<table>
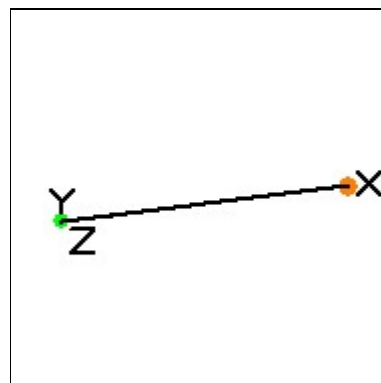<tr><td colspan="4" align="center">MicroShield 7.02
Dominion (07-MSD-7.02-1318)</td></tr>
</table>

Date	By	Checked	

Filename	Run Date	Run Time	Duration
synthConcrete.ms7	November 11, 2022	1:36:30 PM	00:00:00

Project Info

Case Title	synthetic benchmark
Description	Case 1
Geometry	1 - Point

Dose Points

A	X	Y	Z
#1	426.72 cm (14 ft 0.0 in)	0.0 cm (0.0 in)	0.0 cm (0.0 in)

Shields

Shield N	Dimension	Material	Density
Shield 1	91.44 cm	Air	0.00122
Shield 2	7.62 cm	Iron	7.874
Shield 3	22.86 cm	Air	0.00122
Shield 4	45.72 cm	Concrete	2.34
Air Gap		Air	0.00122

Source Input: Grouping Method - Standard Indices
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons < 0.015: Excluded
Library: Grove

Nuclide	Ci	Bq
Ba-137m	1.4190e-004	5.2503e+006
Co-58	2.2500e-005	8.3250e+005
Co-60	3.2400e-005	1.1988e+006
Cs-137	1.5000e-004	5.5500e+006
Mn-54	1.2500e-005	4.6250e+005
Sb-125	1.1300e-005	4.1810e+005

Buildup: The material reference is Shield 4
Integration Parameters

Results

Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm²/sec No Buildup	Fluence Rate MeV/cm²/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup
0.03	4.971e+05	1.128e-262	1.102e-28	1.118e-264	1.092e-30
0.04	9.039e+04	1.317e-120	5.314e-29	5.826e-123	2.350e-31
0.1	1.091e+03	6.545e-22	1.329e-19	1.001e-24	2.033e-22
0.15	1.049e+03	3.582e-16	9.313e-14	5.899e-19	1.534e-16

0.2	3.173e+04	1.028e-12	2.477e-10	1.814e-15	4.372e-13
0.3	1.744e+03	3.844e-12	5.977e-10	7.291e-15	1.134e-12
0.4	1.309e+05	3.133e-09	3.151e-07	6.104e-12	6.139e-10
0.5	2.919e+05	3.751e-08	2.610e-06	7.362e-11	5.124e-09
0.6	4.875e+06	2.280e-06	1.165e-04	4.450e-09	2.273e-07
0.8	1.296e+06	4.161e-06	1.309e-04	7.914e-09	2.490e-07
1.0	1.199e+06	1.569e-05	3.441e-04	2.893e-08	6.343e-07
1.5	1.203e+06	1.621e-04	1.948e-03	2.727e-07	3.277e-06
Totals	**9.619e+06**	**1.843e-04**	**2.542e-03**	**3.141e-07**	**4.393e-06**