

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

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RESRAD-BUILD Input Parameters
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Number of Sources : 6
Number of Receptors: 1
Total Time : 3.652500E+02 days
Fraction Inside : 2.700000E-01
    
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===== Receptor Information =====
    
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Receptor	Room	x [m]	y [m]	z [m]	FracTime	Inhalation [m3/day]	Ingestion(Dust) [m2/hr]
1	1	1.200	1.400	1.000	1.000	3.36E+01	1.10E-04

```

===== Receptor-Source Shielding Relationship =====
    
```

Receptor	Source	Density [g/cm3]	Thickness [cm]	Material
1	1	2.40E+00	0.00E+00	Concrete
1	2	2.40E+00	0.00E+00	Concrete
1	3	2.40E+00	0.00E+00	Concrete
1	4	2.40E+00	0.00E+00	Concrete
1	5	2.40E+00	0.00E+00	Concrete
1	6	2.40E+00	0.00E+00	Concrete

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==== Building Information =====

Building Air Exchange Rate: 8.30E-01 1/hr

Height [m]	Air Exchanges [m3/hr]	
Area [m2]	*****	
	*	*
	*	*
	*	<=Q01: 1.33E+01
H1: 2.400	* Room 1	* Q10 : 1.33E+01
	* LAMBDA: 8.30E-01	*
Area 6.700	*	*
	*	*

Deposition velocity: 8.07E-05 [m/s] Resuspension Rate: 5.73E-08 [1/s]

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==== Source Information =====

Source: 1

Location:: Room : 1 x: 1.20 y: 1.40 z: 0.00[m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

	[dpm/m2]	Dose Conversion Factor (Library: FGR 11)		
		Ingestion [mrem/dpm]	Inhalation [mrem/dpm]	Submersion [mrem/yr/(dpm/m3)]
AM-241	1.000E+02	1.640E-03	2.000E-01	4.304E-05
PU-240	1.000E+02	1.595E-03	1.932E-01	2.499E-07
PU-239	1.000E+02	1.595E-03	1.932E-01	2.231E-07
NP-237	1.000E+02	2.002E-03	2.432E-01	5.461E-04
U-238	1.000E+02	1.210E-04	5.317E-02	7.191E-05
U-236	0.000E+00	1.212E-04	5.631E-02	2.636E-07
U-235	1.000E+02	1.204E-04	5.541E-02	4.063E-04
U-234	1.000E+02	1.275E-04	5.946E-02	4.014E-07
U-233	0.000E+00	1.302E-04	6.081E-02	8.576E-07
PA-231	0.000E+00	4.775E-03	5.766E-01	9.049E-05
TH-232	0.000E+00	1.230E-03	7.387E-01	4.588E-07
TH-230	0.000E+00	2.468E-04	1.468E-01	9.155E-07
TH-229	0.000E+00	1.814E-03	9.768E-01	7.842E-04
TH-228	0.000E+00	3.642E-04	1.556E-01	4.224E-03
AC-227	0.000E+00	6.665E-03	3.029E+00	9.734E-04
RA-228	0.000E+00	6.496E-04	2.287E-03	2.515E-03
RA-226	0.000E+00	5.950E-04	3.871E-03	4.663E-03
PB-210	0.000E+00	2.422E-03	6.214E-03	4.698E-06
TC-99	1.000E+02	6.577E-07	3.748E-06	8.523E-08

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Source: 2

Location:: Room : 1 x: 1.20 y: 1.40 z: 2.40[m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

	[dpm/m2]	Dose Conversion Factor (Library: FGR 11)		
		Ingestion [mrem/dpm]	Inhalation [mrem/dpm]	Submersion [mrem/yr/ (dpm/m3)]
AM-241	1.000E+02	1.640E-03	2.000E-01	4.304E-05
PU-240	1.000E+02	1.595E-03	1.932E-01	2.499E-07
PU-239	1.000E+02	1.595E-03	1.932E-01	2.231E-07
NP-237	1.000E+02	2.002E-03	2.432E-01	5.461E-04
U-238	1.000E+02	1.210E-04	5.317E-02	7.191E-05
U-236	0.000E+00	1.212E-04	5.631E-02	2.636E-07
U-235	1.000E+02	1.204E-04	5.541E-02	4.063E-04
U-234	1.000E+02	1.275E-04	5.946E-02	4.014E-07
U-233	0.000E+00	1.302E-04	6.081E-02	8.576E-07
PA-231	0.000E+00	4.775E-03	5.766E-01	9.049E-05
TH-232	0.000E+00	1.230E-03	7.387E-01	4.588E-07
TH-230	0.000E+00	2.468E-04	1.468E-01	9.155E-07
TH-229	0.000E+00	1.814E-03	9.768E-01	7.842E-04
TH-228	0.000E+00	3.642E-04	1.556E-01	4.224E-03
AC-227	0.000E+00	6.665E-03	3.029E+00	9.734E-04
RA-228	0.000E+00	6.496E-04	2.287E-03	2.515E-03
RA-226	0.000E+00	5.950E-04	3.871E-03	4.663E-03
PB-210	0.000E+00	2.422E-03	6.214E-03	4.698E-06
TC-99	1.000E+02	6.577E-07	3.748E-06	8.523E-08

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Source: 3

Location:: Room : 1 x: 0.00 y: 1.40 z: 1.20[m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

	[dpm/m2]	Dose Conversion Factor (Library: FGR 11)		
		Ingestion [mrem/dpm]	Inhalation [mrem/dpm]	Submersion [mrem/yr/ (dpm/m3)]
AM-241	1.000E+02	1.640E-03	2.000E-01	4.304E-05
PU-240	1.000E+02	1.595E-03	1.932E-01	2.499E-07
PU-239	1.000E+02	1.595E-03	1.932E-01	2.231E-07
NP-237	1.000E+02	2.002E-03	2.432E-01	5.461E-04
U-238	1.000E+02	1.210E-04	5.317E-02	7.191E-05
U-236	0.000E+00	1.212E-04	5.631E-02	2.636E-07
U-235	1.000E+02	1.204E-04	5.541E-02	4.063E-04
U-234	1.000E+02	1.275E-04	5.946E-02	4.014E-07
U-233	0.000E+00	1.302E-04	6.081E-02	8.576E-07
PA-231	0.000E+00	4.775E-03	5.766E-01	9.049E-05
TH-232	0.000E+00	1.230E-03	7.387E-01	4.588E-07
TH-230	0.000E+00	2.468E-04	1.468E-01	9.155E-07
TH-229	0.000E+00	1.814E-03	9.768E-01	7.842E-04
TH-228	0.000E+00	3.642E-04	1.556E-01	4.224E-03
AC-227	0.000E+00	6.665E-03	3.029E+00	9.734E-04
RA-228	0.000E+00	6.496E-04	2.287E-03	2.515E-03
RA-226	0.000E+00	5.950E-04	3.871E-03	4.663E-03
PB-210	0.000E+00	2.422E-03	6.214E-03	4.698E-06
TC-99	1.000E+02	6.577E-07	3.748E-06	8.523E-08

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Source: 4

Location:: Room : 1 x: 1.20 y: 2.70 z: 1.20[m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

