-01	---	FRACA(43)
SEXT	Ring 44	1.025E-01	1.025E-01	---	FRACA(44)
SEXT	Ring 45	9.634E-02	9.634E-02	---	FRACA(45)
SEXT	Ring 46	9.092E-02	9.092E-02	---	FRACA(46)

SEXT	Ring 47	8.609E-02	8.609E-02	---	FRACA (47)
SEXT	Ring 48	4.124E-02	4.124E-02	---	FRACA (48)

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Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
SEXT	Shape factor array from offsite area 3:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 49:	4.000E+02	4.000E+02	---	RAD_SHAPE (49)
SEXT	Outer annular radius (m), ring 50:	4.123E+02	4.123E+02	---	RAD_SHAPE (50)
SEXT	Outer annular radius (m), ring 51:	4.332E+02	4.332E+02	---	RAD_SHAPE (51)
SEXT	Outer annular radius (m), ring 52:	4.540E+02	4.540E+02	---	RAD_SHAPE (52)
SEXT	Outer annular radius (m), ring 53:	4.749E+02	4.749E+02	---	RAD_SHAPE (53)
SEXT	Outer annular radius (m), ring 54:	4.957E+02	4.957E+02	---	RAD_SHAPE (54)
SEXT	Outer annular radius (m), ring 55:	5.166E+02	5.166E+02	---	RAD_SHAPE (55)
SEXT	Outer annular radius (m), ring 56:	5.374E+02	5.374E+02	---	RAD_SHAPE (56)
SEXT	Outer annular radius (m), ring 57:	5.583E+02	5.583E+02	---	RAD_SHAPE (57)
SEXT	Outer annular radius (m), ring 58:	5.791E+02	5.791E+02	---	RAD_SHAPE (58)
SEXT	Outer annular radius (m), ring 59:	6.000E+02	6.000E+02	---	RAD_SHAPE (59)
SEXT	Outer annular radius (m), ring 60:	6.083E+02	6.083E+02	---	RAD_SHAPE (60)
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 49	0.000E+00	0.000E+00	---	FRACA (49)
SEXT	Ring 50	3.958E-02	3.958E-02	---	FRACA (50)
SEXT	Ring 51	7.602E-02	7.602E-02	---	FRACA (51)
SEXT	Ring 52	7.238E-02	7.238E-02	---	FRACA (52)
SEXT	Ring 53	6.908E-02	6.908E-02	---	FRACA (53)
SEXT	Ring 54	6.606E-02	6.606E-02	---	FRACA (54)
SEXT	Ring 55	6.330E-02	6.330E-02	---	FRACA (55)
SEXT	Ring 56	6.077E-02	6.077E-02	---	FRACA (56)
SEXT	Ring 57	5.843E-02	5.843E-02	---	FRACA (57)
SEXT	Ring 58	5.626E-02	5.626E-02	---	FRACA (58)
SEXT	Ring 59	5.425E-02	5.425E-02	---	FRACA (59)
SEXT	Ring 60	2.647E-02	2.647E-02	---	FRACA (60)
SEXT	Shape factor array from offsite area 4:				
SEXT	Radii of shape factor array (used if non-circular):				
SEXT	Outer annular radius (m), ring 61:	2.500E+02	2.500E+02	---	RAD_SHAPE (61)
SEXT	Outer annular radius (m), ring 62:	2.693E+02	2.693E+02	---	RAD_SHAPE (62)
SEXT	Outer annular radius (m), ring 63:	2.893E+02	2.893E+02	---	RAD_SHAPE (63)
SEXT	Outer annular radius (m), ring 64:	3.094E+02	3.094E+02	---	RAD_SHAPE (64)
SEXT	Outer annular radius (m), ring 65:	3.295E+02	3.295E+02	---	RAD_SHAPE (65)
SEXT	Outer annular radius (m), ring 66:	3.496E+02	3.496E+02	---	RAD_SHAPE (66)
SEXT	Outer annular radius (m), ring 67:	3.697E+02	3.697E+02	---	RAD_SHAPE (67)
SEXT	Outer annular radius (m), ring 68:	3.898E+02	3.898E+02	---	RAD_SHAPE (68)
SEXT	Outer annular radius (m), ring 69:	4.098E+02	4.098E+02	---	RAD_SHAPE (69)
SEXT	Outer annular radius (m), ring 70:	4.299E+02	4.299E+02	---	RAD_SHAPE (70)
SEXT	Outer annular radius (m), ring 71:	4.500E+02	4.500E+02	---	RAD_SHAPE (71)

SEXT | Outer annular radius (m), ring 72: | 4.610E+02 | 4.610E+02 | --- | RAD_SHAPE(72)
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0 Menu	Parameter	User Input	Default	RESRAD computed	Parameter Name
SEXT	Fractions of annular areas within AREA:				
SEXT	Ring 61	0.000E+00	0.000E+00	---	FRACA (61)
SEXT	Ring 62	6.281E-02	6.281E-02	---	FRACA (62)
SEXT	Ring 63	1.166E-01	1.166E-01	---	FRACA (63)
SEXT	Ring 64	1.084E-01	1.084E-01	---	FRACA (64)
SEXT	Ring 65	1.013E-01	1.013E-01	---	FRACA (65)
SEXT	Ring 66	9.516E-02	9.516E-02	---	FRACA (66)
SEXT	Ring 67	8.970E-02	8.970E-02	---	FRACA (67)
SEXT	Ring 68	8.483E-02	8.483E-02	---	FRACA (68)
SEXT	Ring 69	8.047E-02	8.047E-02	---	FRACA (69)
SEXT	Ring 70	7.655E-02	7.655E-02	---	FRACA (70)
SEXT	Ring 71	7.299E-02	7.299E-02	---	FRACA (71)
SEXT	Ring 72	3.524E-02	3.524E-02	---	FRACA (72)
OCCU	Fraction of time spent indoors on contaminated site	0.000E+00	0.000E+00	---	FIND
OCCU	Fraction of time spent outdoors on contaminated site	0.000E+00	0.000E+00	---	FOTD
OCCU	Fraction of time spent indoors in Offsite Dwelling	5.000E-01	5.000E-01	---	FINDDWELL
OCCU	Fraction of time spent outdoors in Offsite Dwelling	1.000E-01	1.000E-01	---	FOTDDWELL
OCCU	Fraction of time spent outdoors in agri. area 1	1.000E-01	1.000E-01	---	OCCUPANCY (1)
OCCU	Fraction of time spent outdoors in agri. area 2	1.000E-01	1.000E-01	---	OCCUPANCY (2)
OCCU	Fraction of time spent outdoors in agri. area 3	1.000E-01	1.000E-01	---	OCCUPANCY (3)
OCCU	Fraction of time spent outdoors in agri. area 4	1.000E-01	1.000E-01	---	OCCUPANCY (4)
RADN	Diffusion coefficient for radon gas (m/sec):				
RADN	in cover material	not used	2.000E-06	---	DIFCV
RADN	in contaminated zone soil	not used	2.000E-06	---	DIFCZ
RADN	in fruit, grain and non-leafy vegetable field	not used	2.000E-06	---	DIFOS (1)
RADN	in leafy vegetable field	not used	2.000E-06	---	DIFOS (2)
RADN	in pasture	not used	2.000E-06	---	DIFOS (3)
RADN	in livestock grain field	not used	2.000E-06	---	DIFOS (4)
RADN	in offsite dwelling site	not used	2.000E-06	---	DIFOS (5)
RADN	in foundation material	not used	3.000E-07	---	DIFFL
RADN	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
RADN	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
RADN	Total porosity of the building foundation	not used	1.000E-01	---	TPFL
RADN	Volumetric water content of the foundation	not used	3.000E-02	---	PH2OFL
RADN	Building depth below ground surface (m)	not used	-1.000E+00	---	DMFL
RADN	Radon vertical dimension of mixing (m)	not used	2.000E+00	---	HMIX
RADN	Height of the building (room) (m)	not used	2.500E+00	---	HRM
RADN	Average building air exchange rate (1/hr)	not used	5.000E-01	---	REXG
RADN	Building interior area factor	not used	0.000E+00	---	FAI

RADN	Emanating power of Rn-222 gas	not used	2.500E-01	---	EMANA (1)
RADN	Emanating power of Rn-220 gas	not used	1.500E-01	---	EMANA (2)
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	Vertical dimension of mixing for vegetation (m)	not used	1.000E+00	---	HMIXV
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	C14EVSN

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C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	C12EVSN
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C12	C-12 concentration in the atmosphere (g/m**3)	not used	1.800E-01	---	C12AIR
C12	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C12	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C12	C-12 concentration in meat 1 (g/g)	not used	2.400E-01	---	C12MEAT_MILK(1)
C12	C-12 concentration in milk (g/g)	not used	7.000E-02	---	C12MEAT_MILK(2)
C12	C-12 concentration in vegetable 1 (g/g)	not used	4.000E-01	---	C12PLANT(1)
C12	C-12 concentration in vegetable 2 (g/g)	not used	9.000E-02	---	C12PLANT(2)
C12	C-12 concentration in livestock feed 1 (g/g)	not used	9.000E-02	---	C12PLANT(3)
C12	C-12 concentration in livestock feed 2 (g/g)	not used	4.000E-01	---	C12PLANT(4)
H3	Humidity in air (g/cm**3)	not used	8.000E+00	---	HUMID
H3	Mass fraction of water in meat 1 (g/g)	not used	6.000E-01	---	H2OMEAT_MILK(1)
H3	Mass fraction of water in milk (g/g)	not used	8.800E-01	---	H2OMEAT_MILK(2)
H3	Mass fraction of water in vegetable 1 (g/g)	not used	8.000E-01	---	H2OPLANT(1)
H3	Mass fraction of water in vegetable 2 (g/g)	not used	8.000E-01	---	H2OPLANT(2)
H3	Mass fraction of water in livestock feed 1 (g/g)	not used	8.000E-01	---	H2OPLANT(3)
H3	Mass fraction of water in livestock feed 2 (g/g)	not used	8.000E-01	---	H2OPLANT(4)

Summary of Pathway Selections

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

active
suppressed

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Initial Soil Concentrations, pCi/g

Am-241	9.640E-02
Cs-137	9.640E-02
Np-237	9.640E-01
Pu-238	9.640E-02
Pu-239	9.640E-02
Pu-240	9.640E-02
Tc-99	9.640E-01
Th-228	9.640E-02
Th-230	9.640E-02
Th-232	9.640E-02
U-234	9.640E-01
U-235	9.640E-01
U-238	9.640E-01

Total Dose TDOSE (t), mrem/yr

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

0Maximum TDOSE(t): 4.984E-01 mrem/yr at t = 17.1 years

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 0 years

in mrem/yr and as a Percentage of Total Dose at t = 0 years

From releases to ground water and to surface water

0

[illegible]

Th-228	0.00E+00	0	1.60E-08	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	3.56E-08	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	1.52E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	2.36E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	2.28E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	2.33E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
<hr/>																
Total	0.00E+00	0	3.32E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 0 years

