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

Date	By	Checked

Filename	Run Date	Run Time	Duration
EXAMP#6F.MS7	August 11, 2020	5:00:47 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

Source Input: Grouping Method - Standard Indices
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
0.03	1.377e+12	3.601e-226	2.343e-22	3.568e-228	2.322e-24
0.04	2.451e+11	1.221e-103	1.106e-22	5.401e-106	4.892e-25
0.1	3.021e+09	4.772e-18	1.084e-15	7.301e-21	1.658e-18
0.15	2.796e+09	1.057e-12	3.686e-10	1.740e-15	6.070e-13
0.2	8.455e+10	3.266e-09	1.151e-06	5.764e-12	2.032e-09
0.3	4.646e+09	1.844e-08	4.369e-06	3.497e-11	8.287e-09
0.4	3.488e+11	2.178e-05	3.306e-03	4.244e-08	6.441e-06
0.5	6.984e+11	3.171e-04	3.291e-02	6.224e-07	6.460e-05
0.6	1.310e+13	2.780e-02	2.090e+00	5.426e-05	4.079e-03
0.8	3.162e+12	6.842e-02	3.102e+00	1.301e-04	5.899e-03
1.0	3.209e+12	3.841e-01	1.189e+01	7.081e-04	2.192e-02
1.5	3.219e+12	6.818e+00	1.118e+02	1.147e-02	1.881e-01
Totals	**2.545e+13**	**7.299e+00**	**1.289e+02**	**1.237e-02**	**2.200e-01**