Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld

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=== ===
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Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld

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

Number of Sources : 10
Number of Receptors: 1
Total Time : 3.650000E+02 days
Fraction Inside : 6.800000E-01

========== Receptor Information ==========

| Receptor | Room | x [m] | y [m] | z [m] | FracTime | Inhalation [m3/day] | Ingestion(Dust) [m2/hr] |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 1.500 | 1.500 | 1.000 | 0.330 | 6.00E+01 | 1.00E-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 |
| 1 | 7 | 2.40E+00 | 0.00E+00 | Concrete |
| 1 | 8 | 2.40E+00 | 0.00E+00 | Concrete |
| 1 | 9 | 2.40E+00 | 0.00E+00 | Concrete |
| 1 | 10 | 2.40E+00 | 0.00E+00 | Concrete |

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

Building Air Exchange Rate: 1.50E+00 1/hr

```
Height[m]       Air Exchanges [m3/hr]
Area [m2]
          ******************************
          *                            *
          *                            *
          *                            <=Q01: 4.25E+01
H1:  3.050    *        Room  1        *    Q10 :  4.25E+01
          *  LAMBDA: 1.50E+00        *
Area  9.300    *                            *
          *                            *
          ******************************
```

Deposition velocity: 1.00E-02 [m/s]  Resuspension Rate: 5.00E-07 [1/s]

Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld

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

Source: 1
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00[m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination::
Nuclide Concentration Dose Conversion Factor (Library: HPNS Adult)

| | Ingestion [pCi/m2] | Inhalation [mrem/pCi] | Submersion [mrem/pCi] | [mrem/yr/(pCi/m3)] |
|---|---|---|---|---|
| AM-241 | 4.500E+03 | 3.640E-03 | 4.440E-01 | 9.554E-05 |
| NP-237 | 0.000E+00 | 4.444E-03 | 5.400E-01 | 1.212E-03 |
| U-233 | 0.000E+00 | 2.890E-04 | 1.350E-01 | 1.904E-06 |
| TH-229 | 0.000E+00 | 4.027E-03 | 2.169E+00 | 1.741E-03 |

Source: 2
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00[m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination::
Nuclide Concentration Dose Conversion Factor (Library: HPNS Adult)

| | Ingestion [pCi/m2] | Inhalation [mrem/pCi] | Submersion [mrem/pCi] | [mrem/yr/(pCi/m3)] |
|---|---|---|---|---|
| CO-60 | 2.250E+05 | 2.690E-05 | 2.190E-04 | 1.472E-02 |

Source: 3

Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00[m]

Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z

Pathway ::

Direct Ingestion Rate: 0.000E+00 [1/hr]

Fraction released to air: 1.000E-01

Removable fraction: 2.000E-01

Time to Remove: 9.125E+03 [day]

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: HPNS Adult)

| | | Ingestion | Inhalation | Submersion |
|---|---|---|---|---|
| | [pCi/m2] | [mrem/pCi] | [mrem/pCi] | [mrem/yr/ (pCi/m3)] |
| CS-137 | 2.250E+05 | 5.000E-05 | 3.190E-05 | 3.183E-03 |

Source: 4

Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00[m]

Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z

Pathway ::

Direct Ingestion Rate: 0.000E+00 [1/hr]

Fraction released to air: 1.000E-01

Removable fraction: 2.000E-01

Time to Remove: 9.125E+03 [day]

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: HPNS Adult)

| | | Ingestion | Inhalation | Submersion |
|---|---|---|---|---|
| | [pCi/m2] | [mrem/pCi] | [mrem/pCi] | [mrem/yr/ (pCi/m3)] |
| GD-152 | 0.000E+00 | 1.610E-04 | 2.430E-01 | 0.000E+00 |
| EU-152 | 2.250E+05 | 6.480E-06 | 2.210E-04 | 6.599E-03 |

Source: 5
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00[m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination::
Nuclide Concentration Dose Conversion Factor (Library: HPNS Adult)

| | | Ingestion [pCi/m2] | Inhalation [mrem/pCi] | Submersion [mrem/pCi] | [mrem/yr/ (pCi/m3)] |
|---|---|---|---|---|---|
| EU-154 | 2.250E+05 | 9.550E-06 | 2.860E-04 | 7.172E-03 | |