Radio- Nuclide	Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)															
	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.59E-05	0	7.09E-04	2	0.00E+00	0	1.32E-06	0	2.83E-09	0	2.65E-10	0	6.95E-10	0	7.37E-04	3
Cs-137	2.11E-03	7	2.86E-07	0	0.00E+00	0	8.85E-08	0	1.12E-07	0	6.91E-08	0	4.65E-11	0	2.11E-03	7
Np-237	6.00E-03	21	3.71E-03	13	0.00E+00	0	7.49E-06	0	3.18E-07	0	3.70E-09	0	4.02E-09	0	9.73E-03	34
Pu-238	1.83E-08	0	8.13E-04	3	0.00E+00	0	1.52E-06	0	6.50E-09	0	1.52E-10	0	8.31E-10	0	8.15E-04	3
Pu-239	1.41E-07	0	8.91E-04	3	0.00E+00	0	1.66E-06	0	7.09E-09	0	1.66E-10	0	9.09E-10	0	8.93E-04	3
Pu-240	2.41E-08	0	8.91E-04	3	0.00E+00	0	1.66E-06	0	7.09E-09	0	1.66E-10	0	9.09E-10	0	8.93E-04	3
Tc-99	4.05E-07	0	6.79E-07	0	0.00E+00	0	4.87E-08	0	1.92E-10	0	3.58E-09	0	2.05E-12	0	1.16E-06	0
Th-228	4.62E-03	16	2.72E-04	1	0.00E+00	0	8.01E-07	0	3.42E-09	0	4.00E-10	0	4.00E-10	0	4.89E-03	17
Th-230	1.92E-06	0	7.42E-04	3	0.00E+00	0	1.40E-06	0	5.98E-09	0	7.40E-10	0	7.64E-10	0	7.46E-04	3
Th-232	2.35E-04	1	8.26E-04	3	0.00E+00	0	1.81E-06	0	1.74E-08	0	2.76E-08	0	1.06E-09	0	1.06E-03	4
U-234	1.56E-06	0	6.97E-04	2	0.00E+00	0	3.25E-06	0	4.73E-08	0	1.95E-07	0	1.75E-09	0	7.04E-04	2
U-235	3.82E-03	13	6.30E-04	2	0.00E+00	0	3.14E-06	0	4.57E-08	0	1.89E-07	0	1.69E-09	0	4.46E-03	16
U-238	9.48E-04	3	5.93E-04	2	0.00E+00	0	3.21E-06	0	4.67E-08	0	1.93E-07	0	1.73E-09	0	1.55E-03	5
<hr/>																
Total	1.78E-02	62	1.08E-02	38	0.00E+00	0	2.74E-05	0	6.20E-07	0	6.82E-07	0	1.48E-08	0	2.86E-02	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 1 years

Radio- Nuclide	From releases to ground water and to surface water															
	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	1.43E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	7.60E-07	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	2.93E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	6.88E-07	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	7.58E-07	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	7.58E-07	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	1.98E-14	0	1.74E-08	0	0.00E+00	0	9.26E-11	0	0.00E+00	0	0.00E+00	0	1.96E-14	0	4.31E-09	0

Th-228	0.00E+00	0	3.60E-08	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	1.27E-07	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	6.08E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	3.56E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	3.44E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	3.52E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
<hr/>																
Total	1.98E-14	0	6.33E-05	0	0.00E+00	0	9.26E-11	0	0.00E+00	0	0.00E+00	0	1.96E-14	0	4.31E-09	0

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 1 years

0

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

0

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.58E-05	0	7.02E-04	3	0.00E+00	0	1.31E-06	0	2.83E-09	0	2.63E-10	0	1.98E-09	0	7.34E-04	3
Cs-137	2.06E-03	7	2.80E-07	0	0.00E+00	0	9.31E-08	0	1.17E-07	0	6.95E-08	0	1.37E-10	0	2.06E-03	7
Np-237	6.00E-03	22	3.71E-03	13	0.00E+00	0	7.78E-06	0	3.31E-07	0	3.77E-09	0	1.20E-08	0	9.74E-03	35
Pu-238	1.82E-08	0	8.07E-04	3	0.00E+00	0	1.51E-06	0	6.53E-09	0	1.52E-10	0	2.48E-09	0	8.09E-04	3
Pu-239	1.41E-07	0	8.91E-04	3	0.00E+00	0	1.66E-06	0	7.18E-09	0	1.67E-10	0	2.72E-09	0	8.93E-04	3
Pu-240	2.41E-08	0	8.90E-04	3	0.00E+00	0	1.66E-06	0	7.18E-09	0	1.67E-10	0	2.72E-09	0	8.93E-04	3
Tc-99	1.86E-07	0	3.12E-07	0	0.00E+00	0	2.78E-08	0	1.15E-10	0	1.82E-09	0	1.47E-12	0	5.49E-07	0
Th-228	3.22E-03	12	1.90E-04	1	0.00E+00	0	5.58E-07	0	2.41E-09	0	2.81E-10	0	8.89E-10	0	3.41E-03	12
Th-230	4.65E-06	0	7.42E-04	3	0.00E+00	0	1.40E-06	0	6.10E-09	0	8.33E-10	0	2.29E-09	0	7.49E-04	3
Th-232	7.78E-04	3	8.49E-04	3	0.00E+00	0	2.41E-06	0	4.08E-08	0	7.93E-08	0	3.86E-09	0	1.64E-03	6
U-234	1.56E-06	0	6.94E-04	3	0.00E+00	0	3.26E-06	0	4.78E-08	0	1.96E-07	0	5.15E-09	0	7.03E-04	3
U-235	3.81E-03	14	6.28E-04	2	0.00E+00	0	3.15E-06	0	4.65E-08	0	1.89E-07	0	4.98E-09	0	4.44E-03	16
U-238	9.45E-04	3	5.91E-04	2	0.00E+00	0	3.22E-06	0	4.72E-08	0	1.94E-07	0	5.09E-09	0	1.54E-03	6
<hr/>																
Total	1.68E-02	61	1.07E-02	39	0.00E+00	0	2.80E-05	0	6.62E-07	0	7.35E-07	0	4.43E-08	0	2.76E-02	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 2 years

0

From releases to ground water and to surface water

0

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	1.42E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	1.21E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	3.54E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	1.07E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	1.19E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	1.19E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	1.15E-10	0	8.00E-09	0	0.00E+00	0	8.56E-06	0	6.32E-08	0	5.02E-06	0	1.14E-10	0	2.47E-05	0

Th-228	0.00E+00	0	4.24E-08	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	2.50E-07	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	1.10E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	3.58E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	3.47E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	3.54E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
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Total	1.15E-10	0	7.62E-05	0	0.00E+00	0	8.56E-06	0	6.32E-08	0	5.02E-06	0	1.14E-10	0	2.47E-05	0

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 2 years

0

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

0

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.56E-05	0	6.95E-04	3	0.00E+00	0	1.30E-06	0	2.83E-09	0	2.62E-10	0	3.12E-09	0	7.26E-04	3
Cs-137	2.02E-03	7	2.73E-07	0	0.00E+00	0	9.74E-08	0	1.22E-07	0	6.99E-08	0	2.23E-10	0	2.02E-03	7
Np-237	5.99E-03	22	3.71E-03	14	0.00E+00	0	8.06E-06	0	3.44E-07	0	3.83E-09	0	1.99E-08	0	9.74E-03	36
Pu-238	1.80E-08	0	8.00E-04	3	0.00E+00	0	1.50E-06	0	6.56E-09	0	1.52E-10	0	4.09E-09	0	8.03E-04	3
Pu-239	1.41E-07	0	8.91E-04	3	0.00E+00	0	1.67E-06	0	7.27E-09	0	1.68E-10	0	4.54E-09	0	8.94E-04	3
Pu-240	2.41E-08	0	8.90E-04	3	0.00E+00	0	1.67E-06	0	7.27E-09	0	1.68E-10	0	4.54E-09	0	8.93E-04	3
Tc-99	8.54E-08	0	1.43E-07	0	0.00E+00	0	1.28E-08	0	5.28E-11	0	8.34E-10	0	6.75E-13	0	3.86E-05	0
Th-228	2.24E-03	8	1.32E-04	0	0.00E+00	0	3.90E-07	0	1.70E-09	0	1.97E-10	0	1.04E-09	0	2.37E-03	9
Th-230	7.38E-06	0	7.42E-04	3	0.00E+00	0	1.40E-06	0	6.26E-09	0	9.35E-10	0	3.82E-09	0	7.51E-04	3
Th-232	1.39E-03	5	8.78E-04	3	0.00E+00	0	3.04E-06	0	6.47E-08	0	1.28E-07	0	7.66E-09	0	2.28E-03	8
U-234	1.55E-06	0	6.92E-04	3	0.00E+00	0	3.26E-06	0	4.83E-08	0	1.97E-07	0	8.39E-09	0	7.01E-04	3
U-235	3.79E-03	14	6.26E-04	2	0.00E+00	0	3.16E-06	0	4.72E-08	0	1.90E-07	0	8.11E-09	0	4.43E-03	16
U-238	9.42E-04	3	5.89E-04	2	0.00E+00	0	3.22E-06	0	4.77E-08	0	1.94E-07	0	8.29E-09	0	1.54E-03	6
<hr/>																
Total	1.64E-02	60	1.06E-02	39	0.00E+00	0	2.88E-05	0	7.05E-07	0	7.85E-07	0	7.37E-08	0	2.72E-02	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 9 years

0

From releases to ground water and to surface water

0

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	1.32E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	3.21E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	3.91E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	2.57E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	3.01E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	3.01E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	1.20E-06	0	3.45E-11	0	0.00E+00	0	1.02E-01	26	1.33E-03	0	4.70E-02	12	1.19E-06	0	2.18E-01	55

Th-228	0.00E+00	0	1.26E-08	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	1.85E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	3.92E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	3.50E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	3.42E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	3.46E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
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Total	1.20E-06	0	1.16E-04	0	0.00E+00	0	1.02E-01	26	1.33E-03	0	4.70E-02	12	1.19E-06	0	2.18E-01	55

0

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

in mrem/yr and as a Percentage of Total Dose at t = 9 years

0

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

0

Radio-Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.46E-05	0	6.49E-04	0	0.00E+00	0	1.22E-06	0	2.78E-09	0	2.51E-10	0	8.06E-09	0	6.78E-04	0
Cs-137	1.72E-03	0	2.32E-07	0	0.00E+00	0	1.21E-07	0	1.49E-07	0	7.13E-08	0	7.19E-10	0	1.72E-03	0
Np-237	5.97E-03	2	3.69E-03	1	0.00E+00	0	9.97E-06	0	4.31E-07	0	4.26E-09	0	7.33E-08	0	9.71E-03	2
Pu-238	1.71E-08	0	7.57E-04	0	0.00E+00	0	1.44E-06	0	6.75E-09	0	1.50E-10	0	1.47E-08	0	7.61E-04	0
Pu-239	1.41E-07	0	8.90E-04	0	0.00E+00	0	1.69E-06	0	7.91E-09	0	1.75E-10	0	1.72E-08	0	8.95E-04	0
Pu-240	2.41E-08	0	8.89E-04	0	0.00E+00	0	1.69E-06	0	7.90E-09	0	1.75E-10	0	1.72E-08	0	8.94E-04	0
Tc-99	3.68E-10	0	3.85E-07	0	0.00E+00	0	5.51E-11	0	2.28E-13	0	3.59E-12	0	2.91E-15	0	3.68E-01	93
Th-228	1.78E-04	0	1.05E-05	0	0.00E+00	0	3.13E-08	0	1.47E-10	0	1.63E-11	0	3.19E-10	0	1.88E-04	0
Th-230	2.62E-05	0	7.43E-04	0	0.00E+00	0	1.44E-06	0	8.13E-09	0	1.91E-09	0	1.46E-08	0	7.72E-04	0
Th-232	5.23E-03	1	1.07E-03	0	0.00E+00	0	7.33E-06	0	2.23E-07	0	3.92E-07	0	5.08E-08	0	6.35E-03	2
U-234	1.53E-06	0	6.77E-04	0	0.00E+00	0	3.28E-06	0	5.11E-08	0	1.99E-07	0	2.72E-08	0	6.85E-04	0
U-235	3.71E-03	1	6.15E-04	0	0.00E+00	0	3.18E-06	0	5.17E-08	0	1.93E-07	0	2.63E-08	0	4.33E-03	1
U-238	9.21E-04	0	5.76E-04	0	0.00E+00	0	3.23E-06	0	5.04E-08	0	1.97E-07	0	2.68E-08	0	1.50E-03	0
<hr/>																
Total	1.78E-02	4	1.06E-02	3	0.00E+00	0	3.46E-05	0	9.90E-07	0	1.06E-06	0	2.77E-07	0	3.97E-01	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

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

in mrem/yr and as a Percentage of Total Dose at t = 14 years

0

From releases to ground water and to surface water

0

Radio-Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	1.26E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	3.80E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	3.90E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	2.93E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	3.57E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	3.57E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	1.53E-06	0	7.04E-13	0	0.00E+00	0	1.29E-01	26	1.70E-03	0	5.92E-02	12	1.52E-06	0	2.74E-01	55

Th-228	0.00E+00	0	3.08E-09	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	3.67E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	5.49E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	3.45E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	3.40E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	3.40E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Total	1.53E-06	0	1.34E-04	0	0.00E+00	0	1.29E-01	26	1.70E-03	0	5.92E-02	12	1.52E-06	0	2.74E-01	55

