











zr 93	2.49E+02	2.49E+02	2.49E+02	2.49E+02	2.49E+02	2.49E+02	2.49E+02	2.49E+02	2.49E+02	2.49E+02	2.49E+02	2.49E+02
nb 93	5.68E-01	5.69E-01	5.69E-01	5.70E-01	5.72E-01	5.78E-01	5.84E-01	5.89E-01	5.95E-01	6.01E-01	6.12E-01	6.12E-01
nb 93m	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03
br 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel fission products page 51

	nuclide concentrations, grams											
	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr	
sr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 94	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02
nb 94	1.46E-04	1.46E-04	1.46E-04	1.46E-04	1.46E-04	1.46E-04	1.45E-04	1.45E-04	1.45E-04	1.45E-04	1.44E-04	1.44E-04
nb 94m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 95	6.58E-20	1.70E-28	4.38E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95	7.91E-20	2.04E-28	5.85E-39	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95m	4.36E-23	1.13E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 95	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02
br 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 96	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02
nb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 96	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01
kr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 97	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02
kr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 98	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02
tc 98	8.28E-05	8.28E-05	8.28E-05	8.28E-05	8.28E-05	8.28E-05	8.28E-05	8.28E-05	8.28E-05	8.28E-05	8.28E-05	8.28E-05
rb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc 99	3.87E+02	3.87E+02	3.87E+02	3.87E+02	3.87E+02	3.87E+02	3.87E+02	3.87E+02	3.87E+02	3.87E+02	3.87E+02	3.86E+02
tc 99m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru 99	6.42E+00	6.43E+00	6.44E+00	6.45E+00	6.47E+00	6.54E+00	6.60E+00	6.67E+00	6.73E+00	6.79E+00	6.92E+00	6.92E+00



















i145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd145	3.64E+02	3.64E+02	3.64E+02	3.64E+02	3.64E+02	3.64E+02	3.64E+02	3.64E+02	3.64E+02	3.64E+02	3.64E+02	3.64E+02
pm145	4.58E-10	3.77E-10	3.10E-10	2.09E-10	9.57E-11	1.35E-11	1.91E-12	2.69E-13	3.79E-14	5.36E-15	1.07E-16	
sm145	1.78E-14	4.29E-16	1.04E-17	6.06E-21	2.06E-27	2.03E-43	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd146	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02
pm146	8.35E-11	4.46E-11	2.38E-11	6.80E-12	5.54E-13	1.05E-15	1.99E-18	3.78E-21	7.16E-24	1.36E-26	4.88E-32	
sm146	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04
xe147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm147	5.86E-03	1.56E-03	4.17E-04	2.97E-05	1.51E-07	2.75E-13	5.04E-19	9.22E-25	1.69E-30	3.08E-36	.00E+00	
sm147	2.14E+02	2.14E+02	2.14E+02	2.14E+02	2.14E+02	2.14E+02	2.14E+02	2.14E+02	2.14E+02	2.14E+02	2.14E+02	2.14E+02
cs148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd148	1.63E+02	1.63E+02	1.63E+02	1.63E+02	1.63E+02	1.63E+02	1.63E+02	1.63E+02	1.63E+02	1.63E+02	1.63E+02	1.63E+02
pm148	6.38E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	1.03E-34	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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	Part B 8% UO2 in Tuff (47% H2O) DBF Fuel												fission products				page 61
	nuclide concentrations, grams basis =per critical mass 10.1 MT UO2												200.0 yr	250.0 yr	300.0 yr	400.0 yr	
	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr		
sm148	2.58E+00	2.58E+00	2.58E+00	2.58E+00	2.58E+00	2.58E+00	2.58E+00	2.58E+00	2.58E+00	2.58E+00	2.58E+00	2.58E+00	2.58E+00	2.58E+00	2.58E+00		
cs149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
ba149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
la149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
ce149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
pr149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
nd149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
pm149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
sm149	8.02E+00	8.02E+00	8.02E+00	8.02E+00	8.02E+00	8.02E+00	8.02E+00	8.02E+00	8.02E+00	8.02E+00	8.02E+00	8.02E+00	8.02E+00	8.02E+00	8.02E+00		
eu149	2.51E-25	3.10E-31	3.82E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
cs150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
ba150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
la150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
ce150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
pr150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
nd150	6.73E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01	6.73E+01		
pm150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00		
sm150	9.83E+01	9.83E+01	9.83E+01	9.83E+01	9.83E+01	9.83E+01	9.83E+01	9.83E+01	9.83E+01	9.83E+01	9.83E+01	9.83E+01	9.83E+01	9.83E+01	9.83E+01		
eu150	2.32E-08	2.11E-08	1.91E-08	1.58E-08	1.07E-08	4.07E-09	1.55E-09	5.87E-10	2.23E-10	8.47E-11	1.22E-11						























ag110 3.85E-09 2.42E-11 1.52E-13 6.03E-18 9.45E-27 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00  
 ag110m 2.83E-07 1.78E-09 1.12E-11 4.43E-16 6.95E-25 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00 .00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide radioactivity, curies  
 basis =per critical mass 10.1 MT UO2

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
cd110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb111	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo111	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc111	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru111	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh111	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd111	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd111m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag111	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag111m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd111	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd111m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb112	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo112	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc112	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru112	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh112	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd112	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag112	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd112	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo113	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc113	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru113	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh113	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd113	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag113	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag113m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd113	7.43E-14	7.43E-14	7.43E-14	7.43E-14	7.43E-14	7.43E-14	7.43E-14	7.43E-14	7.43E-14	7.43E-14	7.43E-14
cd113m	7.68E-03	6.01E-03	4.70E-03	2.87E-03	1.08E-03	9.21E-05	7.88E-06	6.75E-07	5.78E-08	4.95E-09	3.62E-11
in113	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in113m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114	1.36E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114m	1.42E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag115m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd115m	4.52E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in115	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12	6.60E-12
in115m	5.02E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
pd121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121	3.21E-03	3.01E-03	2.83E-03	2.49E-03	1.94E-03	1.03E-03	5.50E-04	2.93E-04	1.56E-04	8.30E-05	2.36E-05
sn121m	4.13E-03	3.88E-03	3.65E-03	3.21E-03	2.50E-03	1.33E-03	7.08E-04	3.77E-04	2.01E-04	1.07E-04	3.03E-05
sb121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123	1.93E-10	1.07E-14	5.93E-19	1.82E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te123	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17
te123m	8.92E-17	2.27E-21	5.78E-26	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb124	7.27E-22	5.25E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb124m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb125	1.03E-01	2.90E-02	8.14E-03	6.42E-04	4.00E-06	1.22E-11	3.75E-17	1.15E-22	3.52E-28	.00E+00	.00E+00
te125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te125m	2.52E-02	7.07E-03	1.99E-03	1.57E-04	9.77E-07	2.99E-12	9.16E-18	2.80E-23	8.59E-29	.00E+00	.00E+00
pd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn126	1.24E-01	1.24E-01	1.24E-01	1.24E-01	1.24E-01	1.24E-01	1.24E-01	1.24E-01	1.23E-01	1.23E-01	1.23E-01

