Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child Am to Pu_25Sep19_9pt3m2_dose.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..... 9
Receptor-Source Dose Summary..... 14
Dose by Pathway Detail..... 15
Dose by Nuclide Detail..... 17
Full Summary..... 20

Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child 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 : 9.600000E-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 | 1.000 | 1.00E+01 | 2.00E-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 |

Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child Am to Pu_25Sep19_9pt3m2_dose.bld

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

Building Air Exchange Rate: 4.50E-01 1/hr

```
Height[m]       Air Exchanges [m3/hr]
Area [m2]
          ******************************
          *                            *
          *                            *
          *                            <=Q01: 1.28E+01
H1:  3.050    *        Room  1        *    Q10 :  1.28E+01
          *  LAMBDA: 4.50E-01          *
Area  9.300    *                            *
          *                            *
          ******************************
```

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

Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child 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: 9.490E+03 [day]

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

| | | Ingestion | Inhalation | Submersion |
|---|---|---|---|---|
| | [dpm/m2] | [mrem/dpm] | [mrem/dpm] | [mrem/yr/(dpm/m3)] |
| AM-241 | 9.990E+03 | 1.640E-03 | 2.000E-01 | 4.304E-05 |
| NP-237 | 0.000E+00 | 2.002E-03 | 2.432E-01 | 5.461E-04 |
| U-233 | 0.000E+00 | 1.302E-04 | 6.081E-02 | 8.576E-07 |
| TH-229 | 0.000E+00 | 1.814E-03 | 9.768E-01 | 7.842E-04 |

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: 9.490E+03 [day]

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

| | | Ingestion | Inhalation | Submersion |
|---|---|---|---|---|
| | [dpm/m2] | [mrem/dpm] | [mrem/dpm] | [mrem/yr/(dpm/m3)] |
| CO-60 | 5.000E+05 | 1.212E-05 | 9.865E-05 | 6.629E-03 |

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: 9.490E+03 [day]

Contamination::

| Nuclide | Concentration [dpm/m2] | Dose Conversion Factor (Library: HPNS Child) Ingestion [mrem/dpm] | Inhalation [mrem/dpm] | Submersion [mrem/yr/(dpm/m3)] |
|---|---|---|---|---|
| CS-137 | 5.000E+05 | 2.252E-05 | 1.437E-05 | 1.434E-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: 9.490E+03 [day]

Contamination::

| Nuclide | Concentration [dpm/m2] | Dose Conversion Factor (Library: HPNS Child) Ingestion [mrem/dpm] | Inhalation [mrem/dpm] | Submersion [mrem/yr/(dpm/m3)] |
|---|---|---|---|---|
| GD-152 | 0.000E+00 | 7.252E-05 | 1.095E-01 | 0.000E+00 |
| EU-152 | 5.000E+05 | 2.919E-06 | 9.955E-05 | 2.973E-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: 9.490E+03 [day]

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

| | | Ingestion | Inhalation | Submersion |
|---|---|---|---|---|
| | [dpm/m2] | [mrem/dpm] | [mrem/dpm] | [mrem/yr/(dpm/m3)] |
| EU-154 | 5.000E+05 | 4.302E-06 | 1.288E-04 | 3.230E-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: 9.490E+03 [day]

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

| | | Ingestion | Inhalation | Submersion |
|---|---|---|---|---|
| | [dpm/m2] | [mrem/dpm] | [mrem/dpm] | [mrem/yr/(dpm/m3)] |
| H-3 | 5.000E+05 | 2.883E-08 | 2.883E-08 | 1.741E-08 |

Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child Am to Pu_25Sep19_9pt3m2_dose.bld

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: 9.490E+03 [day]

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

| | | Ingestion [dpm/m2] | Inhalation [mrem/dpm] | Submersion [mrem/dpm] | [mrem/yr/ (dpm/m3)] |
|---|---|---|---|---|---|
| PU-239 | 9.990E+03 | 1.595E-03 | 1.932E-01 | 2.231E-07 | |
| U-235 | 0.000E+00 | 1.204E-04 | 5.541E-02 | 4.063E-04 | |
| PA-231 | 0.000E+00 | 4.775E-03 | 5.766E-01 | 9.049E-05 | |
| AC-227 | 0.000E+00 | 6.665E-03 | 3.029E+00 | 9.734E-04 | |

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: 9.490E+03 [day]

Radon Release Fraction: 4.000E-01

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

| | | Ingestion [dpm/m2] | Inhalation [mrem/dpm] | Submersion [mrem/dpm] | [mrem/yr/ (dpm/m3)] |
|---|---|---|---|---|---|
| PO-210 | 9.990E+03 | 8.559E-04 | 4.234E-03 | 2.189E-08 | |
| RA-226 | 9.990E+03 | 5.950E-04 | 3.871E-03 | 4.663E-03 | |
| PB-210 | 9.990E+03 | 2.422E-03 | 6.214E-03 | 4.698E-06 | |