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 14 years

0

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

0

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.39E-05	0	6.18E-04	0	0.00E+00	0	1.17E-06	0	2.69E-09	0	2.41E-10	0	9.55E-09	0	6.45E-04	0
Cs-137	1.53E-03	0	2.07E-07	0	0.00E+00	0	1.33E-07	0	1.62E-07	0	7.09E-08	0	9.77E-10	0	1.53E-03	0
Np-237	5.95E-03	1	3.68E-03	1	0.00E+00	0	1.13E-05	0	4.90E-07	0	4.55E-09	0	1.09E-07	0	9.68E-03	2
Pu-238	1.65E-08	0	7.27E-04	0	0.00E+00	0	1.40E-06	0	6.86E-09	0	1.49E-10	0	2.14E-08	0	7.32E-04	0
Pu-239	1.41E-07	0	8.89E-04	0	0.00E+00	0	1.70E-06	0	8.36E-09	0	1.80E-10	0	2.61E-08	0	8.95E-04	0
Pu-240	2.41E-08	0	8.88E-04	0	0.00E+00	0	1.70E-06	0	8.35E-09	0	1.80E-10	0	2.61E-08	0	8.94E-04	0
Tc-99	7.51E-12	0	4.89E-07	0	0.00E+00	0	1.12E-12	0	4.65E-15	0	7.34E-14	0	5.94E-17	0	4.64E-01	94
Th-228	2.91E-05	0	1.71E-06	0	0.00E+00	0	5.17E-09	0	2.54E-11	0	2.74E-12	0	7.97E-11	0	3.08E-05	0
Th-230	3.95E-05	0	7.43E-04	0	0.00E+00	0	1.47E-06	0	1.03E-08	0	2.85E-09	0	2.25E-08	0	7.88E-04	0
Th-232	6.80E-03	1	1.15E-03	0	0.00E+00	0	9.90E-06	0	3.19E-07	0	5.22E-07	0	8.79E-08	0	8.02E-03	2
U-234	1.52E-06	0	6.66E-04	0	0.00E+00	0	3.27E-06	0	5.23E-08	0	2.00E-07	0	3.71E-08	0	6.74E-04	0
U-235	3.65E-03	1	6.07E-04	0	0.00E+00	0	3.18E-06	0	5.44E-08	0	1.94E-07	0	3.61E-08	0	4.26E-03	1
U-238	9.06E-04	0	5.67E-04	0	0.00E+00	0	3.23E-06	0	5.17E-08	0	1.98E-07	0	3.67E-08	0	1.48E-03	0
Total	1.89E-02	4	1.05E-02	2	0.00E+00	0	3.84E-05	0	1.17E-06	0	1.19E-06	0	4.14E-07	0	4.94E-01	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 17 years

0

From releases to ground water and to surface water

0

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	0.00E+00	0	1.22E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Cs-137	0.00E+00	0	3.96E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	0.00E+00	0	3.89E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-238	0.00E+00	0	3.02E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-239	0.00E+00	0	3.77E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Pu-240	0.00E+00	0	3.76E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Tc-99	1.54E-06	0	6.81E-14	0	0.00E+00	0	1.31E-01	26	1.71E-03	0	5.98E-02	12	1.53E-06	0	2.76E-01	55

Th-228	0.00E+00	0	1.24E-09	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	4.98E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	6.33E-05	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	0.00E+00	0	3.41E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-235	0.00E+00	0	3.39E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-238	0.00E+00	0	3.37E-06	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
<hr/>																
Total	1.54E-06	0	1.44E-04	0	0.00E+00	0	1.31E-01	26	1.71E-03	0	5.98E-02	12	1.53E-06	0	2.76E-01	55

0

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

in mrem/yr and as a Percentage of Total Dose at t = 17 years

0

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

0

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.35E-05	0	6.00E-04	0	0.00E+00	0	1.14E-06	0	2.63E-09	0	2.35E-10	0	1.00E-08	0	6.27E-04	0
Cs-137	1.43E-03	0	1.93E-07	0	0.00E+00	0	1.37E-07	0	1.67E-07	0	7.04E-08	0	1.10E-09	0	1.43E-03	0
Np-237	5.94E-03	1	3.67E-03	1	0.00E+00	0	1.20E-05	0	5.23E-07	0	4.72E-09	0	1.30E-07	0	9.66E-03	2
Pu-238	1.61E-08	0	7.10E-04	0	0.00E+00	0	1.37E-06	0	6.91E-09	0	1.48E-10	0	2.52E-08	0	7.15E-04	0
Pu-239	1.41E-07	0	8.89E-04	0	0.00E+00	0	1.71E-06	0	8.63E-09	0	1.83E-10	0	3.15E-08	0	8.95E-04	0
Pu-240	2.41E-08	0	8.88E-04	0	0.00E+00	0	1.71E-06	0	8.61E-09	0	1.83E-10	0	3.14E-08	0	8.94E-04	0
Tc-99	7.27E-13	0	4.94E-07	0	0.00E+00	0	1.09E-13	0	4.50E-16	0	7.10E-15	0	5.75E-18	0	4.68E-01	94
Th-228	9.81E-06	0	5.77E-07	0	0.00E+00	0	1.75E-09	0	8.84E-12	0	9.39E-13	0	3.25E-11	0	1.04E-05	0
Th-230	4.74E-05	0	7.43E-04	0	0.00E+00	0	1.50E-06	0	1.19E-08	0	3.51E-09	0	2.72E-08	0	7.97E-04	0
Th-232	7.39E-03	1	1.18E-03	0	0.00E+00	0	1.12E-05	0	3.70E-07	0	5.84E-07	0	1.10E-07	0	8.65E-03	2
U-234	1.51E-06	0	6.60E-04	0	0.00E+00	0	3.26E-06	0	5.29E-08	0	2.00E-07	0	4.20E-08	0	6.68E-04	0
U-235	3.61E-03	1	6.02E-04	0	0.00E+00	0	3.18E-06	0	5.58E-08	0	1.94E-07	0	4.09E-08	0	4.22E-03	1
U-238	8.97E-04	0	5.61E-04	0	0.00E+00	0	3.22E-06	0	5.22E-08	0	1.98E-07	0	4.15E-08	0	1.46E-03	0
<hr/>																
Total	1.93E-02	4	1.05E-02	2	0.00E+00	0	4.05E-05	0	1.26E-06	0	1.26E-06	0	4.91E-07	0	4.98E-01	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

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

in mrem/yr and as a Percentage of Total Dose at t = 420 years

0

From releases to ground water and to surface water

0

Radio- Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	2.47E-06	0	2.31E-07	0	0.00E+00	0	1.94E-03	6	1.40E-05	0	2.01E-06	0	2.28E-06	0	4.72E-03	16
Cs-137	0.00E+00	0	5.30E-10	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	1.38E-18	0	3.00E-05	0	0.00E+00	0	7.50E-15	0	3.65E-16	0	2.34E-15	0	5.79E-18	0	1.83E-14	0
Pu-238	1.43E-20	0	1.33E-07	0	0.00E+00	0	4.46E-16	0	2.17E-17	0	1.39E-16	0	3.44E-19	0	1.09E-15	0
Pu-239	2.39E-18	0	3.96E-06	0	0.00E+00	0	2.75E-16	0	8.12E-19	0	2.90E-18	0	2.35E-19	0	6.70E-16	0
Pu-240	8.16E-23	0	3.84E-06	0	0.00E+00	0	4.70E-18	0	2.29E-19	0	1.47E-18	0	3.60E-21	0	1.15E-17	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.80E-45	0	0.00E+00	0	1.40E-45	0	0.00E+00	0	5.61E-45	0

Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	0.00E+00	0	2.34E-04	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-232	0.00E+00	0	3.13E-04	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
U-234	8.04E-15	0	4.11E-06	0	0.00E+00	0	2.26E-10	0	1.10E-11	0	7.04E-11	0	1.93E-13	0	5.50E-10	0
U-235	8.19E-10	0	2.48E-06	0	0.00E+00	0	9.10E-08	0	2.92E-10	0	1.01E-09	0	7.94E-11	0	2.21E-07	0
U-238	3.88E-12	0	8.86E-07	0	0.00E+00	0	2.23E-10	0	1.09E-11	0	6.97E-11	0	1.91E-13	0	5.45E-10	0
Total	2.47E-06	0	5.93E-04	2	0.00E+00	0	1.94E-03	6	1.40E-05	0	2.02E-06	0	2.28E-06	0	4.72E-03	16

0

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

in mrem/yr and as a Percentage of Total Dose at t = 420 years

0

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

0

Radio-Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	2.70E-07	0	2.87E-05	0	0.00E+00	0	2.16E-08	0	5.54E-11	0	4.51E-12	0	2.30E-10	0	6.71E-03	22
Cs-137	1.30E-07	0	1.73E-11	0	0.00E+00	0	1.60E-10	0	1.89E-10	0	5.13E-11	0	2.15E-12	0	1.31E-07	0
Np-237	4.61E-03	15	2.83E-03	9	0.00E+00	0	3.24E-05	0	1.46E-06	0	9.07E-09	0	7.40E-07	0	7.51E-03	25
Pu-238	9.46E-10	0	2.86E-05	0	0.00E+00	0	8.90E-08	0	1.22E-09	0	1.96E-11	0	1.98E-08	0	2.88E-05	0
Pu-239	1.38E-07	0	8.54E-04	3	0.00E+00	0	2.65E-06	0	3.63E-08	0	4.92E-10	0	5.90E-07	0	8.61E-04	3
Pu-240	2.38E-08	0	8.26E-04	3	0.00E+00	0	2.56E-06	0	3.51E-08	0	4.76E-10	0	5.71E-07	0	8.33E-04	3
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	9.81E-45	0
Th-228	2.94E-44	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.94E-44	0
Th-230	6.79E-04	2	7.58E-04	3	0.00E+00	0	5.90E-06	0	4.33E-07	0	1.29E-07	0	7.32E-07	0	1.68E-03	6
Th-232	8.92E-03	30	1.26E-03	4	0.00E+00	0	1.28E-04	0	4.90E-06	0	4.99E-06	0	2.70E-06	0	1.06E-02	35
U-234	1.01E-05	0	1.88E-04	1	0.00E+00	0	9.92E-07	0	2.18E-08	0	5.84E-08	0	3.14E-08	0	2.03E-04	1
U-235	9.71E-04	3	2.54E-04	1	0.00E+00	0	1.18E-06	0	5.23E-08	0	5.52E-08	0	2.58E-08	0	1.23E-03	4
U-238	2.36E-04	1	1.47E-04	0	0.00E+00	0	8.94E-07	0	1.59E-08	0	5.61E-08	0	2.13E-08	0	3.85E-04	1
Total	1.54E-02	51	7.17E-03	24	0.00E+00	0	1.75E-04	1	6.95E-06	0	5.30E-06	0	5.43E-06	0	3.01E-02	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

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

in mrem/yr and as a Percentage of Total Dose at t = 778 years

0

From releases to ground water and to surface water

0

Radio-Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.53E-05	0	6.88E-09	0	0.00E+00	0	1.05E-02	17	7.58E-05	0	1.09E-05	0	1.41E-05	0	2.55E-02	42
Cs-137	0.00E+00	0	1.34E-13	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	1.35E-10	0	2.38E-05	0	0.00E+00	0	6.61E-08	0	3.24E-09	0	2.05E-08	0	1.60E-10	0	1.59E-07	0
Pu-238	2.93E-13	0	7.85E-09	0	0.00E+00	0	2.71E-09	0	1.33E-10	0	8.41E-10	0	6.41E-12	0	6.54E-09	0
Pu-239	2.52E-13	0	3.81E-06	0	0.00E+00	0	1.59E-12	0	2.75E-13	0	3.92E-13	0	3.87E-15	0	3.80E-12	0
Pu-240	1.98E-15	0	3.58E-06	0	0.00E+00	0	3.75E-11	0	1.84E-12	0	1.16E-11	0	8.74E-14	0	9.05E-11	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.80E-45	0	0.00E+00	0	1.40E-45	0	0.00E+00	0	5.61E-45	0

Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	2.56E-09	0	3.06E-04	1	0.00E+00	0	6.18E-09	0	8.58E-10	0	2.60E-09	0	3.70E-11	0	1.18E-08	0
Th-232	4.50E-41	0	3.19E-04	1	0.00E+00	0	3.85E-40	0	5.24E-41	0	1.86E-40	0	4.22E-43	0	8.64E-40	0
U-234	2.77E-08	0	6.58E-06	0	0.00E+00	0	2.43E-04	0	1.19E-05	0	7.53E-05	0	5.96E-07	0	5.86E-04	1
U-235	4.93E-05	0	1.19E-06	0	0.00E+00	0	2.97E-04	0	5.39E-05	0	7.31E-05	0	7.66E-07	0	7.08E-04	1
U-238	1.20E-05	0	2.73E-07	0	0.00E+00	0	2.41E-04	0	1.18E-05	0	7.47E-05	0	5.90E-07	0	5.81E-04	1
<hr/>																
Total	7.66E-05	0	6.64E-04	1	0.00E+00	0	1.13E-02	19	1.54E-04	0	2.34E-04	0	1.60E-05	0	2.74E-02	45

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 778 years

Radio- Nuclide	Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)															
	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	2.04E-08	0	1.08E-04	0	0.00E+00	0	7.26E-10	0	5.65E-12	0	1.58E-13	0	8.81E-12	0	3.62E-02	60
Cs-137	3.34E-11	0	4.38E-15	0	0.00E+00	0	6.74E-14	0	7.97E-14	0	2.12E-14	0	9.26E-16	0	3.37E-11	0
Np-237	3.66E-03	6	2.25E-03	4	0.00E+00	0	2.64E-05	0	1.19E-06	0	7.40E-09	0	6.07E-07	0	5.96E-03	10
Pu-238	5.99E-10	0	1.65E-06	0	0.00E+00	0	6.26E-09	0	1.02E-10	0	2.45E-12	0	1.78E-09	0	1.67E-06	0
Pu-239	1.34E-07	0	8.22E-04	1	0.00E+00	0	3.11E-06	0	5.06E-08	0	6.49E-10	0	8.87E-07	0	8.30E-04	1
Pu-240	2.30E-08	0	7.74E-04	1	0.00E+00	0	2.92E-06	0	4.76E-08	0	6.12E-10	0	8.36E-07	0	7.82E-04	1
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	9.81E-45	0
Th-228	2.94E-44	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.94E-44	0
Th-230	8.69E-04	1	7.62E-04	1	0.00E+00	0	8.51E-06	0	6.49E-07	0	1.92E-07	0	1.32E-06	0	1.95E-03	3
Th-232	9.09E-03	15	1.26E-03	2	0.00E+00	0	2.26E-04	0	8.71E-06	0	8.68E-06	0	4.94E-06	0	1.09E-02	18
U-234	1.83E-05	0	7.34E-05	0	0.00E+00	0	4.46E-07	0	1.75E-08	0	2.10E-08	0	3.07E-08	0	1.02E-03	2
U-235	3.02E-04	1	1.06E-04	0	0.00E+00	0	4.41E-07	0	2.54E-08	0	1.69E-08	0	9.15E-09	0	1.59E-03	3
U-238	7.18E-05	0	4.66E-05	0	0.00E+00	0	2.73E-07	0	4.84E-09	0	1.71E-08	0	6.51E-09	0	1.04E-03	2
<hr/>																
Total	1.40E-02	23	6.20E-03	10	0.00E+00	0	2.68E-04	0	1.07E-05	0	8.93E-06	0	8.63E-06	0	6.03E-02	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days 06/11/2020 11:17 Page 58

Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
in mrem/yr and as a Percentage of Total Dose at t = 800 years

Radio- Nuclide	From releases to ground water and to surface water															
	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.53E-05	0	5.55E-09	0	0.00E+00	0	1.04E-02	17	7.56E-05	0	1.09E-05	0	1.41E-05	0	2.54E-02	42
Cs-137	0.00E+00	0	8.05E-14	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	2.18E-10	0	2.34E-05	0	0.00E+00	0	9.91E-08	0	4.87E-09	0	3.07E-08	0	2.46E-10	0	2.39E-07	0
Pu-238	4.40E-13	0	6.62E-09	0	0.00E+00	0	3.96E-09	0	1.94E-10	0	1.23E-09	0	9.54E-12	0	9.54E-09	0
Pu-239	3.81E-13	0	3.80E-06	0	0.00E+00	0	2.36E-12	0	4.17E-13	0	5.82E-13	0	5.88E-15	0	5.65E-12	0
Pu-240	3.00E-15	0	3.57E-06	0	0.00E+00	0	5.57E-11	0	2.74E-12	0	1.73E-11	0	1.32E-13	0	1.34E-10	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.80E-45	0	0.00E+00	0	1.40E-45	0	0.00E+00	0	5.61E-45	0

Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	5.00E-09	0	3.08E-04	1	0.00E+00	0	1.17E-08	0	1.63E-09	0	4.89E-09	0	7.38E-11	0	2.22E-08	0
Th-232	4.50E-41	0	3.19E-04	1	0.00E+00	0	3.85E-40	0	5.24E-41	0	1.86E-40	0	4.22E-43	0	8.63E-40	0
U-234	3.96E-08	0	6.70E-06	0	0.00E+00	0	3.37E-04	1	1.66E-05	0	1.04E-04	0	8.43E-07	0	8.12E-04	1
U-235	6.98E-05	0	1.14E-06	0	0.00E+00	0	4.14E-04	1	7.65E-05	0	1.01E-04	0	1.09E-06	0	9.88E-04	2
U-238	1.69E-05	0	2.55E-07	0	0.00E+00	0	3.35E-04	1	1.64E-05	0	1.04E-04	0	8.35E-07	0	8.06E-04	1
Total	1.02E-04	0	6.66E-04	1	0.00E+00	0	1.15E-02	19	1.85E-04	0	3.20E-04	1	1.68E-05	0	2.81E-02	46

0

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

in mrem/yr and as a Percentage of Total Dose at t = 800 years

0

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

0

Radio-Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.87E-08	0	1.07E-04	0	0.00E+00	0	6.01E-10	0	5.30E-12	0	1.32E-13	0	7.48E-12	0	3.61E-02	59
Cs-137	2.01E-11	0	2.63E-15	0	0.00E+00	0	4.14E-14	0	4.90E-14	0	1.30E-14	0	5.70E-16	0	2.03E-11	0
Np-237	3.61E-03	6	2.21E-03	4	0.00E+00	0	2.60E-05	0	1.17E-06	0	7.30E-09	0	5.99E-07	0	5.87E-03	10
Pu-238	6.09E-10	0	1.38E-06	0	0.00E+00	0	5.30E-09	0	8.71E-11	0	2.18E-12	0	1.52E-09	0	1.41E-06	0
Pu-239	1.34E-07	0	8.20E-04	1	0.00E+00	0	3.13E-06	0	5.12E-08	0	6.56E-10	0	9.01E-07	0	8.28E-04	1
Pu-240	2.29E-08	0	7.71E-04	1	0.00E+00	0	2.94E-06	0	4.82E-08	0	6.17E-10	0	8.47E-07	0	7.79E-04	1
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	9.81E-45	0
Th-228	2.94E-44	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.94E-44	0
Th-230	8.75E-04	1	7.63E-04	1	0.00E+00	0	8.65E-06	0	6.60E-07	0	1.95E-07	0	1.35E-06	0	1.96E-03	3
Th-232	9.10E-03	15	1.26E-03	2	0.00E+00	0	2.32E-04	0	8.94E-06	0	8.90E-06	0	5.07E-06	0	1.09E-02	18
U-234	1.87E-05	0	7.06E-05	0	0.00E+00	0	4.31E-07	0	1.76E-08	0	1.99E-08	0	3.11E-08	0	1.37E-03	2
U-235	2.81E-04	0	1.02E-04	0	0.00E+00	0	4.14E-07	0	2.41E-08	0	1.57E-08	0	8.58E-09	0	2.04E-03	3
U-238	6.68E-05	0	4.40E-05	0	0.00E+00	0	2.54E-07	0	4.50E-09	0	1.59E-08	0	6.06E-09	0	1.39E-03	2
Total	1.39E-02	23	6.15E-03	10	0.00E+00	0	2.74E-04	0	1.09E-05	0	9.15E-06	0	8.82E-06	0	6.13E-02	100

0*Sum of dose from all releases and from primary contamination.

1RESRAD-OFFSITE, Version 4.0.3 beta T½ Limit = 30 days

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

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

in mrem/yr and as a Percentage of Total Dose at t = 1000 years

0

From releases to ground water and to surface water

0

Radio-Nuclide	Ground		Fish		Radon		Plant		Meat		Milk		Soil		Water	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.31E-05	0	8.36E-10	0	0.00E+00	0	8.84E-03	10	6.40E-05	0	9.20E-06	0	1.20E-05	0	2.15E-02	25
Cs-137	0.00E+00	0	7.86E-16	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Np-237	5.82E-09	0	2.06E-05	0	0.00E+00	0	1.50E-06	0	7.36E-08	0	4.63E-07	0	4.38E-09	0	3.60E-06	0
Pu-238	6.82E-12	0	1.55E-09	0	0.00E+00	0	4.70E-08	0	2.31E-09	0	1.46E-08	0	1.30E-10	0	1.13E-07	0
Pu-239	6.22E-12	0	3.71E-06	0	0.00E+00	0	3.53E-11	0	7.02E-12	0	8.33E-12	0	1.01E-13	0	8.40E-11	0
Pu-240	4.87E-14	0	3.44E-06	0	0.00E+00	0	7.95E-10	0	3.91E-11	0	2.46E-10	0	2.15E-12	0	1.91E-09	0
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.80E-45	0	0.00E+00	0	1.40E-45	0	0.00E+00	0	5.61E-45	0

Th-228	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
Th-230	4.07E-07	0	3.25E-04	0	0.00E+00	0	8.13E-07	0	1.14E-07	0	3.20E-07	0	6.83E-09	0	1.44E-06	0
Th-232	4.50E-41	0	3.19E-04	0	0.00E+00	0	3.84E-40	0	5.23E-41	0	1.85E-40	0	4.22E-43	0	8.62E-40	0
U-234	4.37E-07	0	7.63E-06	0	0.00E+00	0	2.79E-03	3	1.37E-04	0	8.63E-04	1	7.91E-06	0	6.70E-03	8
U-235	6.58E-04	1	7.02E-07	0	0.00E+00	0	3.67E-03	4	7.59E-04	1	8.39E-04	1	1.10E-05	0	8.72E-03	10
U-238	1.59E-04	0	1.34E-07	0	0.00E+00	0	2.77E-03	3	1.36E-04	0	8.57E-04	1	7.83E-06	0	6.66E-03	8
Total	8.31E-04	1	6.80E-04	1	0.00E+00	0	1.81E-02	21	1.10E-03	1	2.57E-03	3	3.87E-05	0	4.36E-02	50

0

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

in mrem/yr and as a Percentage of Total Dose at t = 1000 years

0

Directly from primary contamination and from release to atmosphere (Inhalation excludes radon)

0

Radio- Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil		All Pathways*	
	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%	Dose	%
Am-241	1.20E-08	0	9.16E-05	0	0.00E+00	0	1.52E-10	0	3.79E-12	0	3.74E-14	0	2.60E-12	0	3.06E-02	35
Cs-137	1.98E-13	0	2.58E-17	0	0.00E+00	0	4.80E-16	0	5.68E-16	0	1.50E-16	0	6.66E-18	0	2.00E-13	0
Np-237	3.17E-03	4	1.95E-03	2	0.00E+00	0	2.29E-05	0	1.03E-06	0	6.43E-09	0	5.28E-07	0	5.17E-03	6
Pu-238	7.04E-10	0	2.82E-07	0	0.00E+00	0	1.16E-09	0	2.03E-11	0	8.98E-13	0	3.54E-10	0	4.63E-07	0
Pu-239	1.32E-07	0	8.03E-04	1	0.00E+00	0	3.28E-06	0	5.62E-08	0	7.11E-10	0	1.01E-06	0	8.11E-04	1
Pu-240	2.24E-08	0	7.43E-04	1	0.00E+00	0	3.03E-06	0	5.20E-08	0	6.58E-10	0	9.33E-07	0	7.51E-04	1
Tc-99	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	9.81E-45	0
Th-228	2.94E-44	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.94E-44	0
Th-230	9.19E-04	1	7.64E-04	1	0.00E+00	0	9.82E-06	0	7.47E-07	0	2.21E-07	0	1.67E-06	0	2.02E-03	2
Th-232	9.19E-03	11	1.26E-03	1	0.00E+00	0	2.85E-04	0	1.10E-05	0	1.09E-05	0	6.30E-06	0	1.11E-02	13
U-234	2.15E-05	0	6.93E-05	0	0.00E+00	0	3.46E-07	0	1.85E-08	0	1.30E-08	0	3.66E-08	0	1.06E-02	12
U-235	1.46E-04	0	9.38E-05	0	0.00E+00	0	2.35E-07	0	1.49E-08	0	8.13E-09	0	4.76E-09	0	1.49E-02	17
U-238	3.44E-05	0	4.21E-05	0	0.00E+00	0	1.31E-07	0	2.33E-09	0	8.20E-09	0	3.13E-09	0	1.07E-02	12
Total	1.35E-02	16	5.82E-03	7	0.00E+00	0	3.25E-04	0	1.29E-05	0	1.11E-05	0	1.05E-05	0	8.66E-02	100

0*Sum of dose from all releases and from primary contamination.