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	Part B 8% UO2 in Tuff (47% H2O) DBF Fuel											fission products				page 74
	nuclide radioactivity, curies															
	basis =per critical mass 10.1 MT UO2															
	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr					
sb126	1.73E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02					
sb126m	1.24E-01	1.24E-01	1.24E-01	1.24E-01	1.24E-01	1.24E-01	1.24E-01	1.24E-01	1.23E-01	1.23E-01	1.23E-01					















eu165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho166m	1.13E-06	1.13E-06	1.13E-06	1.12E-06	1.11E-06	1.07E-06	1.04E-06	1.01E-06	9.86E-07	9.58E-07	9.04E-07	.00E+00
er166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er167	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm170	2.52E-18	1.34E-22	7.08E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm170m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm171	5.56E-09	9.14E-10	1.50E-10	4.07E-12	2.98E-15	4.32E-23	6.16E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
total	6.52E+02	5.76E+02	5.12E+02	4.06E+02	2.58E+02	8.85E+01	3.59E+01	1.90E+01	1.33E+01	1.11E+01	9.65E+00	.00E+00

1 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel actinides page 81

	nuclide concentrations, grams											
	basis =per critical mass 10.1 MT UO2											
	initial	500.0 yr	1000.0 yr	2000.0 yr	4000.0 yr	6000.0 yr	8000.0 yr	10000.0 yr	12000.0 yr	14000.0 yr	16000.0 yr	
he 4	3.82E+01	3.87E+01	4.13E+01	4.62E+01	5.56E+01	6.44E+01	7.27E+01	8.05E+01	8.79E+01	9.49E+01	1.02E+02	
tl206	6.06E-15	6.13E-15	6.54E-15	7.30E-15	8.81E-15	1.03E-14	1.18E-14	1.32E-14	1.46E-14	1.60E-14	1.73E-14	
tl207	4.31E-10	4.34E-10	4.49E-10	4.77E-10	5.31E-10	5.83E-10	6.33E-10	6.81E-10	7.28E-10	7.72E-10	8.15E-10	
tl208	2.92E-13	1.10E-13	3.20E-15	2.62E-15	2.95E-15	3.29E-15	3.62E-15	3.95E-15	4.28E-15	4.62E-15	4.95E-15	
tl209	5.34E-12	5.42E-12	5.87E-12	6.79E-12	8.78E-12	1.09E-11	1.32E-11	1.55E-11	1.80E-11	2.04E-11	2.30E-11	
pb206	1.73E+00	1.77E+00	1.98E+00	2.44E+00	3.50E+00	4.77E+00	6.23E+00	7.88E+00	9.72E+00	1.17E+01	1.39E+01	
pb207	1.73E-01	1.76E-01	1.93E-01	2.28E-01	3.05E-01	3.91E-01	4.84E-01	5.85E-01	6.93E-01	8.07E-01	9.29E-01	
pb208	2.55E-02	2.55E-02	2.55E-02	2.55E-02	2.55E-02	2.55E-02	2.55E-02	2.55E-02	2.55E-02	2.55E-02	2.55E-02	
pb209	2.25E-08	2.29E-08	2.48E-08	2.87E-08	3.71E-08	4.61E-08	5.56E-08	6.56E-08	7.58E-08	8.64E-08	9.71E-08	
pb210	1.31E-02	1.32E-02	1.41E-02	1.57E-02	1.90E-02	2.22E-02	2.54E-02	2.85E-02	3.15E-02	3.45E-02	3.74E-02	
pb211	3.34E-09	3.36E-09	3.48E-09	3.69E-09	4.11E-09	4.51E-09	4.90E-09	5.27E-09	5.63E-09	5.97E-09	6.30E-09	
pb212	1.73E-10	6.50E-11	1.90E-12	1.55E-12	1.75E-12	1.95E-12	2.15E-12	2.34E-12	2.54E-12	2.74E-12	2.94E-12	
pb214	3.06E-08	3.09E-08	3.28E-08	3.67E-08	4.43E-08	5.18E-08	5.91E-08	6.63E-08	7.34E-08	8.03E-08	8.70E-08	
bi208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bi209	1.59E-01	1.63E-01	1.85E-01	2.35E-01	3.58E-01	5.13E-01	7.03E-01	9.29E-01	1.19E+00	1.50E+00	1.84E+00	
bi210m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bi210	8.04E-06	8.14E-06	8.68E-06	9.69E-06	1.17E-05	1.37E-05	1.56E-05	1.75E-05	1.94E-05	2.12E-05	2.30E-05	
bi211	1.98E-10	1.99E-10	2.06E-10	2.19E-10	2.44E-10	2.67E-10	2.90E-10	3.12E-10	3.34E-10	3.54E-10	3.74E-10	
bi212	1.64E-11	6.17E-12	1.80E-13	1.47E-13	1.66E-13	1.85E-13	2.03E-13	2.22E-13	2.41E-13	2.60E-13	2.78E-13	
bi213	5.37E-09	5.45E-09	5.90E-09	6.83E-09	8.83E-09	1.10E-08	1.32E-08	1.56E-08	1.81E-08	2.06E-08	2.31E-08	
bi214	2.27E-08	2.30E-08	2.44E-08	2.72E-08	3.29E-08	3.84E-08	4.39E-08	4.93E-08	5.45E-08	5.96E-08	6.46E-08	
po210	2.22E-04	2.25E-04	2.40E-04	2.67E-04	3.23E-04	3.78E-04	4.32E-04	4.84E-04	5.36E-04	5.86E-04	6.35E-04	
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
po211	2.19E-15	2.20E-15	2.28E-15	2.42E-15	2.69E-15	2.95E-15	3.21E-15	3.45E-15	3.69E-15	3.91E-15	4.13E-15	
po212	8.63E-22	3.24E-22	9.46E-24	7.75E-24	8.73E-24	9.71E-24	1.07E-23	1.17E-23	1.27E-23	1.36E-23	1.46E-23	
po213	8.07E-18	8.20E-18	8.87E-18	1.03E-17	1.33E-17	1.65E-17	1.99E-17	2.35E-17	2.71E-17	3.09E-17	3.47E-17	
po214	3.12E-15	3.16E-15	3.35E-15	3.74E-15	4.52E-15	5.29E-15	6.04E-15	6.78E-15	7.50E-15	8.20E-15	8.89E-15	



pu236	1.02E-09	1.02E-09	1.01E-09	1.01E-09	9.96E-10	9.84E-10	9.72E-10	9.60E-10	9.49E-10	9.38E-10	9.26E-10
pu237	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu238	2.30E-01	1.04E-01	2.02E-03	7.94E-07	6.73E-12	3.57E-16	1.92E-20	1.03E-24	5.53E-29	2.97E-33	1.59E-37
pu239	8.93E+03	8.91E+03	8.78E+03	8.53E+03	8.05E+03	7.60E+03	7.18E+03	6.78E+03	6.40E+03	6.04E+03	5.70E+03
pu240	3.07E+02	3.04E+02	2.89E+02	2.60E+02	2.10E+02	1.70E+02	1.38E+02	1.12E+02	9.03E+01	7.31E+01	5.92E+01
pu241	5.34E-10	4.39E-12	1.28E-13	1.18E-13	1.00E-13	8.50E-14	7.22E-14	6.13E-14	5.21E-14	4.43E-14	3.76E-14
pu242	3.84E-02	3.84E-02	3.84E-02	3.83E-02	3.82E-02	3.81E-02	3.79E-02	3.78E-02	3.76E-02	3.75E-02	3.74E-02
pu243	4.55E-27	4.55E-27	4.55E-27	4.55E-27	4.55E-27	4.55E-27	4.55E-27	4.55E-27	4.55E-27	4.55E-27	4.55E-27
pu244	6.72E-22	7.13E-22	9.21E-22	1.34E-21	2.16E-21	2.99E-21	3.81E-21	4.63E-21	5.44E-21	6.25E-21	7.06E-21
pu245	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu246	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am240	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am241	1.93E+00	1.65E+00	7.39E-01	1.49E-01	6.04E-03	2.45E-04	9.93E-06	4.03E-07	1.63E-08	6.63E-10	2.80E-11
am242m	2.40E-04	1.47E-04	1.25E-05	9.20E-08	4.94E-12	2.65E-16	1.43E-20	7.66E-25	4.11E-29	2.21E-33	1.19E-37
am242	3.09E-09	1.89E-09	1.62E-10	1.19E-12	6.37E-17	3.42E-21	1.84E-25	9.88E-30	5.31E-34	2.82E-38	.00E+00
am243	3.33E-04	3.30E-04	3.15E-04	2.87E-04	2.38E-04	1.97E-04	1.63E-04	1.35E-04	1.12E-04	9.27E-05	7.68E-05
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am245	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am246	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel actinides page 83