Source: 6
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00[m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination::
Nuclide Concentration Dose Conversion Factor (Library: HPNS Adult)

| | | Ingestion [pCi/m2] | Inhalation [mrem/pCi] | Submersion [mrem/pCi] | [mrem/yr/ (pCi/m3)] |
|---|---|---|---|---|---|
| H-3 | 2.250E+05 | 6.400E-08 | 6.400E-08 | 3.866E-08 | |

Source: 7

Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00[m]

Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z

Pathway ::

Direct Ingestion Rate: 0.000E+00 [1/hr]

Fraction released to air: 1.000E-01

Removable fraction: 2.000E-01

Time to Remove: 9.125E+03 [day]

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: HPNS Adult)

| | | Ingestion [pCi/m2] | Inhalation [mrem/pCi] | Submersion [mrem/pCi] | [mrem/yr/ (pCi/m3)] |
|---|---|---|---|---|---|
| PU-239 | 4.500E+03 | 3.540E-03 | 4.290E-01 | 4.952E-07 | |
| U-235 | 0.000E+00 | 2.673E-04 | 1.230E-01 | 9.019E-04 | |
| PA-231 | 0.000E+00 | 1.060E-02 | 1.280E+00 | 2.009E-04 | |
| AC-227 | 0.000E+00 | 1.480E-02 | 6.724E+00 | 2.161E-03 | |

Source: 8

Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00[m]

Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z

Pathway ::

Direct Ingestion Rate: 0.000E+00 [1/hr]

Fraction released to air: 1.000E-01

Removable fraction: 2.000E-01

Time to Remove: 9.125E+03 [day]

Radon Release Fraction: 4.000E-01

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: HPNS Adult)

| | | Ingestion [pCi/m2] | Inhalation [mrem/pCi] | Submersion [mrem/pCi] | [mrem/yr/ (pCi/m3)] |
|---|---|---|---|---|---|
| PO-210 | 4.500E+03 | 1.900E-03 | 9.400E-03 | 4.859E-08 | |
| RA-226 | 4.500E+03 | 1.321E-03 | 8.594E-03 | 1.035E-02 | |
| PB-210 | 4.500E+03 | 5.376E-03 | 1.380E-02 | 1.043E-05 | |

Source: 9

Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00[m]

Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z

Pathway ::

Direct Ingestion Rate: 0.000E+00 [1/hr]

Fraction released to air: 1.000E-01

Removable fraction: 2.000E-01

Time to Remove: 9.125E+03 [day]

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: HPNS Adult)

| | | Ingestion | Inhalation | Submersion |
|---|---|---|---|---|
| | [pCi/m2] | [mrem/pCi] | [mrem/pCi] | [mrem/yr/ (pCi/m3)] |
| SR-90 | 4.500E+04 | 1.528E-04 | 1.308E-03 | 2.307E-05 |

Source: 10

Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00[m]

Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z

Pathway ::

Direct Ingestion Rate: 0.000E+00 [1/hr]

Fraction released to air: 1.000E-01

Removable fraction: 2.000E-01

Time to Remove: 9.125E+03 [day]

Radon Release Fraction: 2.000E-02

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: HPNS Adult)

| | | Ingestion | Inhalation | Submersion |
|---|---|---|---|---|
| | [pCi/m2] | [mrem/pCi] | [mrem/pCi] | [mrem/yr/ (pCi/m3)] |
| TH-232 | 1.640E+03 | 2.730E-03 | 1.640E+00 | 1.018E-06 |
| TH-228 | 1.640E+03 | 8.086E-04 | 3.454E-01 | 9.378E-03 |
| RA-228 | 1.640E+03 | 1.442E-03 | 5.078E-03 | 5.583E-03 |

Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld
Evaluation Time: 0.00000000E+00 years

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

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

Source: 1
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00 [m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

| Contamination:: | Nuclide | Concentration [pCi/m2] |
|---|---|---|
| | AM-241 | 4.500E+03 |
| | NP-237 | 0.000E+00 |
| | U-233 | 0.000E+00 |
| | TH-229 | 0.000E+00 |

Source: 2
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00 [m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

| Contamination:: | Nuclide | Concentration [pCi/m2] |
|---|---|---|
| | CO-60 | 2.250E+05 |

Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld
Evaluation Time: 0.00000000E+00 years

Source: 3
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00 [m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination:: Nuclide Concentration
[pCi/m2]
CS-137 2.250E+05

Source: 4
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00 [m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination:: Nuclide Concentration
[pCi/m2]
GD-152 0.000E+00
EU-152 2.250E+05