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Dose/Source Ratios Summed Over All Pathways

Parent and Progeny Principal Radionuclide Contributions Indicated

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) (mrem/yr) / (pCi/g)										
			0.000E+00	1.000E+00	2.000E+00	9.000E+00	1.400E+01	1.700E+01	4.200E+02	7.780E+02	8.000E+02	1.000E+03	
Am-241	Am-241	1.000E+00	7.642E-03	7.609E-03	7.535E-03	7.033E-03	6.696E-03	6.501E-03	6.956E-02	3.755E-01	3.747E-01	3.170E-01	
Am-241	Np-237+D	1.000E+00	1.629E-09	4.870E-09	8.080E-09	2.965E-08	4.413E-08	5.245E-08	2.852E-07	2.559E-06	2.793E-06	4.746E-06	
Am-241	U-233	1.000E+00	2.000E-16	1.262E-15	3.372E-15	4.626E-14	1.052E-13	1.512E-13	1.827E-11	3.735E-09	4.515E-09	1.583E-08	
Am-241	Th-229+D	1.000E+00	2.020E-19	2.535E-18	1.062E-17	5.378E-16	1.875E-15	3.261E-15	1.406E-11	4.738E-11	5.118E-11	1.115E-10	
Am-241	EDSR(j)		7.642E-03	7.609E-03	7.535E-03	7.033E-03	6.696E-03	6.501E-03	6.956E-02	3.755E-01	3.747E-01	3.170E-01	
OCs-137+D	Cs-137+D	1.000E+00	2.191E-02	2.141E-02	2.093E-02	1.783E-02	1.590E-02	1.484E-02	1.360E-06	3.501E-10	2.107E-10	2.078E-12	
ONp-237+D	Np-237+D	1.000E+00	1.009E-02	1.010E-02	1.011E-02	1.007E-02	1.004E-02	1.002E-02	7.789E-03	6.177E-03	6.090E-03	5.349E-03	
Np-237+D	U-233	1.000E+00	1.647E-09	4.938E-09	8.213E-09	3.076E-08	4.649E-08	5.578E-08	6.347E-07	9.113E-07	1.037E-06	6.461E-06	
Np-237+D	Th-229+D	1.000E+00	2.243E-12	1.418E-11	3.799E-11	5.332E-10	1.233E-09	1.789E-09	6.297E-07	1.469E-06	1.519E-06	1.963E-06	

Np-237	ΣDSR(j)		1.009E-02	1.010E-02	1.011E-02	1.007E-02	1.004E-02	1.002E-02	7.790E-03	6.180E-03	6.093E-03	5.358E-03
0Pu-238	Pu-238	1.840E-09	1.556E-11	1.544E-11	1.533E-11	1.453E-11	1.397E-11	1.364E-11	5.502E-13	3.169E-14	2.659E-14	5.394E-15
0Pu-238	Pu-238	1.000E+00	8.455E-03	8.392E-03	8.330E-03	7.894E-03	7.591E-03	7.413E-03	2.990E-04	1.722E-05	1.445E-05	2.932E-06
	Pu-238	U-234	1.000E+00	1.035E-09	3.097E-09	5.137E-09	1.876E-08	2.783E-08	3.302E-08	9.485E-08	1.391E-07	1.856E-07
	Pu-238	Th-230	1.000E+00	3.694E-14	2.330E-13	6.229E-13	8.597E-12	1.964E-11	2.829E-11	4.506E-09	6.563E-09	6.632E-09
	Pu-238	Ra-226+D	1.000E+00	3.835E-17	4.816E-16	2.018E-15	1.022E-13	3.565E-13	6.198E-13	2.381E-09	5.791E-09	5.965E-09
	Pu-238	Pb-210+D	1.000E+00	6.121E-21	1.473E-19	9.353E-19	1.561E-16	7.964E-16	1.637E-15	4.237E-11	1.133E-10	1.170E-10
	Pu-238	Po-210	1.000E+00	4.346E-20	1.384E-18	1.021E-17	2.286E-15	1.226E-14	2.563E-14	7.015E-10	1.864E-09	1.925E-09
	Pu-238	ΣDSR(j)		8.455E-03	8.392E-03	8.330E-03	7.894E-03	7.591E-03	7.413E-03	2.991E-04	1.738E-05	1.465E-05
0Pu-239	Pu-239	1.000E+00	9.261E-03	9.265E-03	9.269E-03	9.282E-03	9.283E-03	9.283E-03	8.933E-03	8.613E-03	8.593E-03	8.415E-03
	Pu-239	U-235+D	1.000E+00	2.278E-12	6.825E-12	1.136E-11	4.266E-11	6.458E-11	7.755E-11	1.008E-09	1.253E-09	1.283E-09
	Pu-239	Pa-231	1.000E+00	4.701E-17	2.972E-16	7.955E-16	1.110E-14	2.555E-14	3.696E-14	9.077E-12	2.854E-11	3.545E-11
	Pu-239	Ac-227+D	1.000E+00	1.943E-18	2.417E-17	1.003E-16	4.804E-15	1.612E-14	2.740E-14	3.125E-11	5.842E-11	5.963E-11
	Pu-239	ΣDSR(j)		9.261E-03	9.265E-03	9.269E-03	9.282E-03	9.283E-03	9.283E-03	8.933E-03	8.613E-03	8.593E-03
0Pu-240	Pu-240	4.950E-08	4.583E-10	4.585E-10	4.587E-10	4.590E-10	4.589E-10	4.588E-10	4.280E-10	4.014E-10	3.998E-10	3.855E-10
0Pu-240	Pu-240	1.000E+00	9.259E-03	9.263E-03	9.266E-03	9.274E-03	9.272E-03	9.269E-03	8.646E-03	8.109E-03	8.077E-03	7.789E-03
	Pu-240	U-236	1.000E+00	1.003E-11	3.010E-11	5.010E-11	1.880E-10	2.844E-10	3.414E-10	4.343E-09	6.534E-09	7.258E-09
	Pu-240	Th-232	1.000E+00	2.329E-21	1.473E-20	3.946E-20	5.544E-19	1.283E-18	1.862E-18	7.098E-16	1.788E-15	1.858E-15
	Pu-240	Ra-228+D	1.000E+00	3.298E-22	4.055E-21	1.659E-20	7.096E-19	2.218E-18	3.628E-18	3.141E-15	8.274E-15	8.617E-15
	Pu-240	Th-228+D	1.000E+00	4.154E-23	9.254E-22	5.492E-21	5.908E-19	2.276E-18	4.018E-18	4.756E-15	1.231E-14	1.280E-14
	Pu-240	ΣDSR(j)		9.259E-03	9.263E-03	9.266E-03	9.274E-03	9.272E-03	9.269E-03	8.646E-03	8.109E-03	8.077E-03
0Tc-99	Tc-99	1.000E+00	1.203E-06	5.699E-07	4.008E-05	3.819E-01	4.814E-01	4.858E-01	9.809E-45	9.809E-45	9.809E-45	9.809E-45
0Th-228+D	Th-228+D	1.000E+00	5.077E-02	3.535E-02	2.461E-02	1.952E-03	3.193E-04	1.077E-04	3.055E-43	3.055E-43	3.055E-43	3.055E-43

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Dose/Source Ratios Summed Over All Pathways												
Parent and Progeny Principal Radionuclide Contributions Indicated												
0	Parent (i)	Product (j)	Thread Fraction	0.000E+00	1.000E+00	2.000E+00	DSR(j,t) 0.000E+00	(mrem/yr) / (pCi/g)	1.400E+01	1.700E+01	4.200E+02	7.780E+02
				8.000E+02	1.000E+03							
	Th-230	Th-230	1.000E+00	7.720E-03	7.721E-03	7.722E-03	7.727E-03	7.730E-03	7.732E-03	7.814E-03	7.835E-03	7.836E-03
	Th-230	Ra-226+D	1.000E+00	1.438E-05	4.313E-05	7.181E-05	2.705E-04	4.101E-04	4.930E-04	7.144E-03	9.142E-03	9.211E-03
	Th-230	Pb-210+D	1.000E+00	3.256E-09	2.232E-08	6.027E-08	7.714E-07	1.689E-06	2.377E-06	1.396E-04	1.857E-04	1.873E-04
	Th-230	Po-210	1.000E+00	2.731E-08	2.507E-07	7.766E-07	1.221E-05	2.748E-05	3.900E-05	2.308E-03	3.040E-03	3.065E-03
	Th-230	ΣDSR(j)		7.735E-03	7.765E-03	7.794E-03	8.010E-03	8.169E-03	8.266E-03	1.740E-02	2.020E-02	2.030E-02
0Th-232	Th-232	1.000E+00	8.488E-03	8.488E-03	8.490E-03	8.496E-03	8.500E-03	8.502E-03	8.623E-03	8.674E-03	8.677E-03	8.704E-03
	Th-232	Ra-228+D	1.000E+00	2.117E-03	6.060E-03	9.557E-03	2.508E-02	3.038E-02	3.235E-02	4.111E-02	4.293E-02	4.303E-02
	Th-232	Th-228+D	1.000E+00	4.339E-04	2.419E-03	5.636E-03	3.230E-02	4.430E-02	4.886E-02	6.053E-02	6.163E-02	6.169E-02
	Th-232	ΣDSR(j)		1.104E-02	1.697E-02	2.368E-02	6.587E-02	8.319E-02	8.971E-02	1.103E-01	1.132E-01	1.134E-01
0U-234	U-234	1.000E+00	7.303E-04	7.292E-04	7.268E-04	7.103E-04	6.987E-04	6.918E-04	1.815E-04	1.008E-03	1.373E-03	1.094E-02
	U-234	Th-230	1.000E+00	3.472E-08	1.040E-07	1.731E-07	6.503E-07	9.846E-07	1.183E-06	1.590E-05	1.961E-05	2.079E-05
	U-234	Ra-226+D	1.000E+00	4.862E-11	3.075E-10	8.236E-10	1.151E-08	2.654E-08	3.842E-08	1.025E-05	1.914E-05	1.955E-05
	U-234	Pb-210+D	1.000E+00	8.715E-15	1.143E-13	4.811E-13	2.274E-11	7.640E-11	1.303E-10	1.897E-07	3.800E-07	3.891E-07
	U-234	Po-210	1.000E+00	6.664E-14	1.161E-12	5.658E-12	3.457E-10	1.208E-09	2.086E-09	3.141E-06	6.241E-06	6.384E-06
	U-234	ΣDSR(j)		7.303E-04	7.293E-04	7.270E-04	7.109E-04	6.997E-04	6.930E-04	2.110E-04	1.053E-03	1.419E-03
0U-235+D	U-235+D	1.000E+00	4.621E-03	4.608E-03	4.593E-03	4.489E-03	4.416E-03	4.373E-03	1.149E-03	1.323E-03	1.677E-03	1.141E-02
	U-235+D	Pa-231	1.000E+00	1.268E-07	3.796E-07	6.307E-07	2.343E-06	3.519E-06	4.206E-06	2.645E-05	2.661E-04	3.727E-04
	U-235+D	Ac-227+D	1.000E+00	7.043E-09	4.397E-08	1.162E-07	1.481E-06	3.203E-06	4.467E-06	1.003E-04	6.306E-05	6.209E-05