	nuclide concentrations, grams											
	basis =per critical mass 10.1 MT UO2											
	initial	500.0 yr	1000.0 yr	2000.0 yr	4000.0 yr	6000.0 yr	8000.0 yr	10000.0 yr	12000.0 yr	14000.0 yr	16000.0 yr	
cm242	6.24E-07	3.82E-07	3.27E-08	2.40E-10	1.29E-14	6.93E-19	3.72E-23	2.00E-27	1.07E-31	5.77E-36	3.10E-40	
cm243	1.36E-18	1.19E-19	6.23E-25	1.70E-35	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cm244	9.21E-15	2.00E-16	9.65E-25	2.26E-41	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cm245	8.07E-11	8.00E-11	7.68E-11	7.08E-11	6.01E-11	5.11E-11	4.34E-11	3.69E-11	3.13E-11	2.66E-11	2.26E-11	
cm246	6.94E-13	6.84E-13	6.35E-13	5.49E-13	4.09E-13	3.05E-13	2.28E-13	1.70E-13	1.27E-13	9.46E-14	7.05E-14	
cm247	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	
cm248	2.26E-19	2.26E-19	2.26E-19	2.25E-19	2.24E-19	2.23E-19	2.23E-19	2.22E-19	2.21E-19	2.20E-19	2.19E-19	
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cm250	3.31E-34	3.30E-34	3.23E-34	3.10E-34	2.87E-34	2.65E-34	2.44E-34	2.26E-34	2.08E-34	1.92E-34	1.78E-34	
cm251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bk249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bk250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bk251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf249	6.67E-24	5.48E-24	2.04E-24	2.82E-25	5.39E-27	1.03E-28	1.98E-30	3.78E-32	7.24E-34	1.39E-35	2.65E-37	
cf250	1.19E-36	4.05E-38	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf251	2.87E-29	2.66E-29	1.81E-29	8.35E-30	1.78E-30	3.81E-31	8.13E-32	1.74E-32	3.71E-33	7.92E-34	1.69E-34	
cf252	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf253	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf254	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf255	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es253	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es254m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es254	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es255	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
s250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
total	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel actinides page 84

	nuclide radioactivity, curies											
	basis =per critical mass 10.1 MT UO2											
	initial	500.0 yr	1000.0 yr	2000.0 yr	4000.0 yr	6000.0 yr	8000.0 yr	10000.0 yr	12000.0 yr	14000.0 yr	16000.0 yr	
he 4	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tl206	1.32E-06	1.33E-06	1.42E-06	1.59E-06	1.92E-06	2.24E-06	2.56E-06	2.87E-06	3.18E-06	3.47E-06	3.77E-06	















zr 93	2.49E+02	2.49E+02	2.49E+02	2.48E+02	2.48E+02	2.48E+02	2.48E+02	2.48E+02	2.47E+02	2.47E+02	2.47E+02
nb 93	6.12E-01	6.23E-01	6.80E-01	7.92E-01	1.02E+00	1.24E+00	1.47E+00	1.69E+00	1.92E+00	2.14E+00	2.36E+00
nb 93m	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.61E-03	2.61E-03	2.61E-03	2.60E-03
br 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel fission products page 91

	initial	500.0 yr	1000.0 yr	2000.0 yr	4000.0 yr	6000.0 yr	8000.0 yr	10000.0 yr	12000.0 yr	14000.0 yr	16000.0 yr
nuclide concentrations, grams basis =per critical mass 10.1 MT UO2											
sr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 94	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02
nb 94	1.44E-04	1.44E-04	1.41E-04	1.36E-04	1.27E-04	1.19E-04	1.11E-04	1.04E-04	9.70E-05	9.06E-05	8.46E-05
nb 94m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 95	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02
br 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 96	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02
nb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 96	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01
kr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 97	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02
kr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 98	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02
tc 98	8.28E-05	8.28E-05	8.28E-05	8.28E-05	8.28E-05	8.27E-05	8.27E-05	8.27E-05	8.27E-05	8.26E-05	8.26E-05
rb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc 99	3.86E+02	3.86E+02	3.86E+02	3.84E+02	3.82E+02	3.79E+02	3.77E+02	3.74E+02	3.72E+02	3.70E+02	3.67E+02
tc 99m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru 99	6.92E+00	7.05E+00	7.68E+00	8.94E+00	1.15E+01	1.40E+01	1.64E+01	1.89E+01	2.14E+01	2.38E+01	2.62E+01



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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel												fission products		page 93
	nuclide concentrations, grams													
	basis =per critical mass 10.1 MT UO2													
	initial	500.0 yr	1000.0 yr	2000.0 yr	4000.0 yr	6000.0 yr	8000.0 yr	10000.0 yr	12000.0 yr	14000.0 yr	16000.0 yr			
y106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
mo106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tc106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh106m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd106	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	
ag106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
mo107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tc107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd107	2.54E+01	2.54E+01	2.54E+01	2.54E+01	2.54E+01	2.54E+01	2.54E+01	2.54E+01	2.54E+01	2.54E+01	2.53E+01	2.53E+01	2.53E+01	
pd107m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag107	1.25E-02	1.28E-02	1.42E-02	1.69E-02	2.23E-02	2.77E-02	3.31E-02	3.85E-02	4.39E-02	4.93E-02	5.47E-02	5.47E-02	5.47E-02	
zr108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
mo108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tc108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh108m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd108	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	
ag108	4.42E-18	2.56E-18	1.67E-19	7.13E-22	1.29E-26	2.35E-31	4.27E-36	6.20E-41	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag108m	1.43E-09	8.30E-10	5.42E-11	2.31E-13	4.19E-18	7.62E-23	1.38E-27	2.51E-32	4.56E-37	8.32E-42	.00E+00	.00E+00	.00E+00	
cd108	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	
zr109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
mo109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tc109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag109	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	
ag109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
mo110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tc110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh110m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd110	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	
ag110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag110m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	

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in121m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121	2.46E-11	6.98E-12	1.28E-14	4.31E-20	4.89E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121m	5.65E-07	1.60E-07	2.94E-10	9.90E-16	1.12E-26	1.27E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb121	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn122	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00
sb122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te122	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03
rh123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb123	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00
te123	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07
te123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn124	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00
sb124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb124m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te124	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03
pd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te125	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00
te125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn126	4.35E+00	4.34E+00	4.33E+00	4.30E+00	4.24E+00	4.18E+00	4.12E+00	4.07E+00	4.01E+00	3.95E+00	3.90E+00	