	[dpm/m2]	Dose Conversion Factor (Library: FGR 11)		
		Ingestion [mrem/dpm]	Inhalation [mrem/dpm]	Submersion [mrem/yr/ (dpm/m3)]
AM-241	1.000E+02	1.640E-03	2.000E-01	4.304E-05
PU-240	1.000E+02	1.595E-03	1.932E-01	2.499E-07
PU-239	1.000E+02	1.595E-03	1.932E-01	2.231E-07
NP-237	1.000E+02	2.002E-03	2.432E-01	5.461E-04
U-238	1.000E+02	1.210E-04	5.317E-02	7.191E-05
U-236	0.000E+00	1.212E-04	5.631E-02	2.636E-07
U-235	1.000E+02	1.204E-04	5.541E-02	4.063E-04
U-234	1.000E+02	1.275E-04	5.946E-02	4.014E-07
U-233	0.000E+00	1.302E-04	6.081E-02	8.576E-07
PA-231	0.000E+00	4.775E-03	5.766E-01	9.049E-05
TH-232	0.000E+00	1.230E-03	7.387E-01	4.588E-07
TH-230	0.000E+00	2.468E-04	1.468E-01	9.155E-07
TH-229	0.000E+00	1.814E-03	9.768E-01	7.842E-04
TH-228	0.000E+00	3.642E-04	1.556E-01	4.224E-03
AC-227	0.000E+00	6.665E-03	3.029E+00	9.734E-04
RA-228	0.000E+00	6.496E-04	2.287E-03	2.515E-03
RA-226	0.000E+00	5.950E-04	3.871E-03	4.663E-03
PB-210	0.000E+00	2.422E-03	6.214E-03	4.698E-06
TC-99	1.000E+02	6.577E-07	3.748E-06	8.523E-08

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Source: 5

Location:: Room : 1 x: 2.40 y: 1.40 z: 1.20[m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

	[dpm/m2]	Dose Conversion Factor (Library: FGR 11)		
		Ingestion [mrem/dpm]	Inhalation [mrem/dpm]	Submersion [mrem/yr/ (dpm/m3)]
AM-241	1.000E+02	1.640E-03	2.000E-01	4.304E-05
PU-240	1.000E+02	1.595E-03	1.932E-01	2.499E-07
PU-239	1.000E+02	1.595E-03	1.932E-01	2.231E-07
NP-237	1.000E+02	2.002E-03	2.432E-01	5.461E-04
U-238	1.000E+02	1.210E-04	5.317E-02	7.191E-05
U-236	0.000E+00	1.212E-04	5.631E-02	2.636E-07
U-235	1.000E+02	1.204E-04	5.541E-02	4.063E-04
U-234	1.000E+02	1.275E-04	5.946E-02	4.014E-07
U-233	0.000E+00	1.302E-04	6.081E-02	8.576E-07
PA-231	0.000E+00	4.775E-03	5.766E-01	9.049E-05
TH-232	0.000E+00	1.230E-03	7.387E-01	4.588E-07
TH-230	0.000E+00	2.468E-04	1.468E-01	9.155E-07
TH-229	0.000E+00	1.814E-03	9.768E-01	7.842E-04
TH-228	0.000E+00	3.642E-04	1.556E-01	4.224E-03
AC-227	0.000E+00	6.665E-03	3.029E+00	9.734E-04
RA-228	0.000E+00	6.496E-04	2.287E-03	2.515E-03
RA-226	0.000E+00	5.950E-04	3.871E-03	4.663E-03
PB-210	0.000E+00	2.422E-03	6.214E-03	4.698E-06
TC-99	1.000E+02	6.577E-07	3.748E-06	8.523E-08

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Source: 6

Location:: Room : 1 x: 1.20 y: 0.00 z: 1.20[m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

	[dpm/m2]	Dose Conversion Factor (Library: FGR 11)		
		Ingestion [mrem/dpm]	Inhalation [mrem/dpm]	Submersion [mrem/yr/ (dpm/m3)]
AM-241	1.000E+02	1.640E-03	2.000E-01	4.304E-05
PU-240	1.000E+02	1.595E-03	1.932E-01	2.499E-07
PU-239	1.000E+02	1.595E-03	1.932E-01	2.231E-07
NP-237	1.000E+02	2.002E-03	2.432E-01	5.461E-04
U-238	1.000E+02	1.210E-04	5.317E-02	7.191E-05
U-236	0.000E+00	1.212E-04	5.631E-02	2.636E-07
U-235	1.000E+02	1.204E-04	5.541E-02	4.063E-04
U-234	1.000E+02	1.275E-04	5.946E-02	4.014E-07
U-233	0.000E+00	1.302E-04	6.081E-02	8.576E-07
PA-231	0.000E+00	4.775E-03	5.766E-01	9.049E-05
TH-232	0.000E+00	1.230E-03	7.387E-01	4.588E-07
TH-230	0.000E+00	2.468E-04	1.468E-01	9.155E-07
TH-229	0.000E+00	1.814E-03	9.768E-01	7.842E-04
TH-228	0.000E+00	3.642E-04	1.556E-01	4.224E-03
AC-227	0.000E+00	6.665E-03	3.029E+00	9.734E-04
RA-228	0.000E+00	6.496E-04	2.287E-03	2.515E-03
RA-226	0.000E+00	5.950E-04	3.871E-03	4.663E-03
PB-210	0.000E+00	2.422E-03	6.214E-03	4.698E-06
TC-99	1.000E+02	6.577E-07	3.748E-06	8.523E-08

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 0.0000000E+00 years

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

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

Source: 1

Location:: Room : 1 x: 1.20 y: 1.40 z: 0.00 [m]
Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 2.940E-06 [1/hr]
Fraction released to air: 7.000E-02
Removable fraction: 1.000E-01
Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	1.000E+02
	PU-240	1.000E+02
	PU-239	1.000E+02
	NP-237	1.000E+02
	U-238	1.000E+02
	U-236	0.000E+00
	U-235	1.000E+02
	U-234	1.000E+02
	U-233	0.000E+00
	PA-231	0.000E+00
	TH-232	0.000E+00
	TH-230	0.000E+00
	TH-229	0.000E+00
	TH-228	0.000E+00
	AC-227	0.000E+00
	RA-228	0.000E+00
	RA-226	0.000E+00
	PB-210	0.000E+00
	TC-99	1.000E+02

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 Evaluation Time: 0.0000000E+00 years

Source: 2

Location:: Room : 1 x: 1.20 y: 1.40 z: 2.40 [m]
 Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
 Pathway ::
 Direct Ingestion Rate: 2.940E-06 [1/hr]
 Fraction released to air: 7.000E-02
 Removable fraction: 1.000E-01
 Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	1.000E+02
	PU-240	1.000E+02
	PU-239	1.000E+02
	NP-237	1.000E+02
	U-238	1.000E+02
	U-236	0.000E+00
	U-235	1.000E+02
	U-234	1.000E+02
	U-233	0.000E+00
	PA-231	0.000E+00
	TH-232	0.000E+00
	TH-230	0.000E+00
	TH-229	0.000E+00
	TH-228	0.000E+00
	AC-227	0.000E+00
	RA-228	0.000E+00
	RA-226	0.000E+00
	PB-210	0.000E+00
	TC-99	1.000E+02

Source: 3

Location:: Room : 1 x: 0.00 y: 1.40 z: 1.20 [m]
 Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x
 Pathway ::
 Direct Ingestion Rate: 2.940E-06 [1/hr]
 Fraction released to air: 7.000E-02
 Removable fraction: 1.000E-01
 Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	1.000E+02
	PU-240	1.000E+02