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: 9.490E+03 [day]

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: HPNS Child)

| | | Ingestion [dpm/m2] | Inhalation [mrem/dpm] | Submersion [mrem/dpm] | [mrem/yr/ (dpm/m3)] |
|---|---|---|---|---|---|
| SR-90 | 9.990E+04 | 6.883E-05 | 5.894E-04 | 1.039E-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: 9.490E+03 [day]

Radon Release Fraction: 2.000E-02

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: HPNS Child)

| | | Ingestion [dpm/m2] | Inhalation [mrem/dpm] | Submersion [mrem/dpm] | [mrem/yr/ (dpm/m3)] |
|---|---|---|---|---|---|
| TH-232 | 3.640E+03 | 1.230E-03 | 7.387E-01 | 4.588E-07 | |
| TH-228 | 3.640E+03 | 3.642E-04 | 1.556E-01 | 4.224E-03 | |
| RA-228 | 3.640E+03 | 6.496E-04 | 2.287E-03 | 2.515E-03 | |

Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child 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: 9.490E+03 [day]

| Contamination:: | Nuclide | Concentration [dpm/m2] |
|---|---|---|
| | AM-241 | 9.990E+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: 9.490E+03 [day]

| Contamination:: | Nuclide | Concentration [dpm/m2] |
|---|---|---|
| | CO-60 | 5.000E+05 |

Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child 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: 9.490E+03 [day]

Contamination:: Nuclide Concentration
[dpm/m2]
CS-137 5.000E+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: 9.490E+03 [day]

Contamination:: Nuclide Concentration
[dpm/m2]
GD-152 0.000E+00
EU-152 5.000E+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: 9.490E+03 [day]

Contamination:: Nuclide Concentration
[dpm/m2]
EU-154 5.000E+05

Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child 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: 9.490E+03 [day]

Contamination:: Nuclide Concentration
[dpm/m2]
H-3 5.000E+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: 9.490E+03 [day]

Contamination:: Nuclide Concentration
[dpm/m2]
PU-239 9.990E+03
U-235 0.000E+00
PA-231 0.000E+00
AC-227 0.000E+00

Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child 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: 9.490E+03 [day]

Contamination:: Nuclide Concentration
[dpm/m2]
PO-210 9.990E+03
RA-226 9.990E+03
PB-210 9.990E+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: 9.490E+03 [day]

Contamination:: Nuclide Concentration
[dpm/m2]
SR-90 9.990E+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: 9.490E+03 [day]

Contamination:: Nuclide Concentration
[dpm/m2]

| | |
|---|---|
| TH-232 | 3.640E+03 |
| TH-228 | 3.640E+03 |
| RA-228 | 3.640E+03 |

Title : HPNS RESRAD-BUILD Child Resident Dose

Input File : C:\Users\Craig\Desktop\HPNS BUILD Child 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 | 4.84E-01 | 7.13E+00 | 1.81E+00 | 3.56E+00 | 3.77E+00 | 3.18E-05 | 4.67E-01 | 4.05E-01 | 3.02E-02 | 7.84E-01 | 1.84E+01 |
| Total | 4.84E-01 | 7.13E+00 | 1.81E+00 | 3.56E+00 | 3.77E+00 | 3.18E-05 | 4.67E-01 | 4.05E-01 | 3.02E-02 | 7.84E-01 | 1.84E+01 |

Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child 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 | 2.70E-03 | 3.46E-06 | 2.64E-08 | 4.46E-01 | 0.00E+00 | 3.51E-02 |
| Total | 2.70E-03 | 3.46E-06 | 2.64E-08 | 4.46E-01 | 0.00E+00 | 3.51E-02 |

Source: 2

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 7.10E+00 | 7.44E-03 | 1.57E-04 | 8.52E-03 | 0.00E+00 | 9.96E-03 |
| Total | 7.10E+00 | 7.44E-03 | 1.57E-04 | 8.52E-03 | 0.00E+00 | 9.96E-03 |

Source: 3

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 1.79E+00 | 2.21E-03 | 4.20E-05 | 1.53E-03 | 0.00E+00 | 2.30E-02 |
| Total | 1.79E+00 | 2.21E-03 | 4.20E-05 | 1.53E-03 | 0.00E+00 | 2.30E-02 |

Source: 4

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 3.54E+00 | 4.17E-03 | 8.20E-05 | 1.00E-02 | 0.00E+00 | 2.81E-03 |
| Total | 3.54E+00 | 4.17E-03 | 8.20E-05 | 1.00E-02 | 0.00E+00 | 2.81E-03 |