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel													fission products				page 97
nuclide concentrations, grams																	
basis =per critical mass 10.1 MT UO2																	
	initial	500.0 yr	1000.0 yr	2000.0 yr	4000.0 yr	6000.0 yr	8000.0 yr	10000.0 yr	12000.0 yr	14000.0 yr	16000.0 yr						
sb126	2.06E-07	2.06E-07	2.06E-07	2.04E-07	2.01E-07	1.99E-07	1.96E-07	1.93E-07	1.91E-07	1.88E-07	1.85E-07						
sb126m	1.57E-09	1.57E-09	1.56E-09	1.55E-09	1.53E-09	1.51E-09	1.49E-09	1.47E-09	1.45E-09	1.43E-09	1.41E-09						
te126	1.94E-01	1.97E-01	2.12E-01	2.42E-01	3.01E-01	3.60E-01	4.17E-01	4.74E-01	5.30E-01	5.85E-01	6.39E-01						
xe126	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10						
ag127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00						
cd127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00						
in127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00						



































	initial	500.0 yr	1000.0 yr	2000.0 yr	4000.0 yr	6000.0 yr	8000.0 yr	10000.0 yr	12000.0 yr	14000.0 yr	16000.0 yr
pd121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121	2.36E-05	6.68E-06	1.23E-08	4.13E-14	4.68E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121m	3.03E-05	8.61E-06	1.58E-08	5.32E-14	6.03E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te123	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17
te123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb124m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn126	1.23E-01	1.23E-01	1.23E-01	1.22E-01	1.20E-01	1.19E-01	1.17E-01	1.15E-01	1.14E-01	1.12E-01	1.11E-01

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Part B 8X UO2 in Tuff (47X H2O) DBF Fuel

fission products

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	initial	500.0 yr	1000.0 yr	2000.0 yr	4000.0 yr	6000.0 yr	8000.0 yr	10000.0 yr	12000.0 yr	14000.0 yr	16000.0 yr
	nuclide radioactivity, curies basis = per critical mass 10.1 MT UO2										
sb126	1.73E-02	1.73E-02	1.72E-02	1.71E-02	1.68E-02	1.66E-02	1.64E-02	1.62E-02	1.59E-02	1.57E-02	1.55E-02
sb126m	1.23E-01	1.23E-01	1.23E-01	1.22E-01	1.20E-01	1.19E-01	1.17E-01	1.15E-01	1.14E-01	1.12E-01	1.11E-01















eu165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho166m	9.04E-07	8.53E-07	6.39E-07	3.59E-07	1.13E-07	3.56E-08	1.12E-08	3.53E-09	1.11E-09	3.50E-10	1.10E-10	
er166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er167	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm170m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
total	9.65E+00	9.20E+00	8.85E+00	8.81E+00	8.77E+00	8.72E+00	8.67E+00	8.62E+00	8.58E+00	8.53E+00	8.48E+00	

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

actinides

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	nuclide concentrations, grams											
	basis =per critical mass 10.1 MT UO2											
	initial	18000.0 yr	20000.0 yr	22000.0 yr	24000.0 yr	26000.0 yr	28000.0 yr	30000.0 yr	32000.0 yr	36000.0 yr	38000.0 yr	yr
he 4	1.02E+02	1.08E+02	1.14E+02	1.20E+02	1.25E+02	1.30E+02	1.35E+02	1.40E+02	1.44E+02	1.53E+02	1.57E+02	
tl206	1.73E-14	1.86E-14	1.99E-14	2.11E-14	2.24E-14	2.35E-14	2.47E-14	2.58E-14	2.69E-14	2.91E-14	3.01E-14	
tl207	8.15E-10	8.56E-10	8.96E-10	9.34E-10	9.71E-10	1.01E-09	1.04E-09	1.07E-09	1.10E-09	1.16E-09	1.19E-09	
tl208	4.95E-15	5.29E-15	5.62E-15	5.95E-15	6.29E-15	6.62E-15	6.96E-15	7.29E-15	7.62E-15	8.29E-15	8.63E-15	
tl209	2.30E-11	2.56E-11	2.82E-11	3.08E-11	3.34E-11	3.60E-11	3.87E-11	4.13E-11	4.39E-11	4.91E-11	5.17E-11	
pb206	1.39E+01	1.63E+01	1.89E+01	2.16E+01	2.45E+01	2.75E+01	3.07E+01	3.40E+01	3.75E+01	4.49E+01	4.88E+01	
pb207	9.29E-01	1.06E+00	1.19E+00	1.33E+00	1.48E+00	1.63E+00	1.79E+00	1.95E+00	2.11E+00	2.46E+00	2.64E+00	
pb208	2.55E-02	2.55E-02	2.55E-02	2.55E-02	2.55E-02	2.55E-02	2.55E-02	2.56E-02	2.56E-02	2.56E-02	2.56E-02	
pb209	9.71E-08	1.08E-07	1.19E-07	1.30E-07	1.41E-07	1.52E-07	1.63E-07	1.74E-07	1.85E-07	2.07E-07	2.18E-07	
pb210	3.74E-02	4.02E-02	4.29E-02	4.56E-02	4.82E-02	5.08E-02	5.33E-02	5.57E-02	5.81E-02	6.27E-02	6.49E-02	
pb211	6.30E-09	6.62E-09	6.93E-09	7.22E-09	7.51E-09	7.78E-09	8.04E-09	8.30E-09	8.54E-09	9.00E-09	9.21E-09	
pb212	2.94E-12	3.13E-12	3.33E-12	3.53E-12	3.73E-12	3.93E-12	4.12E-12	4.32E-12	4.52E-12	4.92E-12	5.12E-12	
pb214	8.70E-08	9.36E-08	1.00E-07	1.06E-07	1.12E-07	1.18E-07	1.24E-07	1.30E-07	1.35E-07	1.46E-07	1.51E-07	
bi208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bi209	1.84E+00	2.22E+00	2.65E+00	3.11E+00	3.62E+00	4.17E+00	4.75E+00	5.39E+00	6.06E+00	7.53E+00	8.32E+00	
bi210m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bi210	2.30E-05	2.47E-05	2.64E-05	2.81E-05	2.97E-05	3.13E-05	3.28E-05	3.43E-05	3.57E-05	3.86E-05	3.99E-05	
bi211	3.74E-10	3.93E-10	4.11E-10	4.28E-10	4.45E-10	4.61E-10	4.77E-10	4.92E-10	5.06E-10	5.33E-10	5.46E-10	
bi212	2.78E-13	2.97E-13	3.16E-13	3.35E-13	3.54E-13	3.72E-13	3.91E-13	4.10E-13	4.29E-13	4.66E-13	4.85E-13	
bi213	2.31E-08	2.57E-08	2.83E-08	3.09E-08	3.36E-08	3.62E-08	3.89E-08	4.15E-08	4.41E-08	4.94E-08	5.20E-08	
bi214	6.46E-08	6.95E-08	7.42E-08	7.89E-08	8.34E-08	8.78E-08	9.21E-08	9.63E-08	1.00E-07	1.08E-07	1.12E-07	
po210	6.35E-04	6.83E-04	7.29E-04	7.75E-04	8.20E-04	8.63E-04	9.05E-04	9.47E-04	9.87E-04	1.06E-03	1.10E-03	
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
po211	4.13E-15	4.34E-15	4.54E-15	4.73E-15	4.92E-15	5.10E-15	5.27E-15	5.44E-15	5.59E-15	5.89E-15	6.04E-15	
po212	1.46E-23	1.56E-23	1.66E-23	1.76E-23	1.86E-23	1.96E-23	2.06E-23	2.15E-23	2.25E-23	2.45E-23	2.55E-23	
po213	3.47E-17	3.86E-17	4.26E-17	4.65E-17	5.05E-17	5.45E-17	5.84E-17	6.24E-17	6.64E-17	7.42E-17	7.81E-17	
po214	8.89E-15	9.56E-15	1.02E-14	1.08E-14	1.15E-14	1.21E-14	1.27E-14	1.33E-14	1.38E-14	1.49E-14	1.54E-14	