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 0.0000000E+00 years

PU-239	1.000E+02
NP-237	1.000E+02
U-238	1.000E+02
U-236	0.000E+00
U-235	1.000E+02
U-234	1.000E+02
U-233	0.000E+00
PA-231	0.000E+00
TH-232	0.000E+00
TH-230	0.000E+00
TH-229	0.000E+00
TH-228	0.000E+00
AC-227	0.000E+00
RA-228	0.000E+00
RA-226	0.000E+00
PB-210	0.000E+00
TC-99	1.000E+02

Source: 4

Location:: Room : 1 x: 1.20 y: 2.70 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	1.000E+02
	PU-240	1.000E+02
	PU-239	1.000E+02
	NP-237	1.000E+02
	U-238	1.000E+02
	U-236	0.000E+00
	U-235	1.000E+02
	U-234	1.000E+02
	U-233	0.000E+00
	PA-231	0.000E+00
	TH-232	0.000E+00
	TH-230	0.000E+00
	TH-229	0.000E+00
	TH-228	0.000E+00
	AC-227	0.000E+00
	RA-228	0.000E+00
	RA-226	0.000E+00
	PB-210	0.000E+00
	TC-99	1.000E+02

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Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 0.0000000E+00 years

Source: 5

Location:: Room : 1 x: 2.40 y: 1.40 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Contamination:: Nuclide Concentration
[dpm/m2]

AM-241 1.000E+02

PU-240 1.000E+02

PU-239 1.000E+02

NP-237 1.000E+02

U-238 1.000E+02

U-236 0.000E+00

U-235 1.000E+02

U-234 1.000E+02

U-233 0.000E+00

PA-231 0.000E+00

TH-232 0.000E+00

TH-230 0.000E+00

TH-229 0.000E+00

TH-228 0.000E+00

AC-227 0.000E+00

RA-228 0.000E+00

RA-226 0.000E+00

PB-210 0.000E+00

TC-99 1.000E+02

Source: 6

Location:: Room : 1 x: 1.20 y: 0.00 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Contamination:: Nuclide Concentration
[dpm/m2]

AM-241 1.000E+02

PU-240 1.000E+02

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 0.0000000E+00 years

PU-239	1.000E+02
NP-237	1.000E+02
U-238	1.000E+02
U-236	0.000E+00
U-235	1.000E+02
U-234	1.000E+02
U-233	0.000E+00
PA-231	0.000E+00
TH-232	0.000E+00
TH-230	0.000E+00
TH-229	0.000E+00
TH-228	0.000E+00
AC-227	0.000E+00
RA-228	0.000E+00
RA-226	0.000E+00
PB-210	0.000E+00
TC-99	1.000E+02

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 0.0000000E+00 years

RESRAD-BUILD Dose Tables

Source Contributions to Receptor Doses

[mrem]

	Source	Source	Source	Source	Source	Source	Total
	1	2	3	4	5	6	
Receptor 1	5.90E-03	5.88E-03	5.89E-03	5.23E-03	5.89E-03	5.22E-03	3.40E-02
Total	5.90E-03	5.88E-03	5.89E-03	5.23E-03	5.89E-03	5.22E-03	3.40E-02

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 0.0000000E+00 years

Pathway Detail of Doses

[mrem]

Source: 1

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	7.41E-05	8.54E-10	2.28E-10	2.61E-03	5.51E-20	3.21E-03
Total	7.41E-05	8.54E-10	2.28E-10	2.61E-03	5.51E-20	3.21E-03

Source: 2

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	4.77E-05	8.54E-10	2.28E-10	2.61E-03	5.51E-20	3.21E-03
Total	4.77E-05	8.54E-10	2.28E-10	2.61E-03	5.51E-20	3.21E-03

Source: 3

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	5.86E-05	8.54E-10	2.28E-10	2.61E-03	5.51E-20	3.21E-03
Total	5.86E-05	8.54E-10	2.28E-10	2.61E-03	5.51E-20	3.21E-03

Source: 4

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	4.84E-05	7.59E-10	2.03E-10	2.32E-03	4.90E-20	2.86E-03
Total	4.84E-05	7.59E-10	2.03E-10	2.32E-03	4.90E-20	2.86E-03

Source: 5

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	5.86E-05	8.54E-10	2.28E-10	2.61E-03	5.51E-20	3.21E-03
Total	5.86E-05	8.54E-10	2.28E-10	2.61E-03	5.51E-20	3.21E-03

Source: 6

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	4.35E-05	7.59E-10	2.03E-10	2.32E-03	4.90E-20	2.86E-03
Total	4.35E-05	7.59E-10	2.03E-10	2.32E-03	4.90E-20	2.86E-03

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 0.0000000E+00 years

Nuclide Detail of Doses

[mrem]

Source: 1

Nuclide	Receptor	Total
	1	
AM-241	1.26E-03	1.26E-03
NP-237	2.53E-10	2.53E-10
U-233	5.12E-17	5.12E-17
TH-229	1.90E-20	1.90E-20
PU-240	1.22E-03	1.22E-03
U-236	2.99E-12	2.99E-12
TH-232	6.02E-22	6.02E-22
RA-228		
TH-228	3.76E-25	3.76E-25
PU-239	1.22E-03	1.22E-03
U-235	1.11E-13	1.11E-13
PA-231	1.26E-17	1.26E-17
AC-227	2.99E-19	2.99E-19
NP-237	1.57E-03	1.57E-03
U-233	4.74E-10	4.74E-10
TH-229	2.34E-13	2.34E-13
U-238	1.98E-04	1.98E-04
U-234	3.01E-10	3.01E-10
TH-230	2.10E-15	2.10E-15
RA-226	2.39E-19	2.39E-19
PB-210	3.11E-21	3.11E-21
U-235	2.25E-04	2.25E-04
PA-231	3.85E-08	3.85E-08
AC-227	1.21E-09	1.21E-09
U-234	2.13E-04	2.13E-04
TH-230	2.23E-09	2.23E-09
RA-226	3.38E-13	3.38E-13
PB-210	5.48E-15	5.48E-15
TC-99	3.15E-07	3.15E-07

Source: 2

Nuclide	Receptor	Total
	1	
AM-241	1.26E-03	1.26E-03
NP-237	2.51E-10	2.51E-10
U-233	5.11E-17	5.11E-17
TH-229	1.89E-20	1.89E-20

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 0.0000000E+00 years

PU-240	1.22E-03	1.22E-03
U-236	2.99E-12	2.99E-12
TH-232	6.02E-22	6.02E-22
RA-228		
TH-228	3.40E-25	3.40E-25
PU-239	1.22E-03	1.22E-03
U-235	1.06E-13	1.06E-13
PA-231	1.26E-17	1.26E-17
AC-227	2.99E-19	2.99E-19
NP-237	1.55E-03	1.55E-03
U-233	4.74E-10	4.74E-10
TH-229	2.33E-13	2.33E-13
U-238	1.97E-04	1.97E-04
U-234	3.01E-10	3.01E-10
TH-230	2.10E-15	2.10E-15
RA-226	1.99E-19	1.99E-19
PB-210	3.11E-21	3.11E-21
U-235	2.16E-04	2.16E-04
PA-231	3.85E-08	3.85E-08
AC-227	1.21E-09	1.21E-09
U-234	2.13E-04	2.13E-04
TH-230	2.23E-09	2.23E-09
RA-226	2.81E-13	2.81E-13
PB-210	5.48E-15	5.48E-15
TC-99	3.11E-07	3.11E-07