U-235	ΣDSR(j)		4.621E-03	4.608E-03	4.593E-03	4.493E-03	4.423E-03	4.381E-03	1.275E-03	1.652E-03	2.111E-03	1.546E-02
0U-238	U-238	5.400E-05	3.352E-08	3.347E-08	3.336E-08	3.260E-08	3.207E-08	3.176E-08	8.340E-09	4.988E-08	6.805E-08	5.439E-07
0U-238+D	U-238+D	9.999E-01	1.605E-03	1.601E-03	1.596E-03	1.560E-03	1.535E-03	1.519E-03	3.991E-04	1.077E-03	1.439E-03	1.103E-02
	U-238+D	U-234	9.999E-01	1.036E-09	3.100E-09	5.150E-09	1.913E-08	2.872E-08	3.432E-08	2.164E-07	2.227E-06	3.120E-06
	U-238+D	Th-230	9.999E-01	3.698E-14	2.336E-13	6.252E-13	8.723E-12	2.008E-11	2.906E-11	7.330E-09	1.322E-08	1.349E-08
	U-238+D	Ra-226+D	9.999E-01	3.840E-17	4.825E-16	2.023E-15	1.034E-13	3.624E-13	6.324E-13	3.516E-09	1.052E-08	1.095E-08
	U-238+D	Pb-210+D	9.999E-01	5.998E-21	1.431E-19	9.144E-19	1.569E-16	8.060E-16	1.662E-15	6.133E-11	2.033E-10	2.126E-10
	U-238+D	Po-210	9.999E-01	4.163E-20	1.345E-18	9.989E-18	2.299E-15	1.241E-14	2.602E-14	1.016E-09	3.341E-09	3.486E-09
U-238	ΣDSR(j)		1.605E-03	1.601E-03	1.596E-03	1.560E-03	1.535E-03	1.520E-03	3.994E-04	1.079E-03	1.442E-03	1.106E-02

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

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

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

ONuclide (i)	t=	0.000E+00	1.000E+00	2.000E+00	9.000E+00	1.400E+01	1.700E+01	4.200E+02	7.780E+02	8.000E+02	1.000E+03
Am-241	3.272E+03	3.286E+03	3.318E+03	3.554E+03	3.734E+03	3.846E+03	3.594E+02	6.657E+01	6.673E+01	7.885E+01	
Cs-137	1.141E+03	1.168E+03	1.195E+03	1.402E+03	1.572E+03	1.685E+03	1.838E+07	7.141E+10	1.187E+11	1.203E+13	
Np-237	2.477E+03	2.474E+03	2.474E+03	2.483E+03	2.490E+03	2.494E+03	3.209E+03	4.045E+03	4.103E+03	4.666E+03	
Pu-238	2.957E+03	2.979E+03	3.001E+03	3.167E+03	3.293E+03	3.372E+03	8.358E+04	1.439E+06	1.706E+06	5.202E+06	
Pu-239	2.700E+03	2.698E+03	2.697E+03	2.693E+03	2.693E+03	2.693E+03	2.799E+03	2.903E+03	2.909E+03	2.971E+03	
Pu-240	2.700E+03	2.699E+03	2.698E+03	2.696E+03	2.696E+03	2.697E+03	2.892E+03	3.083E+03	3.095E+03	3.210E+03	
Tc-99	2.077E+07	4.387E+07	6.237E+05	6.547E+01	5.193E+01	5.146E+01	*1.697E+10	*1.697E+10	*1.697E+10	*1.697E+10	
Th-228	4.924E+02	7.072E+02	1.016E+03	1.281E+04	7.830E+04	2.320E+05	*8.195E+14	*8.195E+14	*8.195E+14	*8.195E+14	
Th-230	3.232E+03	3.220E+03	3.207E+03	3.121E+03	3.060E+03	3.024E+03	1.436E+03	1.237E+03	1.232E+03	1.192E+03	
Th-232	2.265E+03	1.473E+03	1.056E+03	3.795E+02	3.005E+02	2.787E+02	2.267E+02	2.208E+02	2.205E+02	2.174E+02	
U-234	3.423E+04	3.428E+04	3.439E+04	3.517E+04	3.573E+04	3.607E+04	1.185E+05	2.374E+04	1.762E+04	2.274E+03	
U-235	5.410E+03	5.425E+03	5.443E+03	5.565E+03	5.653E+03	5.706E+03	1.960E+04	1.513E+04	1.184E+04	1.617E+03	
U-238	1.557E+04	1.561E+04	1.566E+04	1.603E+04	1.629E+04	1.645E+04	6.260E+04	2.317E+04	1.734E+04	2.260E+03	

*At specific activity limit

0

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

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

at tmin = time of minimum single radionuclide soil guideline

and at tmax = time of maximum total dose = 17.1 years

ONuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Am-241	9.640E-02	779	3.755E-01	6.657E+01	6.494E-03	3.849E+03
Cs-137	9.640E-02	0	2.191E-02	1.141E+03	1.481E-02	1.689E+03
Np-237	9.640E-01	1.51	1.011E-02	2.474E+03	1.002E-02	2.494E+03
Pu-238	9.640E-02	0	8.455E-03	2.957E+03	7.408E-03	3.375E+03
Pu-239	9.640E-02	13.6	9.283E-03	2.693E+03	9.283E-03	2.693E+03
Pu-240	9.640E-02	9.05	9.274E-03	2.696E+03	9.269E-03	2.697E+03
Tc-99	9.640E-01	17.1	4.858E-01	5.146E+01	4.858E-01	5.146E+01

Th-228	9.640E-02	0	5.077E-02	4.924E+02	1.036E-04	2.412E+05
Th-230	9.640E-02	1030	2.107E-02	1.187E+03	8.269E-03	3.023E+03
Th-232	9.640E-02	1030	1.152E-01	2.170E+02	8.990E-02	2.781E+02
U-234	9.640E-01	1030	1.361E-02	1.836E+03	6.928E-04	3.609E+04
U-235	9.640E-01	1030	1.946E-02	1.284E+03	4.380E-03	5.708E+03
U-238	9.640E-01	1030	1.371E-02	1.823E+03	1.519E-03	1.646E+04

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Parent Dose Report
Title : Landfill Scenario
File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Individual Nuclide Dose Summed Over All Pathways													
Parent Nuclide and Thread Fraction Indicated													
ONuclide	Parent	THF(i)	DOSE(j,t), mrem/yr										
(j)	(i)		t=	0.000E+00	1.000E+00	2.000E+00	9.000E+00	1.400E+01	1.700E+01	4.200E+02	7.780E+02	8.000E+02	1.000E+03
Am-241	Am-241	1.000E+00	7.367E-04	7.335E-04	7.263E-04	6.780E-04	6.455E-04	6.267E-04	6.706E-03	3.620E-02	3.612E-02	3.056E-02	
ONp-237	Am-241	1.000E+00	1.570E-10	4.695E-10	7.789E-10	2.859E-09	4.254E-09	5.056E-09	2.749E-08	2.467E-07	2.692E-07	4.575E-07	
Np-237	Np-237	1.000E+00	9.730E-03	9.741E-03	9.742E-03	9.707E-03	9.679E-03	9.663E-03	7.508E-03	5.955E-03	5.871E-03	5.157E-03	
Np-237	ΣDOSE(j):		9.730E-03	9.741E-03	9.742E-03	9.707E-03	9.679E-03	9.663E-03	7.508E-03	5.955E-03	5.871E-03	5.157E-03	
OU-233	Am-241	1.000E+00	1.928E-17	1.217E-16	3.251E-16	4.459E-15	1.014E-14	1.457E-14	1.761E-12	3.601E-10	4.353E-10	1.526E-09	
U-233	Np-237	1.000E+00	1.588E-09	4.760E-09	7.917E-09	2.965E-08	4.482E-08	5.377E-08	6.118E-07	8.785E-07	9.993E-07	6.228E-06	
U-233	ΣDOSE(j):		1.588E-09	4.760E-09	7.917E-09	2.965E-08	4.482E-08	5.377E-08	6.118E-07	8.789E-07	9.998E-07	6.230E-06	
0Th-229	Am-241	1.000E+00	1.948E-20	2.444E-19	1.023E-18	5.184E-17	1.807E-16	3.143E-16	1.356E-12	4.567E-12	4.934E-12	1.075E-11	
Th-229	Np-237	1.000E+00	2.162E-12	1.367E-11	3.662E-11	5.141E-10	1.189E-09	1.724E-09	6.070E-07	1.416E-06	1.465E-06	1.893E-06	
Th-229	ΣDOSE(j):		2.162E-12	1.367E-11	3.662E-11	5.141E-10	1.189E-09	1.724E-09	6.070E-07	1.416E-06	1.465E-06	1.893E-06	
0Cs-137	Cs-137	1.000E+00	2.112E-03	2.064E-03	2.018E-03	1.719E-03	1.533E-03	1.431E-03	1.311E-07	3.375E-11	2.031E-11	2.003E-13	
0Pu-238	Pu-238	1.840E-09	1.500E-12	1.489E-12	1.478E-12	1.400E-12	1.346E-12	1.315E-12	5.304E-14	3.055E-15	2.563E-15	5.200E-16	
Pu-238	Pu-238	1.000E+00	8.150E-04	8.090E-04	8.030E-04	7.610E-04	7.318E-04	7.146E-04	2.883E-05	1.660E-06	1.393E-06	2.826E-07	
Pu-238	ΣDOSE(j):		8.150E-04	8.090E-04	8.030E-04	7.610E-04	7.318E-04	7.146E-04	2.883E-05	1.660E-06	1.393E-06	2.826E-07	
OU-234	Pu-238	1.000E+00	9.982E-11	2.986E-10	4.952E-10	1.808E-09	2.683E-09	3.183E-09	9.143E-09	1.341E-08	1.789E-08	1.790E-07	
U-234	U-234	1.000E+00	7.040E-04	7.029E-04	7.006E-04	6.847E-04	6.735E-04	6.669E-04	1.749E-04	9.716E-04	1.324E-03	1.055E-02	
U-234	U-238	9.999E-01	9.983E-10	2.988E-09	4.965E-09	1.844E-08	2.768E-08	3.308E-08	2.086E-07	2.147E-06	3.007E-06	2.995E-05	
U-234	ΣDOSE(j):		7.040E-04	7.029E-04	7.006E-04	6.847E-04	6.735E-04	6.669E-04	1.752E-04	9.738E-04	1.327E-03	1.058E-02	
0Th-230	Pu-238	1.000E+00	3.561E-15	2.247E-14	6.005E-14	8.287E-13	1.894E-12	2.727E-12	4.344E-10	6.327E-10	6.393E-10	6.862E-10	
Th-230	Th-230	1.000E+00	7.442E-04	7.443E-04	7.444E-04	7.448E-04	7.452E-04	7.453E-04	7.533E-04	7.553E-04	7.554E-04	7.563E-04	
Th-230	U-234	1.000E+00	3.347E-08	1.003E-07	1.668E-07	6.268E-07	9.491E-07	1.140E-06	1.533E-05	1.891E-05	1.903E-05	2.005E-05	
Th-230	U-238	9.999E-01	3.565E-14	2.252E-13	6.027E-13	8.409E-12	1.936E-11	2.801E-11	7.066E-09	1.274E-08	1.300E-08	1.556E-08	
Th-230	ΣDOSE(j):		7.443E-04	7.444E-04	7.446E-04	7.455E-04	7.461E-04	7.465E-04	7.686E-04	7.742E-04	7.744E-04	7.764E-04	
0Ra-226	Pu-238	1.000E+00	3.697E-18	4.643E-17	1.945E-16	9.857E-15	3.436E-14	5.975E-14	2.295E-10	5.582E-10	5.750E-10	7.075E-10	
Ra-226	Th-230	1.000E+00	1.387E-06	4.158E-06	6.923E-06	2.607E-05	3.953E-05	4.752E-05	6.886E-04	8.813E-04	8.880E-04	9.354E-04	
Ra-226	U-234	1.000E+00	4.687E-11	2.964E-10	7.940E-10	1.110E-08	2.558E-08	3.704E-08	9.885E-06	1.845E-05	1.885E-05	2.203E-05	
Ra-226	U-238	9.999E-01	3.701E-17	4.651E-16	1.951E-15	9.965E-14	3.494E-13	6.096E-13	3.390E-09	1.015E-08	1.056E-08	1.438E-08	
Ra-226	ΣDOSE(j):		1.387E-06	4.158E-06	6.924E-06	2.608E-05	3.956E-05	4.756E-05	6.985E-04	8.998E-04	9.068E-04	9.575E-04	
0Pb-210	Pu-238	1.000E+00	5.901E-22	1.420E-20	9.017E-20	1.505E-17	7.677E-17	1.578E-16	4.085E-12	1.092E-11	1.128E-11	1.429E-11	
Pb-210	Th-230	1.000E+00	3.139E-10	2.151E-09	5.810E-09	7.436E-08	1.628E-07	2.292E-07	1.346E-05	1.790E-05	1.806E-05	1.920E-05	
Pb-210	U-234	1.000E+00	8.401E-15	1.102E-13	4.638E-13	2.192E-11	7.365E-11	1.256E-10	1.829E-07	3.663E-07	3.751E-07	4.541E-07	
Pb-210	U-238	9.999E-01	5.782E-21	1.380E-19	8.815E-19	1.513E-16	7.770E-16	1.602E-15	5.912E-11	1.960E-10	2.050E-10	3.082E-10	
Pb-210	ΣDOSE(j):		3.139E-10	2.152E-09	5.811E-09	7.439E-08	1.629E-07	2.293E-07	1.364E-05	1.826E-05	1.843E-05	1.966E-05	