pu236	9.26E-10	9.15E-10	9.04E-10	8.93E-10	8.83E-10	8.72E-10	8.62E-10	8.51E-10	8.41E-10	8.21E-10	8.11E-10
pu237	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu238	1.59E-37	8.34E-42	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu239	5.70E+03	5.38E+03	5.08E+03	4.80E+03	4.53E+03	4.28E+03	4.04E+03	3.81E+03	3.60E+03	3.21E+03	3.03E+03
pu240	5.92E+01	4.79E+01	3.88E+01	3.14E+01	2.54E+01	2.06E+01	1.67E+01	1.35E+01	1.09E+01	7.16E+00	5.79E+00
pu241	3.76E-14	3.19E-14	2.71E-14	2.30E-14	1.96E-14	1.66E-14	1.41E-14	1.20E-14	1.02E-14	7.36E-15	6.25E-15
pu242	3.74E-02	3.72E-02	3.71E-02	3.69E-02	3.68E-02	3.67E-02	3.65E-02	3.64E-02	3.63E-02	3.60E-02	3.59E-02
pu243	4.55E-27	4.54E-27	4.54E-27	4.54E-27	4.54E-27	4.54E-27	4.54E-27	4.54E-27	4.54E-27	4.54E-27	4.54E-27
pu244	7.06E-21	7.86E-21	8.66E-21	9.46E-21	1.03E-20	1.10E-20	1.18E-20	1.26E-20	1.34E-20	1.50E-20	1.57E-20
pu245	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu246	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am240	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am241	2.80E-11	2.09E-12	8.97E-13	7.27E-13	6.16E-13	5.23E-13	4.44E-13	3.77E-13	3.21E-13	2.32E-13	1.97E-13
am242m	1.19E-37	6.44E-42	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am242	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am243	7.68E-05	6.37E-05	5.27E-05	4.37E-05	3.62E-05	3.00E-05	2.49E-05	2.06E-05	1.71E-05	1.17E-05	9.70E-06
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am245	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am246	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

actinides page 123

	nuclide concentrations, grams											
	basis =per critical mass 10.1 MT UO2											
	initial	18000.0 yr	20000.0 yr	22000.0 yr	24000.0 yr	26000.0 yr	28000.0 yr	30000.0 yr	32000.0 yr	36000.0 yr	38000.0 yr	
cm242	3.10E-40	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cm243	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cm244	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cm245	2.26E-11	1.92E-11	1.63E-11	1.39E-11	1.18E-11	1.00E-11	8.49E-12	7.21E-12	6.13E-12	4.42E-12	3.76E-12	
cm246	7.05E-14	5.26E-14	3.93E-14	2.93E-14	2.18E-14	1.63E-14	1.22E-14	9.07E-15	6.77E-15	3.77E-15	2.81E-15	
cm247	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	
cm248	2.19E-19	2.18E-19	2.17E-19	2.16E-19	2.15E-19	2.15E-19	2.14E-19	2.13E-19	2.12E-19	2.10E-19	2.09E-19	
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cm250	1.78E-34	1.64E-34	1.52E-34	1.40E-34	1.29E-34	1.19E-34	1.10E-34	1.02E-34	9.40E-35	8.01E-35	7.40E-35	
cm251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bk249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bk250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bk251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf249	2.65E-37	5.08E-39	9.73E-41	1.74E-42	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf251	1.69E-34	3.61E-35	7.72E-36	1.65E-36	3.52E-37	7.52E-38	1.61E-38	3.43E-39	7.32E-40	3.34E-41	7.03E-42	
cf252	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf253	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf254	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf255	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es253	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es254m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es254	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es255	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
s250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
total	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

actinides page 124

	nuclide radioactivity, curies											
	basis =per critical mass 10.1 MT UO2											
	initial	18000.0 yr	20000.0 yr	22000.0 yr	24000.0 yr	26000.0 yr	28000.0 yr	30000.0 yr	32000.0 yr	36000.0 yr	38000.0 yr	
he 4	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tl206	3.77E-06	4.05E-06	4.33E-06	4.60E-06	4.86E-06	5.12E-06	5.37E-06	5.62E-06	5.86E-06	6.32E-06	6.54E-06	













zr 93	2.47E+02	2.47E+02	2.46E+02	2.46E+02	2.46E+02	2.46E+02	2.46E+02	2.46E+02	2.45E+02	2.45E+02	2.45E+02	2.44E+02
nb 93	2.36E+00	2.59E+00	2.81E+00	3.03E+00	3.26E+00	3.48E+00	3.70E+00	3.92E+00	4.15E+00	4.59E+00	4.81E+00	
nb 93m	2.60E-03	2.60E-03	2.60E-03	2.60E-03	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03
br 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products page 131

	initial	18000.0 yr	20000.0 yr	22000.0 yr	24000.0 yr	26000.0 yr	28000.0 yr	30000.0 yr	32000.0 yr	36000.0 yr	38000.0 yr	
	nuclide concentrations, grams											
	basis =per critical mass 10.1 MT UO2											
sr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 94	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02
nb 94	8.46E-05	7.90E-05	7.38E-05	6.89E-05	6.44E-05	6.01E-05	5.62E-05	5.25E-05	4.90E-05	4.27E-05	3.99E-05	
nb 94m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 95	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02
br 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 96	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02
nb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 96	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01
kr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 97	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02
kr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 98	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02
tc 98	8.26E-05	8.26E-05	8.25E-05	8.25E-05	8.25E-05	8.25E-05	8.24E-05	8.24E-05	8.24E-05	8.23E-05	8.23E-05	
rb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc 99	3.67E+02	3.65E+02	3.62E+02	3.60E+02	3.58E+02	3.55E+02	3.53E+02	3.51E+02	3.48E+02	3.44E+02	3.42E+02	
tc 99m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru 99	2.62E+01	2.86E+01	3.10E+01	3.34E+01	3.57E+01	3.81E+01	4.04E+01	4.27E+01	4.50E+01	4.96E+01	5.18E+01	





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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products page 133

	nuclide concentrations, grams										
	basis =per critical mass 10.1 MT UO2										
	initial	18000.0 yr	20000.0 yr	22000.0 yr	24000.0 yr	26000.0 yr	28000.0 yr	30000.0 yr	32000.0 yr	36000.0 yr	38000.0 yr
y106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh106m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd106	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01
ag106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd107	2.53E+01	2.53E+01	2.53E+01	2.53E+01	2.53E+01	2.53E+01	2.53E+01	2.53E+01	2.53E+01	2.53E+01	2.53E+01
pd107m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag107	5.47E-02	6.02E-02	6.56E-02	7.10E-02	7.64E-02	8.18E-02	8.72E-02	9.26E-02	9.80E-02	1.09E-01	1.14E-01
zr108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd108	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01
ag108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag108m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd108	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05
zr109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag109	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01
ag109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd110	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00
ag110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag110m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

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nuclide concentrations, grams

























































eu165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho166m	1.10E-10	3.47E-11	1.09E-11	3.45E-12	1.09E-12	3.42E-13	1.08E-13	3.39E-14	1.07E-14	1.06E-15	3.34E-16	
er166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er167	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm170m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
total	8.48E+00	8.44E+00	8.39E+00	8.35E+00	8.30E+00	8.26E+00	8.21E+00	8.17E+00	8.12E+00	8.04E+00	7.99E+00	