Source: 3

Nuclide	Receptor	Total
1		
AM-241	1.26E-03	1.26E-03
NP-237	2.52E-10	2.52E-10
U-233	5.11E-17	5.11E-17
TH-229	1.89E-20	1.89E-20
PU-240	1.22E-03	1.22E-03
U-236	2.99E-12	2.99E-12
TH-232	6.02E-22	6.02E-22
RA-228		
TH-228	3.55E-25	3.55E-25
PU-239	1.22E-03	1.22E-03
U-235	1.08E-13	1.08E-13
PA-231	1.26E-17	1.26E-17
AC-227	2.99E-19	2.99E-19
NP-237	1.56E-03	1.56E-03
U-233	4.74E-10	4.74E-10
TH-229	2.34E-13	2.34E-13
U-238	1.97E-04	1.97E-04
U-234	3.01E-10	3.01E-10
TH-230	2.10E-15	2.10E-15
RA-226	2.16E-19	2.16E-19

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 0.0000000E+00 years

PB-210	3.11E-21	3.11E-21
U-235	2.20E-04	2.20E-04
PA-231	3.85E-08	3.85E-08
AC-227	1.21E-09	1.21E-09
U-234	2.13E-04	2.13E-04
TH-230	2.23E-09	2.23E-09
RA-226	3.05E-13	3.05E-13
PB-210	5.48E-15	5.48E-15
TC-99	3.13E-07	3.13E-07

Source: 4

Nuclide	Receptor	Total
	1	
AM-241	1.12E-03	1.12E-03
NP-237	2.24E-10	2.24E-10
U-233	4.55E-17	4.55E-17
TH-229	1.68E-20	1.68E-20
PU-240	1.08E-03	1.08E-03
U-236	2.65E-12	2.65E-12
TH-232	5.35E-22	5.35E-22
RA-228		
TH-228	3.10E-25	3.10E-25
PU-239	1.08E-03	1.08E-03
U-235	9.54E-14	9.54E-14
PA-231	1.12E-17	1.12E-17
AC-227	2.66E-19	2.66E-19
NP-237	1.38E-03	1.38E-03
U-233	4.21E-10	4.21E-10
TH-229	2.07E-13	2.07E-13
U-238	1.75E-04	1.75E-04
U-234	2.68E-10	2.68E-10
TH-230	1.87E-15	1.87E-15
RA-226	1.86E-19	1.86E-19
PB-210	2.77E-21	2.77E-21
U-235	1.94E-04	1.94E-04
PA-231	3.42E-08	3.42E-08
AC-227	1.08E-09	1.08E-09
U-234	1.89E-04	1.89E-04
TH-230	1.98E-09	1.98E-09
RA-226	2.63E-13	2.63E-13
PB-210	4.87E-15	4.87E-15
TC-99	2.77E-07	2.77E-07

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 0.0000000E+00 years

Source: 5

Nuclide	Receptor	Total
	1	
AM-241	1.26E-03	1.26E-03
NP-237	2.52E-10	2.52E-10
U-233	5.11E-17	5.11E-17
TH-229	1.89E-20	1.89E-20
PU-240	1.22E-03	1.22E-03
U-236	2.99E-12	2.99E-12
TH-232	6.02E-22	6.02E-22
RA-228		
TH-228	3.55E-25	3.55E-25
PU-239	1.22E-03	1.22E-03
U-235	1.08E-13	1.08E-13
PA-231	1.26E-17	1.26E-17
AC-227	2.99E-19	2.99E-19
NP-237	1.56E-03	1.56E-03
U-233	4.74E-10	4.74E-10
TH-229	2.34E-13	2.34E-13
U-238	1.97E-04	1.97E-04
U-234	3.01E-10	3.01E-10
TH-230	2.10E-15	2.10E-15
RA-226	2.16E-19	2.16E-19
PB-210	3.11E-21	3.11E-21
U-235	2.20E-04	2.20E-04
PA-231	3.85E-08	3.85E-08
AC-227	1.21E-09	1.21E-09
U-234	2.13E-04	2.13E-04
TH-230	2.23E-09	2.23E-09
RA-226	3.05E-13	3.05E-13
PB-210	5.48E-15	5.48E-15
TC-99	3.13E-07	3.13E-07

Source: 6

Nuclide	Receptor	Total
	1	
AM-241	1.12E-03	1.12E-03
NP-237	2.24E-10	2.24E-10
U-233	4.54E-17	4.54E-17
TH-229	1.68E-20	1.68E-20
PU-240	1.08E-03	1.08E-03
U-236	2.65E-12	2.65E-12
TH-232	5.35E-22	5.35E-22
RA-228		
TH-228	3.04E-25	3.04E-25

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 0.0000000E+00 years

PU-239	1.08E-03	1.08E-03
U-235	9.46E-14	9.46E-14
PA-231	1.12E-17	1.12E-17
AC-227	2.66E-19	2.66E-19
NP-237	1.38E-03	1.38E-03
U-233	4.21E-10	4.21E-10
TH-229	2.07E-13	2.07E-13
U-238	1.75E-04	1.75E-04
U-234	2.68E-10	2.68E-10
TH-230	1.87E-15	1.87E-15
RA-226	1.79E-19	1.79E-19
PB-210	2.77E-21	2.77E-21
U-235	1.92E-04	1.92E-04
PA-231	3.42E-08	3.42E-08
AC-227	1.08E-09	1.08E-09
U-234	1.89E-04	1.89E-04
TH-230	1.98E-09	1.98E-09
RA-226	2.53E-13	2.53E-13
PB-210	4.87E-15	4.87E-15
TC-99	2.76E-07	2.76E-07

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 1.00000000 years

```
=====
=====
=====
Assessment for Time: 2
Time =1.00E+00 yr
=====
=====
```

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

Source: 1

Location:: Room : 1 x: 1.20 y: 1.40 z: 0.00 [m]
Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 2.940E-06 [1/hr]
Fraction released to air: 7.000E-02
Removable fraction: 9.816E-02
Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	9.964E+01
	PU-240	9.979E+01
	PU-239	9.979E+01
	NP-237	9.980E+01
	U-238	9.980E+01
	U-236	2.956E-06
	U-235	9.980E+01
	U-234	9.980E+01
	U-233	4.351E-04
	PA-231	2.109E-03
	TH-232	7.266E-17
	TH-230	8.984E-04
	TH-229	2.054E-08
	TH-228	2.409E-19
	AC-227	3.317E-05
	RA-228	2.834E-18
	RA-226	1.946E-07
	PB-210	2.000E-09
	TC-99	9.980E+01

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 1.00000000 years

Source: 2

Location:: Room : 1 x: 1.20 y: 1.40 z: 2.40 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]
Fraction released to air: 7.000E-02
Removable fraction: 9.816E-02
Time to Remove: 1.792E+04 [day]

Contamination:: Nuclide Concentration [dpm/m2]

Table with 2 columns: Nuclide, Concentration. Rows include AM-241, PU-240, PU-239, NP-237, U-238, U-236, U-235, U-234, U-233, PA-231, TH-232, TH-230, TH-229, TH-228, AC-227, RA-228, RA-226, PB-210, TC-99.

Source: 3

Location:: Room : 1 x: 0.00 y: 1.40 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]
Fraction released to air: 7.000E-02
Removable fraction: 9.816E-02
Time to Remove: 1.792E+04 [day]

Contamination:: Nuclide Concentration [dpm/m2]

Table with 2 columns: Nuclide, Concentration. Rows include AM-241, PU-240.