Individual Nuclide Dose Summed Over All Pathways Parent Nuclide and Thread Fraction Indicated													
Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr										
			t=	0.000E+00	1.000E+00	2.000E+00	9.000E+00	1.400E+01	1.700E+01	4.200E+02	7.780E+02	8.000E+02	1.000E+03
Po-210	Pu-238	1.000E+00		4.189E-21	1.334E-19	9.844E-19	2.204E-16	1.182E-15	2.470E-15	6.762E-11	1.797E-10	1.856E-10	2.311E-10
Po-210	Th-230	1.000E+00		2.633E-09	2.417E-08	7.487E-08	1.177E-06	2.649E-06	3.760E-06	2.225E-04	2.930E-04	2.954E-04	3.115E-04
Po-210	U-234	1.000E+00		6.424E-14	1.120E-12	5.455E-12	3.332E-10	1.164E-09	2.011E-09	3.028E-06	6.016E-06	6.154E-06	7.189E-06
Po-210	U-238	9.999E-01		4.013E-20	1.297E-18	9.630E-18	2.216E-15	1.196E-14	2.509E-14	9.798E-10	3.221E-09	3.360E-09	5.807E-07
Po-210	ΣDOSE(j):			2.633E-09	2.417E-08	7.487E-08	1.177E-06	2.650E-06	3.762E-06	2.255E-04	2.990E-04	3.016E-04	3.193E-04
0Pu-239	Pu-239	1.000E+00		8.927E-04	8.932E-04	8.935E-04	8.948E-04	8.949E-04	8.948E-04	8.611E-04	8.303E-04	8.284E-04	8.112E-04
0U-235	Pu-239	1.000E+00		2.196E-13	6.579E-13	1.095E-12	4.113E-12	6.225E-12	7.476E-12	9.717E-11	1.208E-10	1.237E-10	2.255E-10
U-235	U-235	1.000E+00		4.455E-03	4.442E-03	4.427E-03	4.327E-03	4.257E-03	4.215E-03	1.107E-03	1.275E-03	1.616E-03	1.100E-02
U-235	ΣDOSE(j):			4.455E-03	4.442E-03	4.427E-03	4.327E-03	4.257E-03	4.215E-03	1.107E-03	1.275E-03	1.616E-03	1.100E-02
0Pa-231	Pu-239	1.000E+00		4.532E-18	2.865E-17	7.669E-17	1.070E-15	2.463E-15	3.563E-15	8.750E-13	2.752E-12	3.417E-12	3.426E-11
Pa-231	U-235	1.000E+00		1.222E-07	3.659E-07	6.080E-07	2.259E-06	3.392E-06	4.054E-06	2.550E-05	2.565E-04	3.593E-04	3.577E-03
Pa-231	ΣDOSE(j):			1.222E-07	3.659E-07	6.080E-07	2.259E-06	3.392E-06	4.054E-06	2.550E-05	2.565E-04	3.593E-04	3.577E-03
0Ac-227	Pu-239	1.000E+00		1.874E-19	2.330E-18	9.673E-18	4.631E-16	1.554E-15	2.642E-15	3.012E-12	5.632E-12	5.749E-12	7.815E-12
Ac-227	U-235	1.000E+00		6.790E-09	4.239E-08	1.120E-07	1.428E-06	3.088E-06	4.306E-06	9.666E-05	6.079E-05	5.985E-05	3.275E-04
Ac-227	ΣDOSE(j):			6.790E-09	4.239E-08	1.120E-07	1.428E-06	3.088E-06	4.306E-06	9.666E-05	6.079E-05	5.985E-05	3.275E-04
0Pu-240	Pu-240	4.950E-08		4.418E-11	4.420E-11	4.421E-11	4.425E-11	4.424E-11	4.423E-11	4.126E-11	3.870E-11	3.854E-11	3.717E-11
Pu-240	Pu-240	1.000E+00		8.926E-04	8.929E-04	8.932E-04	8.940E-04	8.938E-04	8.935E-04	8.335E-04	7.817E-04	7.786E-04	7.508E-04
Pu-240	ΣDOSE(j):			8.926E-04	8.929E-04	8.932E-04	8.940E-04	8.938E-04	8.935E-04	8.335E-04	7.817E-04	7.786E-04	7.508E-04
0U-236	Pu-240	1.000E+00		9.667E-13	2.901E-12	4.830E-12	1.812E-11	2.741E-11	3.291E-11	4.186E-10	6.298E-10	6.997E-10	3.492E-09
0Th-232	Pu-240	1.000E+00		2.246E-22	1.420E-21	3.804E-21	5.345E-20	1.237E-19	1.795E-19	6.843E-17	1.723E-16	1.791E-16	2.413E-16
Th-232	Th-232	1.000E+00		8.183E-04	8.184E-04	8.184E-04	8.190E-04	8.194E-04	8.196E-04	8.313E-04	8.362E-04	8.364E-04	8.390E-04
Th-232	ΣDOSE(j):			8.183E-04	8.184E-04	8.184E-04	8.190E-04	8.194E-04	8.196E-04	8.313E-04	8.362E-04	8.364E-04	8.390E-04
0Ra-228	Pu-240	1.000E+00		3.179E-23	3.909E-22	1.599E-21	6.841E-20	2.138E-19	3.498E-19	3.028E-16	7.976E-16	8.307E-16	1.148E-15
Ra-228	Th-232	1.000E+00		2.041E-04	5.842E-04	9.213E-04	2.418E-03	2.929E-03	3.118E-03	3.963E-03	4.138E-03	4.148E-03	4.241E-03
Ra-228	ΣDOSE(j):			2.041E-04	5.842E-04	9.213E-04	2.418E-03	2.929E-03	3.118E-03	3.963E-03	4.138E-03	4.148E-03	4.241E-03
0Th-228	Pu-240	1.000E+00		4.005E-24	8.921E-23	5.295E-22	5.695E-20	2.194E-19	3.874E-19	4.585E-16	1.186E-15	1.234E-15	1.679E-15
Th-228	Th-228	1.000E+00		4.894E-03	3.408E-03	2.373E-03	1.882E-04	3.078E-05	1.039E-05	2.943E-44	2.943E-44	2.943E-44	2.943E-44
Th-228	Th-232	1.000E+00		4.183E-05	2.332E-04	5.433E-04	3.113E-03	4.271E-03	4.710E-03	5.835E-03	5.941E-03	5.947E-03	6.005E-03
Th-228	ΣDOSE(j):			4.936E-03	3.641E-03	2.916E-03	3.301E-03	4.302E-03	4.721E-03	5.835E-03	5.941E-03	5.947E-03	6.005E-03
0Tc-99	Tc-99	1.000E+00		1.160E-06	5.494E-07	3.864E-05	3.681E-01	4.641E-01	4.683E-01	9.809E-45	9.809E-45	9.809E-45	9.809E-45
0U-238	U-238	5.400E-05		3.231E-08	3.226E-08	3.216E-08	3.143E-08	3.092E-08	3.061E-08	8.040E-09	4.809E-08	6.560E-08	5.243E-07
U-238	U-238	9.999E-01		1.547E-03	1.544E-03	1.539E-03	1.504E-03	1.479E-03	1.465E-03	3.848E-04	1.038E-03	1.387E-03	1.063E-02
U-238	ΣDOSE(j):			1.547E-03	1.544E-03	1.539E-03	1.504E-03	1.479E-03	1.465E-03	3.848E-04	1.038E-03	1.387E-03	1.063E-02

