MicroShield 7.02
Dominion (07-MSD-7.02-1318)

Date	By	Checked

Filename	Run Date	Run Time	Duration
EXAMP#6F-linear.MS7	June 19, 2022	1:39:39 PM	00:00:00

Project Info	
Case Title	Example 6f
Description	User manual case for resin liner source inference
Geometry	7 - Cylinder Volume - Side Shields

Source Dimensions	
Height	121.92 cm (4 ft)
Radius	60.96 cm (2 ft)

Dose Points			
A	X	Y	Z
#1	487.68 cm (16 ft)	60.96 cm (2 ft)	0.0 cm (0.0 in)

Shields			
Shield N	Dimension	Material	Density
Source	1.42e+06 cm³	Mixed ->	2.01
		Concrete	1.88
		Water	0.13
Shield 1	.635 cm	Iron	7.86
Shield 2	15.24 cm	Air	0.00122
Shield 3	5.08 cm	Iron	7.86
Shield 4	30.48 cm	Concrete	2.35
Transition	146.368 cm	Air	0.00122
Shield 6	30.48 cm	Concrete	2.35
Air Gap		Air	0.00122

Image filename: EXAMP#6F-linear.bmp

Source Input: Grouping Method - Linear Energy
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons < 0.015: Included
Library: Grove

Nuclide	Ci	Bq	µCi/cm³	Bq/cm³
Ba-137m	3.8137e+002	1.4111e+013	2.6794e+002	9.9136e+006
Co-58	5.2772e+001	1.9526e+012	3.7076e+001	1.3718e+006
Co-60	8.6716e+001	3.2085e+012	6.0924e+001	2.2542e+006
Cs-137	4.0314e+002	1.4916e+013	2.8323e+002	1.0480e+007
Mn-54	3.2597e+001	1.2061e+012	2.2901e+001	8.4735e+005
Sb-125	3.0106e+001	1.1139e+012	2.1152e+001	7.8261e+005
Te-125m	1.0765e+000	3.9829e+010	7.5628e-001	2.7982e+004

Buildup: The material reference is Shield 6

Integration Parameters	
Radial	16
Circumferential	16
Y Direction (axial)	16

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
0.0213	2.656e+12	0.000e+00	2.259e-22	0.000e+00	6.375e-24
0.1167	3.021e+09	1.991e-15	5.850e-13	3.095e-18	9.095e-16
0.1761	7.957e+10	4.920e-10	1.777e-07	8.431e-13	3.046e-10
0.21	7.766e+09	5.674e-10	1.952e-07	1.012e-12	3.482e-10
0.321	4.646e+09	3.618e-08	7.774e-06	6.919e-11	1.487e-08
0.3804	1.666e+10	6.554e-07	1.080e-04	1.273e-09	2.097e-07
0.4371	4.474e+11	6.229e-05	8.152e-03	1.219e-07	1.596e-05
0.511	5.830e+11	3.193e-04	3.190e-02	6.266e-07	6.261e-05
0.6006	1.980e+11	4.235e-04	3.178e-02	8.266e-07	6.203e-05
0.6612	1.288e+13	6.072e-02	3.844e+00	1.177e-04	7.453e-03
0.672	2.071e+10	1.114e-04	6.857e-03	2.158e-07	1.328e-05
0.8202	3.162e+12	8.314e-02	3.609e+00	1.577e-04	6.845e-03
1.1732	3.209e+12	1.244e+00	2.960e+01	2.223e-03	5.290e-02
1.3325	3.209e+12	3.055e+00	5.958e+01	5.300e-03	1.034e-01
1.6747	1.048e+10	4.517e-02	6.373e-01	7.370e-05	1.040e-03
Totals	**2.648e+13**	**4.488e+00**	**9.735e+01**	**7.873e-03**	**1.718e-01**