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 1.00000000 years

PU-239	9.979E+01
NP-237	9.980E+01
U-238	9.980E+01
U-236	2.956E-06
U-235	9.980E+01
U-234	9.980E+01
U-233	4.351E-04
PA-231	2.109E-03
TH-232	7.266E-17
TH-230	8.984E-04
TH-229	2.054E-08
TH-228	2.409E-19
AC-227	3.317E-05
RA-228	2.834E-18
RA-226	1.946E-07
PB-210	2.000E-09
TC-99	9.980E+01

Source: 4

Location:: Room : 1 x: 1.20 y: 2.70 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 9.816E-02

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	9.964E+01
	PU-240	9.979E+01
	PU-239	9.979E+01
	NP-237	9.980E+01
	U-238	9.980E+01
	U-236	2.956E-06
	U-235	9.980E+01
	U-234	9.980E+01
	U-233	4.351E-04
	PA-231	2.109E-03
	TH-232	7.266E-17
	TH-230	8.984E-04
	TH-229	2.054E-08
	TH-228	2.409E-19
	AC-227	3.317E-05
	RA-228	2.834E-18
	RA-226	1.946E-07
	PB-210	2.000E-09
	TC-99	9.980E+01

Title : Small Office - Occupancy
 Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld
 Evaluation Time: 1.00000000 years

Source: 5

Location:: Room : 1 x: 2.40 y: 1.40 z: 1.20 [m]
 Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x
 Pathway ::
 Direct Ingestion Rate: 2.940E-06 [1/hr]
 Fraction released to air: 7.000E-02
 Removable fraction: 9.816E-02
 Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	9.964E+01
	PU-240	9.979E+01
	PU-239	9.979E+01
	NP-237	9.980E+01
	U-238	9.980E+01
	U-236	2.956E-06
	U-235	9.980E+01
	U-234	9.980E+01
	U-233	4.351E-04
	PA-231	2.109E-03
	TH-232	7.266E-17
	TH-230	8.984E-04
	TH-229	2.054E-08
	TH-228	2.409E-19
	AC-227	3.317E-05
	RA-228	2.834E-18
	RA-226	1.946E-07
	PB-210	2.000E-09
	TC-99	9.980E+01

Source: 6

Location:: Room : 1 x: 1.20 y: 0.00 z: 1.20 [m]
 Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y
 Pathway ::
 Direct Ingestion Rate: 2.940E-06 [1/hr]
 Fraction released to air: 7.000E-02
 Removable fraction: 9.816E-02
 Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	9.964E+01
	PU-240	9.979E+01

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 1.00000000 years

PU-239	9.979E+01
NP-237	9.980E+01
U-238	9.980E+01
U-236	2.956E-06
U-235	9.980E+01
U-234	9.980E+01
U-233	4.351E-04
PA-231	2.109E-03
TH-232	7.266E-17
TH-230	8.984E-04
TH-229	2.054E-08
TH-228	2.409E-19
AC-227	3.317E-05
RA-228	2.834E-18
RA-226	1.946E-07
PB-210	2.000E-09
TC-99	9.980E+01

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 1.00000000 years

RESRAD-BUILD Dose Tables

Source Contributions to Receptor Doses

[mrem]

	Source	Source	Source	Source	Source	Source	Total
	1	2	3	4	5	6	
Receptor 1	5.83E-03	5.81E-03	5.82E-03	5.17E-03	5.82E-03	5.16E-03	3.36E-02
Total	5.83E-03	5.81E-03	5.82E-03	5.17E-03	5.82E-03	5.16E-03	3.36E-02

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 1.00000000 years

Pathway Detail of Doses

[mrem]

Source: 1

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	7.40E-05	8.54E-10	2.28E-10	2.61E-03	3.85E-19	3.15E-03
Total	7.40E-05	8.54E-10	2.28E-10	2.61E-03	3.85E-19	3.15E-03

Source: 2

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	4.76E-05	8.54E-10	2.28E-10	2.61E-03	3.85E-19	3.15E-03
Total	4.76E-05	8.54E-10	2.28E-10	2.61E-03	3.85E-19	3.15E-03

Source: 3

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	5.85E-05	8.54E-10	2.28E-10	2.61E-03	3.85E-19	3.15E-03
Total	5.85E-05	8.54E-10	2.28E-10	2.61E-03	3.85E-19	3.15E-03

Source: 4

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	4.83E-05	7.59E-10	2.03E-10	2.32E-03	3.43E-19	2.80E-03
Total	4.83E-05	7.59E-10	2.03E-10	2.32E-03	3.43E-19	2.80E-03

Source: 5

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	5.85E-05	8.54E-10	2.28E-10	2.61E-03	3.85E-19	3.15E-03
Total	5.85E-05	8.54E-10	2.28E-10	2.61E-03	3.85E-19	3.15E-03

Source: 6

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	4.34E-05	7.59E-10	2.03E-10	2.32E-03	3.43E-19	2.80E-03
Total	4.34E-05	7.59E-10	2.03E-10	2.32E-03	3.43E-19	2.80E-03

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 1.00000000 years

Nuclide Detail of Doses

[mrem]

Source: 1

Nuclide	Receptor	Total
	1	
AM-241	1.24E-03	1.24E-03
NP-237	7.51E-10	7.51E-10
U-233	3.56E-16	3.56E-16
TH-229	2.83E-19	2.83E-19
PU-240	1.20E-03	1.20E-03
U-236	8.92E-12	8.92E-12
TH-232	4.20E-21	4.20E-21
RA-228		
TH-228	1.07E-23	1.07E-23
PU-239	1.20E-03	1.20E-03
U-235	3.31E-13	3.31E-13
PA-231	8.75E-17	8.75E-17
AC-227	4.44E-18	4.44E-18
NP-237	1.55E-03	1.55E-03
U-233	1.41E-09	1.41E-09
TH-229	1.63E-12	1.63E-12
U-238	1.97E-04	1.97E-04
U-234	8.99E-10	8.99E-10
TH-230	1.46E-14	1.46E-14
RA-226	3.55E-18	3.55E-18
PB-210	9.41E-20	9.41E-20
U-235	2.24E-04	2.24E-04
PA-231	1.14E-07	1.14E-07
AC-227	8.39E-09	8.39E-09
U-234	2.12E-04	2.12E-04
TH-230	6.65E-09	6.65E-09
RA-226	2.34E-12	2.34E-12
PB-210	8.03E-14	8.03E-14
TC-99	3.09E-07	3.09E-07

Source: 2

Nuclide	Receptor	Total
	1	
AM-241	1.24E-03	1.24E-03
NP-237	7.45E-10	7.45E-10
U-233	3.56E-16	3.56E-16
TH-229	2.82E-19	2.82E-19

Title : Small Office - Occupancy
 Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld
 Evaluation Time: 1.00000000 years

PU-240	1.20E-03	1.20E-03
U-236	8.91E-12	8.91E-12
TH-232	4.20E-21	4.20E-21
RA-228		
TH-228	9.67E-24	9.67E-24
PU-239	1.20E-03	1.20E-03
U-235	3.17E-13	3.17E-13
PA-231	8.74E-17	8.74E-17
AC-227	4.43E-18	4.43E-18
NP-237	1.54E-03	1.54E-03
U-233	1.41E-09	1.41E-09
TH-229	1.62E-12	1.62E-12
U-238	1.95E-04	1.95E-04
U-234	8.98E-10	8.98E-10
TH-230	1.46E-14	1.46E-14
RA-226	2.95E-18	2.95E-18
PB-210	9.40E-20	9.40E-20
U-235	2.15E-04	2.15E-04
PA-231	1.14E-07	1.14E-07
AC-227	8.37E-09	8.37E-09
U-234	2.12E-04	2.12E-04
TH-230	6.65E-09	6.65E-09
RA-226	1.95E-12	1.95E-12
PB-210	8.02E-14	8.02E-14
TC-99	3.05E-07	3.05E-07