Source: 5
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00 [m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination:: Nuclide Concentration
[pCi/m2]
EU-154 2.250E+05

Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld
Evaluation Time: 0.00000000E+00 years

Source: 6
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00 [m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination:: Nuclide Concentration
[pCi/m2]
H-3 2.250E+05

Source: 7
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00 [m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination:: Nuclide Concentration
[pCi/m2]
PU-239 4.500E+03
U-235 0.000E+00
PA-231 0.000E+00
AC-227 0.000E+00

Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld
Evaluation Time: 0.00000000E+00 years

Source: 8
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00 [m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination:: Nuclide Concentration
[pCi/m2]
PO-210 4.500E+03
RA-226 4.500E+03
PB-210 4.500E+03

Source: 9
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00 [m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination:: Nuclide Concentration
[pCi/m2]
SR-90 4.500E+04

Source: 10
Location:: Room : 1 x: 1.50 y: 1.50 z: 0.00 [m]
Geometry:: Type: Area Length[m]:3.05E+00 Width[m]:3.05E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 0.000E+00 [1/hr]
Fraction released to air: 1.000E-01
Removable fraction: 2.000E-01
Time to Remove: 9.125E+03 [day]

Contamination:: Nuclide Concentration
[pCi/m2]

| | |
|---|---|
| TH-232 | 1.640E+03 |
| TH-228 | 1.640E+03 |
| RA-228 | 1.640E+03 |

Title : HPNS RESRAD-BUILD Indoor Worker

Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld

Evaluation Time: 0.00000000E+00 years

```
==============================================
==============================================
===                                      ===
===      RESRAD-BUILD Dose Tables        ===
===                                      ===
==============================================
==============================================
```

Source Contributions to Receptor Doses

==========

[mrem]

| | Source 1 | Source 2 | Source 3 | Source 4 | Source 5 | Source 6 | Source 7 | Source 8 | Source 9 | Source 10 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Receptor 1 | 1.98E-01 | 1.66E+00 | 4.19E-01 | 8.32E-01 | 8.81E-01 | 3.07E-06 | 1.91E-01 | 5.70E-02 | 7.01E-03 | 3.31E-01 | 4.58E+00 |
| Total | 1.98E-01 | 1.66E+00 | 4.19E-01 | 8.32E-01 | 8.81E-01 | 3.07E-06 | 1.91E-01 | 5.70E-02 | 7.01E-03 | 3.31E-01 | 4.58E+00 |

Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld
Evaluation Time: 0.00000000E+00 years

Pathway Detail of Doses
==========
[mrem]

Source: 1

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 6.32E-04 | 2.53E-07 | 1.93E-09 | 1.96E-01 | 0.00E+00 | 1.28E-03 |
| Total | 6.32E-04 | 2.53E-07 | 1.93E-09 | 1.96E-01 | 0.00E+00 | 1.28E-03 |

Source: 2

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 1.66E+00 | 6.19E-04 | 1.31E-05 | 4.25E-03 | 0.00E+00 | 4.15E-04 |
| Total | 1.66E+00 | 6.19E-04 | 1.31E-05 | 4.25E-03 | 0.00E+00 | 4.15E-04 |

Source: 3

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 4.17E-01 | 1.65E-04 | 3.14E-06 | 6.88E-04 | 0.00E+00 | 8.62E-04 |
| Total | 4.17E-01 | 1.65E-04 | 3.14E-06 | 6.88E-04 | 0.00E+00 | 8.62E-04 |

Source: 4

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 8.27E-01 | 3.22E-04 | 6.33E-06 | 4.63E-03 | 0.00E+00 | 1.08E-04 |
| Total | 8.27E-01 | 3.22E-04 | 6.33E-06 | 4.63E-03 | 0.00E+00 | 1.08E-04 |

Source: 5

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 8.75E-01 | 3.36E-04 | 6.70E-06 | 5.84E-03 | 0.00E+00 | 1.55E-04 |
| Total | 8.75E-01 | 3.36E-04 | 6.70E-06 | 5.84E-03 | 0.00E+00 | 1.55E-04 |

Source: 6

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 0.00E+00 | 0.00E+00 | 3.69E-11 | 2.01E-06 | 0.00E+00 | 1.07E-06 |
| Total | 0.00E+00 | 0.00E+00 | 3.69E-11 | 2.01E-06 | 0.00E+00 | 1.07E-06 |