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

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	nuclide concentrations, grams											
	basis =per critical mass 10.1 MT UO2											
	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr	
he 4	1.57E+02	1.61E+02	1.70E+02	1.78E+02	1.86E+02	1.93E+02	1.99E+02	2.06E+02	2.38E+02	3.25E+02	3.68E+02	
tl206	3.01E-14	3.11E-14	3.34E-14	3.57E-14	3.78E-14	3.97E-14	4.16E-14	4.33E-14	5.25E-14	6.05E-14	5.97E-14	
tl207	1.19E-09	1.22E-09	1.28E-09	1.34E-09	1.39E-09	1.44E-09	1.48E-09	1.52E-09	1.68E-09	1.85E-09	1.86E-09	
tl208	8.63E-15	8.96E-15	9.80E-15	1.06E-14	1.15E-14	1.23E-14	1.32E-14	1.40E-14	1.90E-14	3.59E-14	4.43E-14	
tl209	5.17E-11	5.43E-11	6.06E-11	6.68E-11	7.29E-11	7.89E-11	8.47E-11	9.04E-11	1.22E-10	2.10E-10	2.25E-10	
pb206	4.88E+01	5.29E+01	6.35E+01	7.50E+01	8.71E+01	9.99E+01	1.13E+02	1.27E+02	2.22E+02	6.03E+02	8.01E+02	
pb207	2.64E+00	2.83E+00	3.31E+00	3.81E+00	4.33E+00	4.87E+00	5.43E+00	6.00E+00	9.69E+00	2.34E+01	3.05E+01	
pb208	2.56E-02	2.56E-02	2.56E-02	2.56E-02	2.56E-02	2.57E-02	2.57E-02	2.57E-02	2.59E-02	2.68E-02	2.74E-02	
pb209	2.18E-07	2.29E-07	2.56E-07	2.82E-07	3.08E-07	3.33E-07	3.58E-07	3.82E-07	5.15E-07	8.87E-07	9.50E-07	
pb210	6.49E-02	6.70E-02	7.21E-02	7.69E-02	8.15E-02	8.57E-02	8.96E-02	9.33E-02	1.13E-01	1.30E-01	1.29E-01	
pb211	9.21E-09	9.42E-09	9.91E-09	1.03E-08	1.07E-08	1.11E-08	1.14E-08	1.17E-08	1.30E-08	1.43E-08	1.44E-08	
pb212	5.12E-12	5.31E-12	5.81E-12	6.31E-12	6.80E-12	7.30E-12	7.80E-12	8.30E-12	1.13E-11	2.13E-11	2.63E-11	
pb214	1.51E-07	1.56E-07	1.68E-07	1.79E-07	1.90E-07	2.00E-07	2.09E-07	2.17E-07	2.64E-07	3.04E-07	3.00E-07	
bi208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bi209	8.32E+00	9.16E+00	1.14E+01	1.39E+01	1.67E+01	1.97E+01	2.29E+01	2.64E+01	5.16E+01	1.85E+02	2.70E+02	
bi210m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bi210	3.99E-05	4.12E-05	4.44E-05	4.74E-05	5.01E-05	5.27E-05	5.52E-05	5.74E-05	6.96E-05	8.02E-05	7.92E-05	
bi211	5.46E-10	5.59E-10	5.87E-10	6.13E-10	6.37E-10	6.58E-10	6.78E-10	6.95E-10	7.70E-10	8.47E-10	8.54E-10	
bi212	4.85E-13	5.04E-13	5.51E-13	5.98E-13	6.45E-13	6.93E-13	7.40E-13	7.87E-13	1.07E-12	2.02E-12	2.49E-12	
bi213	5.20E-08	5.46E-08	6.09E-08	6.72E-08	7.33E-08	7.93E-08	8.51E-08	9.09E-08	1.23E-07	2.11E-07	2.26E-07	
bi214	1.12E-07	1.16E-07	1.25E-07	1.33E-07	1.41E-07	1.48E-07	1.55E-07	1.61E-07	1.96E-07	2.25E-07	2.23E-07	
po210	1.10E-03	1.14E-03	1.23E-03	1.31E-03	1.38E-03	1.46E-03	1.52E-03	1.59E-03	1.92E-03	2.22E-03	2.19E-03	
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
po211	6.04E-15	6.17E-15	6.49E-15	6.78E-15	7.04E-15	7.27E-15	7.49E-15	7.68E-15	8.51E-15	9.36E-15	9.44E-15	
po212	2.55E-23	2.65E-23	2.90E-23	3.14E-23	3.39E-23	3.64E-23	3.89E-23	4.13E-23	5.62E-23	1.06E-22	1.31E-22	
po213	7.81E-17	8.20E-17	9.16E-17	1.01E-16	1.10E-16	1.19E-16	1.28E-16	1.37E-16	1.84E-16	3.17E-16	3.40E-16	
po214	1.54E-14	1.59E-14	1.72E-14	1.83E-14	1.94E-14	2.04E-14	2.13E-14	2.22E-14	2.69E-14	3.10E-14	3.06E-14	



pu236	8.11E-10	8.02E-10	7.78E-10	7.55E-10	7.32E-10	7.10E-10	6.89E-10	6.69E-10	5.58E-10	3.06E-10	2.26E-10
pu237	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu238	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu239	3.03E+03	2.86E+03	2.48E+03	2.15E+03	1.86E+03	1.61E+03	1.39E+03	1.21E+03	5.10E+02	2.87E+01	6.82E+00
pu240	5.79E+00	4.69E+00	2.77E+00	1.63E+00	9.62E-01	5.67E-01	3.34E-01	1.97E-01	8.29E-03	2.14E-07	1.09E-09
pu241	6.25E-15	5.31E-15	3.53E-15	2.35E-15	1.56E-15	1.04E-15	6.91E-16	4.59E-16	3.98E-17	1.14E-20	1.93E-22
pu242	3.59E-02	3.57E-02	3.54E-02	3.51E-02	3.48E-02	3.44E-02	3.41E-02	3.38E-02	3.20E-02	2.66E-02	2.42E-02
pu243	4.54E-27	4.54E-27	4.54E-27	4.54E-27	4.54E-27	4.54E-27	4.54E-27	4.53E-27	4.53E-27	4.51E-27	4.50E-27
pu244	1.57E-20	1.65E-20	1.84E-20	2.03E-20	2.22E-20	2.40E-20	2.58E-20	2.77E-20	3.81E-20	6.88E-20	8.19E-20
pu245	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu246	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am240	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am241	1.97E-13	1.67E-13	1.06E-13	7.08E-14	4.71E-14	3.13E-14	2.08E-14	1.39E-14	1.20E-15	3.62E-19	5.82E-21
am242m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am242	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am243	9.70E-06	8.04E-06	5.02E-06	3.14E-06	1.96E-06	1.23E-06	7.66E-07	4.79E-07	2.85E-08	2.34E-12	2.13E-14
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am245	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am246	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8X UO2 in Tuff (47% H2O) DBF Fuel actinides page 163

	nuclide concentrations, grams										
	basis =per critical mass 10.1 MT UO2										
	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
cm242	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm243	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm244	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm245	3.76E-12	3.19E-12	2.12E-12	1.41E-12	9.39E-13	6.24E-13	4.15E-13	2.76E-13	2.39E-14	6.86E-18	1.16E-19
cm246	2.81E-15	2.10E-15	1.01E-15	4.84E-16	2.33E-16	1.12E-16	5.38E-17	2.58E-17	3.19E-19	1.38E-25	9.08E-29
cm247	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.31E-16	1.30E-16	1.30E-16	1.30E-16	1.30E-16	1.29E-16
cm248	2.09E-19	2.08E-19	2.06E-19	2.04E-19	2.02E-19	2.00E-19	1.98E-19	1.96E-19	1.84E-19	1.50E-19	1.36E-19
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm250	7.40E-35	6.83E-35	5.60E-35	4.59E-35	3.76E-35	3.08E-35	2.52E-35	2.07E-35	6.26E-36	1.16E-37	1.59E-38
cm251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bk249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bk250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bk251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf251	7.03E-42	1.41E-42	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf252	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf253	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf254	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf255	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
es253	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
es254m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
es254	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
es255	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
s250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
total	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06	8.87E+06