Source: 3

Nuclide	Receptor	Total
1		
AM-241	1.24E-03	1.24E-03
NP-237	7.48E-10	7.48E-10
U-233	3.56E-16	3.56E-16
TH-229	2.82E-19	2.82E-19
PU-240	1.20E-03	1.20E-03
U-236	8.91E-12	8.91E-12
TH-232	4.20E-21	4.20E-21
RA-228		
TH-228	1.01E-23	1.01E-23
PU-239	1.20E-03	1.20E-03
U-235	3.23E-13	3.23E-13
PA-231	8.74E-17	8.74E-17
AC-227	4.43E-18	4.43E-18
NP-237	1.54E-03	1.54E-03
U-233	1.41E-09	1.41E-09
TH-229	1.63E-12	1.63E-12
U-238	1.96E-04	1.96E-04
U-234	8.98E-10	8.98E-10
TH-230	1.46E-14	1.46E-14
RA-226	3.20E-18	3.20E-18

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 1.00000000 years

PB-210	9.40E-20	9.40E-20
U-235	2.19E-04	2.19E-04
PA-231	1.14E-07	1.14E-07
AC-227	8.38E-09	8.38E-09
U-234	2.12E-04	2.12E-04
TH-230	6.65E-09	6.65E-09
RA-226	2.11E-12	2.11E-12
PB-210	8.02E-14	8.02E-14
TC-99	3.06E-07	3.06E-07

Source: 4

Nuclide	Receptor	Total
	1	
AM-241	1.10E-03	1.10E-03
NP-237	6.64E-10	6.64E-10
U-233	3.16E-16	3.16E-16
TH-229	2.51E-19	2.51E-19
PU-240	1.07E-03	1.07E-03
U-236	7.92E-12	7.92E-12
TH-232	3.73E-21	3.73E-21
RA-228		
TH-228	8.82E-24	8.82E-24
PU-239	1.07E-03	1.07E-03
U-235	2.85E-13	2.85E-13
PA-231	7.77E-17	7.77E-17
AC-227	3.94E-18	3.94E-18
NP-237	1.37E-03	1.37E-03
U-233	1.26E-09	1.26E-09
TH-229	1.45E-12	1.45E-12
U-238	1.74E-04	1.74E-04
U-234	7.99E-10	7.99E-10
TH-230	1.30E-14	1.30E-14
RA-226	2.76E-18	2.76E-18
PB-210	8.36E-20	8.36E-20
U-235	1.93E-04	1.93E-04
PA-231	1.01E-07	1.01E-07
AC-227	7.44E-09	7.44E-09
U-234	1.88E-04	1.88E-04
TH-230	5.91E-09	5.91E-09
RA-226	1.82E-12	1.82E-12
PB-210	7.13E-14	7.13E-14
TC-99	2.72E-07	2.72E-07

Title : Small Office - Occupancy
 Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld
 Evaluation Time: 1.00000000 years

Source: 5

Nuclide	Receptor	Total
	1	
AM-241	1.24E-03	1.24E-03
NP-237	7.48E-10	7.48E-10
U-233	3.56E-16	3.56E-16
TH-229	2.82E-19	2.82E-19
PU-240	1.20E-03	1.20E-03
U-236	8.91E-12	8.91E-12
TH-232	4.20E-21	4.20E-21
RA-228		
TH-228	1.01E-23	1.01E-23
PU-239	1.20E-03	1.20E-03
U-235	3.23E-13	3.23E-13
PA-231	8.74E-17	8.74E-17
AC-227	4.43E-18	4.43E-18
NP-237	1.54E-03	1.54E-03
U-233	1.41E-09	1.41E-09
TH-229	1.63E-12	1.63E-12
U-238	1.96E-04	1.96E-04
U-234	8.98E-10	8.98E-10
TH-230	1.46E-14	1.46E-14
RA-226	3.20E-18	3.20E-18
PB-210	9.40E-20	9.40E-20
U-235	2.19E-04	2.19E-04
PA-231	1.14E-07	1.14E-07
AC-227	8.38E-09	8.38E-09
U-234	2.12E-04	2.12E-04
TH-230	6.65E-09	6.65E-09
RA-226	2.11E-12	2.11E-12
PB-210	8.02E-14	8.02E-14
TC-99	3.06E-07	3.06E-07

Source: 6

Nuclide	Receptor	Total
	1	
AM-241	1.10E-03	1.10E-03
NP-237	6.62E-10	6.62E-10
U-233	3.16E-16	3.16E-16
TH-229	2.50E-19	2.50E-19
PU-240	1.07E-03	1.07E-03
U-236	7.92E-12	7.92E-12
TH-232	3.73E-21	3.73E-21
RA-228		
TH-228	8.63E-24	8.63E-24

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 1.00000000 years

PU-239	1.07E-03	1.07E-03
U-235	2.82E-13	2.82E-13
PA-231	7.77E-17	7.77E-17
AC-227	3.94E-18	3.94E-18
NP-237	1.37E-03	1.37E-03
U-233	1.26E-09	1.26E-09
TH-229	1.44E-12	1.44E-12
U-238	1.74E-04	1.74E-04
U-234	7.98E-10	7.98E-10
TH-230	1.30E-14	1.30E-14
RA-226	2.65E-18	2.65E-18
PB-210	8.36E-20	8.36E-20
U-235	1.91E-04	1.91E-04
PA-231	1.01E-07	1.01E-07
AC-227	7.44E-09	7.44E-09
U-234	1.88E-04	1.88E-04
TH-230	5.91E-09	5.91E-09
RA-226	1.75E-12	1.75E-12
PB-210	7.13E-14	7.13E-14
TC-99	2.71E-07	2.71E-07

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 30.0000000 years

```
=====
=====
=====
Assessment for Time: 3
Time =3.00E+01 yr
=====
=====
```

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

Source: 1

Location:: Room : 1 x: 1.20 y: 1.40 z: 0.00 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 4.138E-02

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	8.947E+01
	PU-240	9.359E+01
	PU-239	9.380E+01
	NP-237	9.388E+01
	U-238	9.388E+01
	U-236	8.330E-05
	U-235	9.388E+01
	U-234	9.388E+01
	U-233	1.228E-02
	PA-231	5.950E-02
	TH-232	6.146E-14
	TH-230	2.535E-02
	TH-229	1.738E-05
	TH-228	2.936E-14
	AC-227	2.116E-02
	RA-228	3.662E-14
	RA-226	1.640E-04
	PB-210	4.105E-05
	TC-99	9.388E+01

Title : Small Office - Occupancy
 Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld
 Evaluation Time: 30.0000000 years

Source: 2

Location:: Room : 1 x: 1.20 y: 1.40 z: 2.40 [m]
 Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
 Pathway ::
 Direct Ingestion Rate: 2.940E-06 [1/hr]
 Fraction released to air: 7.000E-02
 Removable fraction: 4.138E-02
 Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	8.947E+01
	PU-240	9.359E+01
	PU-239	9.380E+01
	NP-237	9.388E+01
	U-238	9.388E+01
	U-236	8.330E-05
	U-235	9.388E+01
	U-234	9.388E+01
	U-233	1.228E-02
	PA-231	5.950E-02
	TH-232	6.146E-14
	TH-230	2.535E-02
	TH-229	1.738E-05
	TH-228	2.936E-14
	AC-227	2.116E-02
	RA-228	3.662E-14
	RA-226	1.640E-04
	PB-210	4.105E-05
	TC-99	9.388E+01