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

ONuclide (j)	Parent (i)	THF(i)	Parent Nuclide and Thread Fraction Indicated										
			t=	S(j,t), pCi/g									
			0.000E+00	1.000E+00	2.000E+00	9.000E+00	1.400E+01	1.700E+01	4.200E+02	7.780E+02	8.000E+02	1.000E+03	
Am-241	Am-241	1.000E+00	9.640E-02	9.546E-02	9.452E-02	8.822E-02	8.398E-02	8.154E-02	1.540E-03	4.532E-05	3.649E-05	5.090E-06	
ONp-237	Am-241	1.000E+00	0.000E+00	3.106E-08	6.180E-08	2.681E-07	4.064E-07	4.860E-07	2.531E-06	2.048E-06	2.019E-06	1.775E-06	
Np-237	Np-237	1.000E+00	9.640E-01	9.634E-01	9.628E-01	9.584E-01	9.553E-01	9.534E-01	7.342E-01	5.821E-01	5.739E-01	5.041E-01	
Np-237	ΣS(j):		9.640E-01	9.634E-01	9.628E-01	9.584E-01	9.553E-01	9.534E-01	7.342E-01	5.821E-01	5.739E-01	5.041E-01	
OU-233	Am-241	1.000E+00	0.000E+00	6.816E-14	2.710E-13	5.308E-12	1.255E-11	1.826E-11	2.325E-09	2.762E-09	2.756E-09	2.619E-09	
U-233	Np-237	1.000E+00	0.000E+00	4.207E-06	8.398E-06	3.727E-05	5.741E-05	6.929E-05	8.100E-04	8.329E-04	8.278E-04	7.673E-04	
U-233	ΣS(j):		0.000E+00	4.207E-06	8.398E-06	3.727E-05	5.741E-05	6.929E-05	8.100E-04	8.329E-04	8.278E-04	7.673E-04	
0Th-229	Am-241	1.000E+00	0.000E+00	2.157E-18	1.714E-17	1.520E-15	5.621E-15	9.960E-15	4.626E-11	1.327E-10	1.382E-10	1.859E-10	
Th-229	Np-237	1.000E+00	0.000E+00	1.994E-10	7.952E-10	1.593E-08	3.829E-08	5.623E-08	2.071E-05	4.801E-05	4.963E-05	6.362E-05	
Th-229	ΣS(j):		0.000E+00	1.994E-10	7.952E-10	1.593E-08	3.829E-08	5.623E-08	2.071E-05	4.801E-05	4.963E-05	6.362E-05	
OCs-137	Cs-137	1.000E+00	9.640E-02	9.419E-02	9.204E-02	7.828E-02	6.972E-02	6.505E-02	5.795E-06	1.463E-09	8.791E-10	8.590E-12	
OPu-238	Pu-238	1.840E-09	1.774E-10	1.760E-10	1.746E-10	1.651E-10	1.586E-10	1.549E-10	6.204E-12	3.560E-13	2.987E-13	6.050E-14	
Pu-238	Pu-238	1.000E+00	9.640E-02	9.563E-02	9.487E-02	8.972E-02	8.621E-02	8.417E-02	3.372E-03	1.935E-04	1.623E-04	3.288E-05	
Pu-238	ΣS(j):		9.640E-02	9.563E-02	9.487E-02	8.972E-02	8.621E-02	8.417E-02	3.372E-03	1.935E-04	1.623E-04	3.288E-05	
OU-234	Pu-238	1.000E+00	0.000E+00	2.717E-07	5.404E-07	2.338E-06	3.536E-06	4.221E-06	1.248E-05	4.305E-06	4.012E-06	2.095E-06	
U-234	U-234	1.000E+00	9.640E-01	9.608E-01	9.576E-01	9.356E-01	9.202E-01	9.111E-01	2.389E-01	7.272E-02	6.759E-02	3.478E-02	
U-234	U-238	9.999E-01	0.000E+00	2.724E-06	5.429E-06	2.387E-05	3.652E-05	4.391E-05	2.846E-04	1.606E-04	1.535E-04	9.874E-05	
U-234	ΣS(j):		9.640E-01	9.608E-01	9.576E-01	9.356E-01	9.202E-01	9.111E-01	2.392E-01	7.288E-02	6.775E-02	3.488E-02	
0Th-230	Pu-238	1.000E+00	0.000E+00	1.229E-12	4.890E-12	9.635E-11	2.288E-10	3.336E-10	5.558E-08	8.049E-08	8.129E-08	8.641E-08	
Th-230	Th-230	1.000E+00	9.640E-02	9.640E-02	9.640E-02	9.639E-02	9.638E-02	9.638E-02	9.592E-02	9.552E-02	9.550E-02	9.527E-02	
Th-230	U-234	1.000E+00	0.000E+00	8.663E-06	1.730E-05	7.694E-05	1.187E-04	1.434E-04	1.959E-03	2.400E-03	2.413E-03	2.496E-03	
Th-230	U-238	9.999E-01	0.000E+00	1.231E-11	4.905E-11	9.769E-10	2.338E-09	3.424E-09	9.046E-07	1.620E-06	1.651E-06	1.871E-06	
Th-230	ΣS(j):		9.640E-02	9.641E-02	9.642E-02	9.647E-02	9.650E-02	9.652E-02	9.788E-02	9.792E-02	9.791E-02	9.777E-02	
ORa-226	Pu-238	1.000E+00	0.000E+00	1.783E-16	1.417E-15	1.256E-13	4.642E-13	8.224E-13	3.420E-09	8.318E-09	8.567E-09	1.048E-08	
Ra-226	Th-230	1.000E+00	0.000E+00	4.170E-05	8.329E-05	3.711E-04	5.733E-04	6.932E-04	1.027E-02	1.312E-02	1.322E-02	1.386E-02	
Ra-226	U-234	1.000E+00	0.000E+00	1.881E-09	7.499E-09	1.495E-07	3.581E-07	5.248E-07	1.474E-04	2.749E-04	2.806E-04	3.234E-04	
Ra-226	U-238	9.999E-01	0.000E+00	1.785E-15	1.420E-14	1.269E-12	4.718E-12	8.386E-12	5.050E-08	1.511E-07	1.571E-07	2.076E-07	
Ra-226	ΣS(j):		0.000E+00	4.171E-05	8.330E-05	3.713E-04	5.736E-04	6.937E-04	1.042E-02	1.340E-02	1.350E-02	1.419E-02	
0Pb-210	Pu-238	1.000E+00	0.000E+00	1.384E-18	2.183E-17	8.345E-15	4.666E-14	9.871E-14	2.837E-09	7.547E-09	7.794E-09	9.703E-09	
Pb-210	Th-230	1.000E+00	0.000E+00	6.432E-07	2.539E-06	4.737E-05	1.083E-04	1.545E-04	9.346E-03	1.231E-02	1.241E-02	1.308E-02	
Pb-210	U-234	1.000E+00	0.000E+00	1.943E-11	1.534E-10	1.304E-08	4.682E-08	8.154E-08	1.271E-04	2.527E-04	2.585E-04	3.016E-04	
Pb-210	U-238	9.999E-01	0.000E+00	1.404E-17	2.189E-16	8.415E-14	4.727E-13	1.003E-12	4.110E-08	1.352E-07	1.411E-07	1.902E-07	
Pb-210	ΣS(j):		0.000E+00	6.433E-07	2.539E-06	4.738E-05	1.084E-04	1.546E-04	9.473E-03	1.256E-02	1.267E-02	1.339E-02	

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Individual Nuclide Soil Concentration												
0Nuclide (j)	Parent (i)	THF(i)	Parent Nuclide and Thread Fraction Indicated									
			t=	S(j,t), pCi/g								
			0.000E+00	1.000E+00	2.000E+00	9.000E+00	1.400E+01	1.700E+01	4.200E+02	7.780E+02	8.000E+02	1.000E+03
Po-210	Pu-238	1.000E+00	0.000E+00	3.860E-19	9.692E-18	6.626E-15	4.003E-14	8.686E-14	2.805E-09	7.475E-09	7.719E-09	9.613E-09
Po-210	Th-230	1.000E+00	0.000E+00	2.632E-07	1.520E-06	4.187E-05	9.995E-05	1.445E-04	9.256E-03	1.220E-02	1.230E-02	1.297E-02
Po-210	U-234	1.000E+00	0.000E+00	6.432E-12	7.807E-11	1.090E-08	4.161E-08	7.391E-08	1.257E-04	2.503E-04	2.561E-04	2.989E-04
Po-210	U-238	9.999E-01	0.000E+00	3.770E-18	9.706E-17	6.679E-14	4.054E-13	8.821E-13	4.062E-08	1.339E-07	1.397E-07	1.884E-07

Po-210	ΣS(j) :		0.000E+00	2.632E-07	1.520E-06	4.188E-05	9.999E-05	1.446E-04	9.382E-03	1.245E-02	1.256E-02	1.327E-02
0Pu-239	Pu-239	1.000E+00	9.640E-02	9.639E-02	9.638E-02	9.630E-02	9.625E-02	9.622E-02	9.197E-02	8.835E-02	8.813E-02	8.617E-02
0U-235	Pu-239	1.000E+00	0.000E+00	9.478E-11	1.892E-10	8.414E-10	1.298E-09	1.568E-09	2.090E-08	2.489E-08	2.498E-08	2.539E-08
U-235	U-235	1.000E+00	9.640E-01	9.608E-01	9.576E-01	9.356E-01	9.202E-01	9.111E-01	2.391E-01	7.288E-02	6.775E-02	3.488E-02
U-235	ΣS(j) :		9.640E-01	9.608E-01	9.576E-01	9.356E-01	9.202E-01	9.111E-01	2.391E-01	7.288E-02	6.775E-02	3.488E-02
0Pa-231	Pu-239	1.000E+00	0.000E+00	1.005E-15	4.005E-15	7.974E-14	1.908E-13	2.794E-13	7.243E-11	1.269E-10	1.291E-10	1.442E-10
Pa-231	U-235	1.000E+00	0.000E+00	2.033E-05	4.052E-05	1.781E-04	2.725E-04	3.277E-04	2.116E-03	1.190E-03	1.137E-03	7.303E-04
Pa-231	ΣS(j) :		0.000E+00	2.033E-05	4.052E-05	1.781E-04	2.725E-04	3.277E-04	2.116E-03	1.190E-03	1.137E-03	7.303E-04
0Ac-227	Pu-239	1.000E+00	0.000E+00	1.061E-17	8.363E-17	7.013E-15	2.496E-14	4.325E-14	5.347E-11	9.859E-11	1.005E-10	1.133E-10
Ac-227	U-235	1.000E+00	0.000E+00	3.206E-07	1.261E-06	2.293E-05	5.154E-05	7.276E-05	1.714E-03	9.947E-04	9.515E-04	6.154E-04
Ac-227	ΣS(j) :		0.000E+00	3.206E-07	1.261E-06	2.293E-05	5.154E-05	7.276E-05	1.714E-03	9.947E-04	9.515E-04	6.154E-04
0Pu-240	Pu-240	4.950E-08	4.772E-09	4.771E-09	4.770E-09	4.764E-09	4.759E-09	4.756E-09	4.407E-09	4.118E-09	4.101E-09	3.949E-09
Pu-240	Pu-240	1.000E+00	9.640E-02	9.638E-02	9.636E-02	9.624E-02	9.614E-02	9.609E-02	8.903E-02	8.319E-02	8.285E-02	7.977E-02
Pu-240	ΣS(j) :		9.640E-02	9.638E-02	9.636E-02	9.624E-02	9.614E-02	9.609E-02	8.903E-02	8.319E-02	8.285E-02	7.977E-02
0U-236	Pu-240	1.000E+00	0.000E+00	2.849E-09	5.687E-09	2.528E-08	3.899E-08	4.709E-08	6.159E-07	7.180E-07	7.195E-07	7.215E-07
0Th-232	Pu-240	1.000E+00	0.000E+00	7.051E-20	2.813E-19	5.644E-18	1.358E-17	1.995E-17	7.967E-15	2.000E-14	2.077E-14	2.789E-14
Th-232	Th-232	1.000E+00	9.640E-02	9.640E-02	9.640E-02	9.640E-02	9.640E-02	9.640E-02	9.629E-02	9.619E-02	9.619E-02	9.613E-02
Th-232	ΣS(j) :		9.640E-02	9.640E-02	9.640E-02	9.640E-02	9.640E-02	9.640E-02	9.629E-02	9.619E-02	9.619E-02	9.613E-02
0Ra-228	Pu-240	1.000E+00	0.000E+00	2.761E-21	2.135E-20	1.586E-18	5.241E-18	8.723E-18	7.573E-15	1.933E-14	2.009E-14	2.706E-14
Ra-228	Th-232	1.000E+00	0.000E+00	1.093E-02	2.060E-02	6.326E-02	7.762E-02	8.284E-02	9.443E-02	9.434E-02	9.433E-02	9.428E-02
Ra-228	ΣS(j) :		0.000E+00	1.093E-02	2.060E-02	6.326E-02	7.762E-02	8.284E-02	9.443E-02	9.434E-02	9.433E-02	9.428E-02
0Th-228	Pu-240	1.000E+00	0.000E+00	2.355E-22	3.415E-21	7.841E-19	3.253E-18	5.874E-18	7.491E-15	1.923E-14	1.999E-14	2.697E-14
Th-228	Th-228	1.000E+00	9.640E-02	6.711E-02	4.672E-02	3.703E-03	6.056E-04	2.043E-04	4.204E-45	4.204E-45	4.204E-45	4.204E-45
Th-228	Th-232	1.000E+00	0.000E+00	1.800E-03	6.166E-03	4.907E-02	6.924E-02	7.693E-02	9.443E-02	9.434E-02	9.433E-02	9.428E-02
Th-228	ΣS(j) :		9.640E-02	6.891E-02	5.289E-02	5.277E-02	6.984E-02	7.713E-02	9.443E-02	9.434E-02	9.433E-02	9.428E-02
0Tc-99	Tc-99	1.000E+00	9.640E-01	4.428E-01	2.034E-01	8.763E-04	1.789E-05	1.731E-06	1.401E-45	1.401E-45	1.401E-45	1.401E-45
0U-238	U-238	5.400E-05	5.206E-05	5.188E-05	5.171E-05	5.052E-05	4.969E-05	4.920E-05	1.291E-05	3.935E-06	3.658E-06	1.884E-06
U-238	U-238	9.999E-01	9.639E-01	9.608E-01	9.576E-01	9.356E-01	9.202E-01	9.111E-01	2.391E-01	7.288E-02	6.774E-02	3.488E-02
U-238	ΣS(j) :		9.640E-01	9.608E-01	9.576E-01	9.356E-01	9.202E-01	9.111E-01	2.391E-01	7.288E-02	6.775E-02	3.488E-02

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

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Parent Dose Report

Title : Landfill Scenario

File : LANDFILL-PADUCAH-AUTHORIZED-RELEASE-REV.ROF

Run Time Information

ResOCalc.EXE execution began at 11:17 on 06/11/2020

ResOCalc.EXE execution ended at 11:17 on 06/11/2020

ResOCalc.EXE execution time 23.338 seconds

Note: The dose used is from the time of peak total dose for an individual radionuclide (see Table 8 in the main report).

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