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Part B 8X UO2 in Tuff (47% H2O) DBF Fuel actinides page 164

	nuclide radioactivity, curies										
	basis =per critical mass 10.1 MT UO2										
	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
he 4	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tl206	6.54E-06	6.75E-06	7.27E-06	7.76E-06	8.21E-06	8.64E-06	9.03E-06	9.41E-06	1.14E-05	1.31E-05	1.30E-05















zr 93	2.44E+02	2.44E+02	2.44E+02	2.43E+02	2.43E+02	2.42E+02	2.41E+02	2.41E+02	2.38E+02	2.27E+02	2.22E+02
nb 93	4.81E+03	5.03E+03	5.59E+03	6.14E+03	6.69E+03	7.24E+03	7.79E+03	8.33E+03	1.16E+01	2.21E+01	2.72E+01
nb 93m	2.58E-03	2.58E-03	2.57E-03	2.56E-03	2.56E-03	2.55E-03	2.55E-03	2.54E-03	2.51E-03	2.39E-03	2.34E-03
br 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel fission products page 171

	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr	
nuclide concentrations, grams basis = per critical mass 10.1 MT UO2												
sr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr 94	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	3.86E+02	
nb 94	3.99E-05	3.73E-05	3.14E-05	2.65E-05	2.23E-05	1.88E-05	1.59E-05	1.34E-05	4.80E-06	1.58E-07	2.86E-08	
nb 94m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
br 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
kr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rb 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb 95m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
mo 95	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	3.94E+02	
br 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
kr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr 96	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	3.88E+02	
nb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
mo 96	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	9.32E-01	
kr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb 97m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
mo 97	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	3.55E+02	
kr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb 98m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
mo 98	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	3.71E+02	
tc 98	8.23E-05	8.23E-05	8.22E-05	8.21E-05	8.21E-05	8.20E-05	8.19E-05	8.19E-05	8.15E-05	8.01E-05	7.95E-05	
rb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb 99m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
mo 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tc 99	3.42E+02	3.39E+02	3.34E+02	3.28E+02	3.23E+02	3.18E+02	3.13E+02	3.08E+02	2.79E+02	2.01E+02	1.70E+02	
tc 99m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru 99	5.18E+01	5.40E+01	5.96E+01	6.50E+01	7.04E+01	7.56E+01	8.08E+01	8.59E+01	1.15E+02	1.93E+02	2.23E+02	



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Part B 8X UO2 in Tuff (47% H2O) DBF Fuel

fission products

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	nuclide concentrations, grams basis =per critical mass 10.1 MT UO2										
	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
y106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh106m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd106	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01	4.82E+01
ag106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd107	2.53E+01	2.53E+01	2.53E+01	2.52E+01	2.52E+01	2.52E+01	2.52E+01	2.52E+01	2.51E+01	2.48E+01	2.47E+01
pd107m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag107	1.14E-01	1.20E-01	1.33E-01	1.46E-01	1.60E-01	1.73E-01	1.87E-01	2.00E-01	2.81E-01	5.47E-01	6.79E-01
zr108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd108	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01	1.45E+01
ag108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag108m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd108	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05	2.11E-05
zr109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag109	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01	1.05E+01
ag109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd110	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00	4.79E+00
ag110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag110m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8X UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide concentrations, grams







in121m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb121	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn122	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00	1.44E+00
sb122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te122	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03	1.05E-03
rh123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb123	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00
te123	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07	3.07E-07
te123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn124	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.44E+00
sb124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb124m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te124	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03
pd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te125	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00	2.85E+00
te125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn126	3.35E+00	3.30E+00	3.19E+00	3.08E+00	2.98E+00	2.88E+00	2.78E+00	2.68E+00	2.18E+00	1.09E+00	7.70E-01	

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		Part B 8% UO2 in Tuff (47% H2O) DBF Fuel											fission products		page 177
		nuclide concentrations, grams													
		basis =per critical mass 10.1 MT UO2													
	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr				
sb126	1.59E-07	1.57E-07	1.52E-07	1.46E-07	1.41E-07	1.37E-07	1.32E-07	1.27E-07	1.04E-07	5.18E-08	3.66E-08				
sb126m	1.21E-09	1.19E-09	1.15E-09	1.11E-09	1.08E-09	1.04E-09	1.00E-09	9.69E-10	7.87E-10	3.94E-10	2.78E-10				
te126	1.19E+00	1.24E+00	1.35E+00	1.46E+00	1.56E+00	1.66E+00	1.76E+00	1.86E+00	2.36E+00	3.45E+00	3.77E+00				
xe126	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10	4.59E-10				
ag127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
cd127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
in127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				



































	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
pd121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te123	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17
te123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb124m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn126	9.50E-02	9.37E-02	9.05E-02	8.75E-02	8.45E-02	8.16E-02	7.88E-02	7.61E-02	6.18E-02	3.09E-02	2.19E-02

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Part B 8X UO2 in Tuff (47% H2O) DBF Fuel

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

fission products

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	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
sb126	1.33E-02	1.31E-02	1.27E-02	1.22E-02	1.18E-02	1.14E-02	1.10E-02	1.07E-02	8.66E-03	4.33E-03	3.06E-03
sb126m	9.50E-02	9.37E-02	9.05E-02	8.75E-02	8.45E-02	8.16E-02	7.88E-02	7.61E-02	6.18E-02	3.09E-02	2.19E-02















eu165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho166m	3.34E-16	1.05E-16	5.85E-18	3.26E-19	1.81E-20	1.01E-21	5.62E-23	3.13E-24	9.13E-32	.00E+00	.00E+00	.00E+00
er166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er167	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm170m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
total	7.99E+00	7.95E+00	7.85E+00	7.74E+00	7.64E+00	7.54E+00	7.44E+00	7.34E+00	6.80E+00	5.32E+00	4.74E+00	