Source: 3

Location:: Room : 1 x: 0.00 y: 1.40 z: 1.20 [m]
 Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x
 Pathway ::
 Direct Ingestion Rate: 2.940E-06 [1/hr]
 Fraction released to air: 7.000E-02
 Removable fraction: 4.138E-02
 Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	8.947E+01
	PU-240	9.359E+01

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 30.000000 years

PU-239	9.380E+01
NP-237	9.388E+01
U-238	9.388E+01
U-236	8.330E-05
U-235	9.388E+01
U-234	9.388E+01
U-233	1.228E-02
PA-231	5.950E-02
TH-232	6.146E-14
TH-230	2.535E-02
TH-229	1.738E-05
TH-228	2.936E-14
AC-227	2.116E-02
RA-228	3.662E-14
RA-226	1.640E-04
PB-210	4.105E-05
TC-99	9.388E+01

Source: 4

Location:: Room : 1 x: 1.20 y: 2.70 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]
 Fraction released to air: 7.000E-02
 Removable fraction: 4.138E-02
 Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	8.947E+01
	PU-240	9.359E+01
	PU-239	9.380E+01
	NP-237	9.388E+01
	U-238	9.388E+01
	U-236	8.330E-05
	U-235	9.388E+01
	U-234	9.388E+01
	U-233	1.228E-02
	PA-231	5.950E-02
	TH-232	6.146E-14
	TH-230	2.535E-02
	TH-229	1.738E-05
	TH-228	2.936E-14
	AC-227	2.116E-02
	RA-228	3.662E-14
	RA-226	1.640E-04
	PB-210	4.105E-05
	TC-99	9.388E+01

Title : Small Office - Occupancy
 Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld
 Evaluation Time: 30.0000000 years

Source: 5

Location:: Room : 1 x: 2.40 y: 1.40 z: 1.20 [m]
 Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x
 Pathway ::
 Direct Ingestion Rate: 2.940E-06 [1/hr]
 Fraction released to air: 7.000E-02
 Removable fraction: 4.138E-02
 Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	8.947E+01
	PU-240	9.359E+01
	PU-239	9.380E+01
	NP-237	9.388E+01
	U-238	9.388E+01
	U-236	8.330E-05
	U-235	9.388E+01
	U-234	9.388E+01
	U-233	1.228E-02
	PA-231	5.950E-02
	TH-232	6.146E-14
	TH-230	2.535E-02
	TH-229	1.738E-05
	TH-228	2.936E-14
	AC-227	2.116E-02
	RA-228	3.662E-14
	RA-226	1.640E-04
	PB-210	4.105E-05
	TC-99	9.388E+01

Source: 6

Location:: Room : 1 x: 1.20 y: 0.00 z: 1.20 [m]
 Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y
 Pathway ::
 Direct Ingestion Rate: 2.940E-06 [1/hr]
 Fraction released to air: 7.000E-02
 Removable fraction: 4.138E-02
 Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration [dpm/m2]
	AM-241	8.947E+01
	PU-240	9.359E+01

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 30.000000 years

PU-239	9.380E+01
NP-237	9.388E+01
U-238	9.388E+01
U-236	8.330E-05
U-235	9.388E+01
U-234	9.388E+01
U-233	1.228E-02
PA-231	5.950E-02
TH-232	6.146E-14
TH-230	2.535E-02
TH-229	1.738E-05
TH-228	2.936E-14
AC-227	2.116E-02
RA-228	3.662E-14
RA-226	1.640E-04
PB-210	4.105E-05
TC-99	9.388E+01

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 30.0000000 years

RESRAD-BUILD Dose Tables

Source Contributions to Receptor Doses

[mrem]

	Source	Source	Source	Source	Source	Source	Total
	1	2	3	4	5	6	
Receptor 1	3.87E-03	3.85E-03	3.86E-03	3.43E-03	3.86E-03	3.42E-03	2.23E-02
Total	3.87E-03	3.85E-03	3.86E-03	3.43E-03	3.86E-03	3.42E-03	2.23E-02

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 30.0000000 years

Pathway Detail of Doses

[mrem]

Source: 1

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	6.94E-05	8.51E-10	2.28E-10	2.59E-03	1.53E-16	1.22E-03
Total	6.94E-05	8.51E-10	2.28E-10	2.59E-03	1.53E-16	1.22E-03

Source: 2

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	4.46E-05	8.51E-10	2.28E-10	2.59E-03	1.53E-16	1.22E-03
Total	4.46E-05	8.51E-10	2.28E-10	2.59E-03	1.53E-16	1.22E-03

Source: 3

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	5.48E-05	8.51E-10	2.28E-10	2.59E-03	1.53E-16	1.22E-03
Total	5.48E-05	8.51E-10	2.28E-10	2.59E-03	1.53E-16	1.22E-03

Source: 4

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	4.53E-05	7.56E-10	2.03E-10	2.30E-03	1.36E-16	1.08E-03
Total	4.53E-05	7.56E-10	2.03E-10	2.30E-03	1.36E-16	1.08E-03

Source: 5

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	5.48E-05	8.51E-10	2.28E-10	2.59E-03	1.53E-16	1.22E-03
Total	5.48E-05	8.51E-10	2.28E-10	2.59E-03	1.53E-16	1.22E-03

Source: 6

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	4.07E-05	7.56E-10	2.03E-10	2.30E-03	1.36E-16	1.08E-03
Total	4.07E-05	7.56E-10	2.03E-10	2.30E-03	1.36E-16	1.08E-03

Title : Small Office - Occupancy
 Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld
 Evaluation Time: 30.0000000 years

Nuclide Detail of Doses

[mrem]

Source: 1

Nuclide	Receptor	Total
	1	
AM-241	7.71E-04	7.71E-04
NP-237	9.76E-09	9.76E-09
U-233	1.17E-13	1.17E-13
TH-229	1.82E-15	1.82E-15
PU-240	7.76E-04	7.76E-04
U-236	1.52E-10	1.52E-10
TH-232	1.45E-18	1.45E-18
RA-228		
TH-228	2.13E-19	2.13E-19
PU-239	7.78E-04	7.78E-04
U-235	5.71E-12	5.71E-12
PA-231	2.26E-14	2.26E-14
AC-227	2.27E-14	2.27E-14
NP-237	1.01E-03	1.01E-03
U-233	2.42E-08	2.42E-08
TH-229	5.58E-10	5.58E-10
U-238	1.65E-04	1.65E-04
U-234	1.53E-08	1.53E-08
TH-230	5.06E-12	5.06E-12
RA-226	1.78E-14	1.78E-14
PB-210	4.45E-15	4.45E-15
U-235	1.90E-04	1.90E-04
PA-231	1.50E-06	1.50E-06
AC-227	2.11E-06	2.11E-06
U-234	1.78E-04	1.78E-04
TH-230	1.17E-07	1.17E-07
RA-226	6.19E-10	6.19E-10
PB-210	1.97E-10	1.97E-10
TC-99	1.33E-07	1.33E-07

Source: 2

Nuclide	Receptor	Total
	1	
AM-241	7.69E-04	7.69E-04
NP-237	9.65E-09	9.65E-09
U-233	1.17E-13	1.17E-13
TH-229	1.80E-15	1.80E-15