Source: 7

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 2.54E-05 | 1.02E-08 | 1.00E-11 | 1.89E-01 | 0.00E+00 | 1.25E-03 |
| Total | 2.54E-05 | 1.02E-08 | 1.00E-11 | 1.89E-01 | 0.00E+00 | 1.25E-03 |

Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld
Evaluation Time: 0.00000000E+00 years

Source: 8

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 3.16E-02 | 1.14E-05 | 2.09E-07 | 1.08E-02 | 1.22E-02 | 2.48E-03 |
| Total | 3.16E-02 | 1.14E-05 | 2.09E-07 | 1.08E-02 | 1.22E-02 | 2.48E-03 |

Source: 9

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 8.46E-04 | 3.35E-07 | 4.55E-09 | 5.64E-03 | 0.00E+00 | 5.26E-04 |
| Total | 8.46E-04 | 3.35E-07 | 4.55E-09 | 5.64E-03 | 0.00E+00 | 5.26E-04 |

Source: 10

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 1.28E-02 | 4.50E-06 | 9.74E-08 | 3.12E-01 | 6.05E-03 | 6.12E-04 |
| Total | 1.28E-02 | 4.50E-06 | 9.74E-08 | 3.12E-01 | 6.05E-03 | 6.12E-04 |

Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld
Evaluation Time: 0.00000000E+00 years

Nuclide Detail of Doses
==========
[mrem]

Source: 1

| Nuclide | Receptor 1 | Total |
|---|---|---|
| AM-241 | 1.98E-01 | 1.98E-01 |
| NP-237 | 3.94E-08 | 3.94E-08 |
| U-233 | 1.40E-14 | 1.40E-14 |
| TH-229 | 5.35E-18 | 5.35E-18 |

Source: 2

| Nuclide | Receptor 1 | Total |
|---|---|---|
| CO-60 | 1.66E+00 | 1.66E+00 |

Source: 3

| Nuclide | Receptor 1 | Total |
|---|---|---|
| CS-137 | 4.19E-01 | 4.19E-01 |

Source: 4

| Nuclide | Receptor 1 | Total |
|---|---|---|
| GD-152 | 1.69E-14 | 1.69E-14 |
| EU-152 | 8.32E-01 | 8.32E-01 |

Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld
Evaluation Time: 0.00000000E+00 years

Source: 5

| Nuclide | Receptor 1 | Total |
|---|---|---|
| EU-154 | 8.81E-01 | 8.81E-01 |

Source: 6

| Nuclide | Receptor 1 | Total |
|---|---|---|
| H-3 | 3.07E-06 | 3.07E-06 |

Source: 7

| Nuclide | Receptor 1 | Total |
|---|---|---|
| PU-239 | 1.91E-01 | 1.91E-01 |
| U-235 | 2.81E-11 | 2.81E-11 |
| PA-231 | 1.97E-15 | 1.97E-15 |
| AC-227 | 8.02E-17 | 8.02E-17 |

Source: 8

| Nuclide | Receptor 1 | Total |
|---|---|---|
| PO-210 | 7.48E-03 | 7.48E-03 |
| RA-226 | 4.16E-02 | 4.16E-02 |
| PB-210 | 1.22E-04 | 1.22E-04 |
| PB-210 | 7.85E-03 | 7.85E-03 |

Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld
Evaluation Time: 0.00000000E+00 years

Source: 9

| Nuclide | Receptor 1 | Total |
|---|---|---|
| SR-90 | 7.01E-03 | 7.01E-03 |

Source: 10

| Nuclide | Receptor 1 | Total |
|---|---|---|
| TH-232 | 2.64E-01 | 2.64E-01 |
| TH-228 | 3.94E-04 | 3.94E-04 |
| RA-228 | 3.55E-04 | 3.55E-04 |
| TH-228 | 5.12E-02 | 5.12E-02 |
| TH-228 | 9.43E-03 | 9.43E-03 |
| RA-228 | 5.79E-03 | 5.79E-03 |

Title : HPNS RESRAD-BUILD Indoor Worker
Input File : C:\Users\Craig\Desktop\HPNS BUILD IW Am to Pu_25Sep19_9pt3m2_dose.bld
Full Summary

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

Receptor Dose Received for the Exposure Duration
==========
(mrem)

| | Evaluation Time [yr] 0.00E+00 |
|---|---|
| 1 | 4.58E+00 |

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

| | Evaluation Time [yr] 0.00E+00 |
|---|---|
| 1 | 4.58E+00 |