Source: 5

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 3.75E+00 | 4.24E-03 | 8.45E-05 | 1.23E-02 | 0.00E+00 | 3.92E-03 |
| Total | 3.75E+00 | 4.24E-03 | 8.45E-05 | 1.23E-02 | 0.00E+00 | 3.92E-03 |

Source: 6

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 0.00E+00 | 0.00E+00 | 4.77E-10 | 4.32E-06 | 0.00E+00 | 2.75E-05 |
| Total | 0.00E+00 | 0.00E+00 | 4.77E-10 | 4.32E-06 | 0.00E+00 | 2.75E-05 |

Source: 7

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 1.09E-04 | 1.40E-07 | 1.37E-10 | 4.33E-01 | 0.00E+00 | 3.43E-02 |
| Total | 1.09E-04 | 1.40E-07 | 1.37E-10 | 4.33E-01 | 0.00E+00 | 3.43E-02 |

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

Source: 8

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 1.35E-01 | 1.47E-04 | 2.87E-06 | 2.31E-02 | 1.82E-01 | 6.42E-02 |
| Total | 1.35E-01 | 1.47E-04 | 2.87E-06 | 2.31E-02 | 1.82E-01 | 6.42E-02 |

Source: 9

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 3.62E-03 | 4.47E-06 | 6.07E-08 | 1.26E-02 | 0.00E+00 | 1.40E-02 |
| Total | 3.62E-03 | 4.47E-06 | 6.07E-08 | 1.26E-02 | 0.00E+00 | 1.40E-02 |

Source: 10

| Receptor | External | Deposition | Immersion | Inhalation | Radon | Ingestion |
|---|---|---|---|---|---|---|
| 1 | 5.49E-02 | 4.95E-05 | 1.06E-06 | 6.84E-01 | 2.87E-02 | 1.56E-02 |
| Total | 5.49E-02 | 4.95E-05 | 1.06E-06 | 6.84E-01 | 2.87E-02 | 1.56E-02 |

Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child 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 | 4.84E-01 | 4.84E-01 |
| NP-237 | 9.77E-08 | 9.77E-08 |
| U-233 | 3.27E-14 | 3.27E-14 |
| TH-229 | 1.25E-17 | 1.25E-17 |

Source: 2

| Nuclide | Receptor 1 | Total |
|---|---|---|
| CO-60 | 7.13E+00 | 7.13E+00 |

Source: 3

| Nuclide | Receptor 1 | Total |
|---|---|---|
| CS-137 | 1.81E+00 | 1.81E+00 |

Source: 4

| Nuclide | Receptor 1 | Total |
|---|---|---|
| GD-152 | 3.89E-14 | 3.89E-14 |
| EU-152 | 3.56E+00 | 3.56E+00 |

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

Source: 5

| Nuclide | Receptor 1 | Total |
|---|---|---|
| EU-154 | 3.77E+00 | 3.77E+00 |

Source: 6

| Nuclide | Receptor 1 | Total |
|---|---|---|
| H-3 | 3.18E-05 | 3.18E-05 |

Source: 7

| Nuclide | Receptor 1 | Total |
|---|---|---|
| PU-239 | 4.67E-01 | 4.67E-01 |
| U-235 | 6.80E-11 | 6.80E-11 |
| PA-231 | 4.84E-15 | 4.84E-15 |
| AC-227 | 1.81E-16 | 1.81E-16 |

Source: 8

| Nuclide | Receptor 1 | Total |
|---|---|---|
| PO-210 | 3.01E-02 | 3.01E-02 |
| RA-226 | 3.12E-01 | 3.12E-01 |
| PB-210 | 9.69E-04 | 9.69E-04 |
| PB-210 | 6.21E-02 | 6.21E-02 |

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

Source: 9

| Nuclide | Receptor 1 | Total |
|---|---|---|
| SR-90 | 3.02E-02 | 3.02E-02 |

Source: 10

| Nuclide | Receptor 1 | Total |
|---|---|---|
| TH-232 | 6.13E-01 | 6.13E-01 |
| TH-228 | 9.23E-04 | 9.23E-04 |
| RA-228 | 1.62E-03 | 1.62E-03 |
| TH-228 | 1.20E-01 | 1.20E-01 |
| TH-228 | 2.21E-02 | 2.21E-02 |
| RA-228 | 2.64E-02 | 2.64E-02 |

Title : HPNS RESRAD-BUILD Child Resident Dose
Input File : C:\Users\Craig\Desktop\HPNS BUILD Child 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 | 1.84E+01 |

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

| | Evaluation Time [yr] 0.00E+00 |
|---|---|
| 1 | 1.85E+01 |