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 30.0000000 years

PU-240	7.76E-04	7.76E-04
U-236	1.52E-10	1.52E-10
TH-232	1.45E-18	1.45E-18
RA-228		
TH-228	1.91E-19	1.91E-19
PU-239	7.78E-04	7.78E-04
U-235	5.45E-12	5.45E-12
PA-231	2.25E-14	2.25E-14
AC-227	2.27E-14	2.27E-14
NP-237	1.00E-03	1.00E-03
U-233	2.41E-08	2.41E-08
TH-229	5.55E-10	5.55E-10
U-238	1.63E-04	1.63E-04
U-234	1.53E-08	1.53E-08
TH-230	5.06E-12	5.06E-12
RA-226	1.36E-14	1.36E-14
PB-210	4.44E-15	4.44E-15
U-235	1.82E-04	1.82E-04
PA-231	1.50E-06	1.50E-06
AC-227	2.11E-06	2.11E-06
U-234	1.78E-04	1.78E-04
TH-230	1.17E-07	1.17E-07
RA-226	4.71E-10	4.71E-10
PB-210	1.97E-10	1.97E-10
TC-99	1.29E-07	1.29E-07

Source: 3

Nuclide	Receptor	Total
1		
AM-241	7.70E-04	7.70E-04
NP-237	9.69E-09	9.69E-09
U-233	1.17E-13	1.17E-13
TH-229	1.81E-15	1.81E-15
PU-240	7.76E-04	7.76E-04
U-236	1.52E-10	1.52E-10
TH-232	1.45E-18	1.45E-18
RA-228		
TH-228	2.00E-19	2.00E-19
PU-239	7.78E-04	7.78E-04
U-235	5.56E-12	5.56E-12
PA-231	2.26E-14	2.26E-14
AC-227	2.27E-14	2.27E-14
NP-237	1.01E-03	1.01E-03
U-233	2.42E-08	2.42E-08
TH-229	5.56E-10	5.56E-10
U-238	1.64E-04	1.64E-04
U-234	1.53E-08	1.53E-08
TH-230	5.06E-12	5.06E-12
RA-226	1.53E-14	1.53E-14

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 30.0000000 years

PB-210	4.44E-15	4.44E-15
U-235	1.85E-04	1.85E-04
PA-231	1.50E-06	1.50E-06
AC-227	2.11E-06	2.11E-06
U-234	1.78E-04	1.78E-04
TH-230	1.17E-07	1.17E-07
RA-226	5.32E-10	5.32E-10
PB-210	1.97E-10	1.97E-10
TC-99	1.31E-07	1.31E-07

Source: 4

Nuclide	Receptor	Total
	1	
AM-241	6.84E-04	6.84E-04
NP-237	8.60E-09	8.60E-09
U-233	1.04E-13	1.04E-13
TH-229	1.61E-15	1.61E-15
PU-240	6.90E-04	6.90E-04
U-236	1.35E-10	1.35E-10
TH-232	1.29E-18	1.29E-18
RA-228		
TH-228	1.75E-19	1.75E-19
PU-239	6.92E-04	6.92E-04
U-235	4.90E-12	4.90E-12
PA-231	2.00E-14	2.00E-14
AC-227	2.02E-14	2.02E-14
NP-237	8.92E-04	8.92E-04
U-233	2.15E-08	2.15E-08
TH-229	4.94E-10	4.94E-10
U-238	1.45E-04	1.45E-04
U-234	1.36E-08	1.36E-08
TH-230	4.49E-12	4.49E-12
RA-226	1.30E-14	1.30E-14
PB-210	3.95E-15	3.95E-15
U-235	1.63E-04	1.63E-04
PA-231	1.33E-06	1.33E-06
AC-227	1.87E-06	1.87E-06
U-234	1.58E-04	1.58E-04
TH-230	1.04E-07	1.04E-07
RA-226	4.52E-10	4.52E-10
PB-210	1.75E-10	1.75E-10
TC-99	1.16E-07	1.16E-07

Title : Small Office - Occupancy
 Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld
 Evaluation Time: 30.0000000 years

Source: 5

Nuclide	Receptor	Total
	1	
AM-241	7.70E-04	7.70E-04
NP-237	9.69E-09	9.69E-09
U-233	1.17E-13	1.17E-13
TH-229	1.81E-15	1.81E-15
PU-240	7.76E-04	7.76E-04
U-236	1.52E-10	1.52E-10
TH-232	1.45E-18	1.45E-18
RA-228		
TH-228	2.00E-19	2.00E-19
PU-239	7.78E-04	7.78E-04
U-235	5.56E-12	5.56E-12
PA-231	2.26E-14	2.26E-14
AC-227	2.27E-14	2.27E-14
NP-237	1.01E-03	1.01E-03
U-233	2.42E-08	2.42E-08
TH-229	5.56E-10	5.56E-10
U-238	1.64E-04	1.64E-04
U-234	1.53E-08	1.53E-08
TH-230	5.06E-12	5.06E-12
RA-226	1.53E-14	1.53E-14
PB-210	4.44E-15	4.44E-15
U-235	1.85E-04	1.85E-04
PA-231	1.50E-06	1.50E-06
AC-227	2.11E-06	2.11E-06
U-234	1.78E-04	1.78E-04
TH-230	1.17E-07	1.17E-07
RA-226	5.32E-10	5.32E-10
PB-210	1.97E-10	1.97E-10
TC-99	1.31E-07	1.31E-07

Source: 6

Nuclide	Receptor	Total
	1	
AM-241	6.84E-04	6.84E-04
NP-237	8.58E-09	8.58E-09
U-233	1.04E-13	1.04E-13
TH-229	1.60E-15	1.60E-15
PU-240	6.90E-04	6.90E-04
U-236	1.35E-10	1.35E-10
TH-232	1.29E-18	1.29E-18
RA-228		
TH-228	1.71E-19	1.71E-19

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Evaluation Time: 30.000000 years

PU-239	6.92E-04	6.92E-04
U-235	4.85E-12	4.85E-12
PA-231	2.00E-14	2.00E-14
AC-227	2.02E-14	2.02E-14
NP-237	8.90E-04	8.90E-04
U-233	2.15E-08	2.15E-08
TH-229	4.93E-10	4.93E-10
U-238	1.45E-04	1.45E-04
U-234	1.36E-08	1.36E-08
TH-230	4.49E-12	4.49E-12
RA-226	1.22E-14	1.22E-14
PB-210	3.95E-15	3.95E-15
U-235	1.62E-04	1.62E-04
PA-231	1.33E-06	1.33E-06
AC-227	1.87E-06	1.87E-06
U-234	1.58E-04	1.58E-04
TH-230	1.04E-07	1.04E-07
RA-226	4.25E-10	4.25E-10
PB-210	1.75E-10	1.75E-10
TC-99	1.15E-07	1.15E-07

Title : Small Office - Occupancy

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office.bld

Full Summary

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RESRAD-BUILD Dose (Time) Tables

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Receptor Dose Received for the Exposure Duration

(mrem)

Evaluation Time [yr]

0.00E+00 1.00E+00 3.00E+01

1 3.40E-02 3.36E-02 2.23E-02

Receptor Dose/Yr Averaged Over Exposure Duration

(mrem/yr)

Evaluation Time [yr]

0.00E+00 1.00E+00 3.00E+01

1 3.40E-02 3.36E-02 2.23E-02