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2

actinides

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	initial	300000. yr	500000. yr	999999. yr
he 4	3.68E+02	4.10E+02	5.69E+02	8.91E+02
tl206	5.97E-14	5.70E-14	4.28E-14	2.40E-14
tl207	1.86E-09	1.87E-09	1.87E-09	1.87E-09
tl208	4.43E-14	5.27E-14	8.63E-14	1.70E-13
tl209	2.25E-10	2.45E-10	2.90E-10	2.75E-10
pb206	8.01E+02	9.93E+02	1.65E+03	2.69E+03
pb207	3.05E+01	3.77E+01	6.63E+01	1.38E+02
pb208	2.74E-02	2.82E-02	3.29E-02	5.42E-02
pb209	9.50E-07	1.03E-06	1.23E-06	1.16E-06
pb210	1.29E-01	1.23E-01	9.24E-02	5.18E-02
pb211	1.44E-08	1.44E-08	1.45E-08	1.45E-08
pb212	2.63E-11	3.13E-11	5.12E-11	1.01E-10
pb214	3.00E-07	2.86E-07	2.15E-07	1.21E-07
bi208	.00E+00	.00E+00	.00E+00	.00E+00
bi209	2.70E+02	3.63E+02	7.97E+02	1.94E+03
bi210m	.00E+00	.00E+00	.00E+00	.00E+00
bi210	7.92E-05	7.57E-05	5.68E-05	3.19E-05
bi211	8.54E-10	8.57E-10	8.57E-10	8.57E-10
bi212	2.49E-12	2.96E-12	4.86E-12	9.55E-12
bi213	2.26E-07	2.46E-07	2.92E-07	2.77E-07
bi214	2.23E-07	2.13E-07	1.60E-07	8.96E-08
po210	2.19E-03	2.09E-03	1.57E-03	8.81E-04
po211m	.00E+00	.00E+00	.00E+00	.00E+00
po211	9.44E-15	9.47E-15	9.48E-15	9.47E-15
po212	1.31E-22	1.56E-22	2.55E-22	5.02E-22
po213	3.40E-16	3.70E-16	4.39E-16	4.16E-16
po214	3.06E-14	2.93E-14	2.20E-14	1.23E-14

po215	1.21E-14	1.21E-14	1.21E-14	1.21E-14
po216	1.01E-16	1.21E-16	1.98E-16	3.88E-16
po218	3.53E-08	3.38E-08	2.54E-08	1.42E-08
at217	2.72E-12	2.96E-12	3.51E-12	3.33E-12
rn218	.00E+00	.00E+00	.00E+00	.00E+00
rn219	2.73E-11	2.74E-11	2.74E-11	2.74E-11
rn220	3.96E-14	4.71E-14	7.71E-14	1.52E-13
rn222	6.39E-05	6.11E-05	4.59E-05	2.57E-05
fr221	2.52E-08	2.75E-08	3.26E-08	3.08E-08
fr223	1.27E-10	1.27E-10	1.27E-10	1.27E-10
ra222	.00E+00	.00E+00	.00E+00	.00E+00
ra223	6.94E-06	6.96E-06	6.97E-06	6.97E-06
ra224	2.29E-10	2.73E-10	4.47E-10	8.78E-10
ra225	1.12E-04	1.22E-04	1.44E-04	1.37E-04
ra226	9.94E+00	9.50E+00	7.14E+00	4.00E+00
ra228	1.33E-07	1.59E-07	2.61E-07	5.13E-07
ac225	7.55E-05	8.21E-05	9.75E-05	9.23E-05
ac227	4.92E-03	4.93E-03	4.94E-03	4.93E-03
ac228	1.63E-11	1.94E-11	3.18E-11	6.26E-11
th226	.00E+00	.00E+00	.00E+00	.00E+00
th227	1.14E-05	1.14E-05	1.15E-05	1.15E-05
th228	4.45E-08	5.30E-08	8.68E-08	1.71E-07
th229	2.21E+01	2.41E+01	2.86E+01	2.70E+01
th230	4.70E+02	4.49E+02	3.41E+02	1.92E+02
th231	6.72E-07	6.72E-07	6.72E-07	6.71E-07

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

actinides

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	initial	300000	yr500000	yr999999	yr
	nuclide concentrations, grams				
	basis =per critical mass 10.1 MT UO2				
th232	3.32E+02	3.95E+02	6.49E+02	1.28E+03	
th233	.00E+00	.00E+00	.00E+00	.00E+00	
th234	1.25E-04	1.25E-04	1.25E-04	1.25E-04	
pa231	7.53E+00	7.55E+00	7.56E+00	7.56E+00	
pa232	.00E+00	.00E+00	.00E+00	.00E+00	
pa233	3.08E-04	3.03E-04	2.84E-04	2.42E-04	
pa234m	4.23E-09	4.23E-09	4.23E-09	4.23E-09	
pa234	1.89E-09	1.89E-09	1.89E-09	1.89E-09	
pa235	.00E+00	.00E+00	.00E+00	.00E+00	
u230	.00E+00	.00E+00	.00E+00	.00E+00	
u231	.00E+00	.00E+00	.00E+00	.00E+00	
u232	5.35E-09	3.96E-09	1.19E-09	5.82E-11	
u233	4.65E+02	5.03E+02	5.76E+02	5.52E+02	
u234	1.44E+03	1.31E+03	9.48E+02	5.85E+02	
u235	1.65E+05	1.65E+05	1.65E+05	1.65E+05	
u236	4.37E+04	4.37E+04	4.34E+04	4.28E+04	
u237	5.85E-30	9.91E-32	8.15E-39	.00E+00	
u238	8.64E+06	8.64E+06	8.64E+06	8.64E+06	
u239	.00E+00	.00E+00	.00E+00	.00E+00	
u240	1.62E-30	1.85E-30	2.58E-30	3.50E-30	
u241	.00E+00	.00E+00	.00E+00	.00E+00	
np235	.00E+00	.00E+00	.00E+00	.00E+00	
np236m	.00E+00	.00E+00	.00E+00	.00E+00	
np236	1.01E-04	7.45E-05	2.23E-05	1.10E-06	
np237	9.07E+03	8.92E+03	8.36E+03	7.11E+03	
np238	.00E+00	.00E+00	.00E+00	.00E+00	
np239	1.83E-20	1.66E-22	4.99E-26	4.89E-26	
np240m	1.38E-32	1.58E-32	2.20E-32	2.98E-32	
np240	1.42E-34	1.63E-34	2.27E-34	3.07E-34	
np241	.00E+00	.00E+00	.00E+00	.00E+00	

pu236	2.26E-10	1.67E-10	5.01E-11	2.46E-12
pu237	.00E+00	.00E+00	.00E+00	.00E+00
pu238	.00E+00	.00E+00	.00E+00	.00E+00
pu239	6.82E+00	1.62E+00	5.15E-03	2.94E-09
pu240	1.09E-09	5.54E-12	3.72E-21	1.43E-23
pu241	1.93E-22	3.27E-24	2.69E-31	.00E+00
pu242	2.42E-02	2.21E-02	1.52E-02	6.02E-03
pu243	4.50E-27	4.49E-27	4.45E-27	4.36E-27
pu244	8.19E-20	9.38E-20	1.31E-19	1.77E-19
pu245	.00E+00	.00E+00	.00E+00	.00E+00
pu246	.00E+00	.00E+00	.00E+00	.00E+00
am239	.00E+00	.00E+00	.00E+00	.00E+00
am240	.00E+00	.00E+00	.00E+00	.00E+00
am241	5.82E-21	9.86E-23	8.55E-30	.00E+00
am242m	.00E+00	.00E+00	.00E+00	.00E+00
am242	.00E+00	.00E+00	.00E+00	.00E+00
am243	2.13E-14	1.93E-16	5.80E-20	5.68E-20
am244m	.00E+00	.00E+00	.00E+00	.00E+00
am244	.00E+00	.00E+00	.00E+00	.00E+00
am245	.00E+00	.00E+00	.00E+00	.00E+00
am246	.00E+00	.00E+00	.00E+00	.00E+00
cm241	.00E+00	.00E+00	.00E+00	.00E+00

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0

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

actinides

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nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2

	initial300000.	yr500000.	yr999999.	yr
cm242	.00E+00	.00E+00	.00E+00	.00E+00
cm243	.00E+00	.00E+00	.00E+00	.00E+00
cm244	.00E+00	.00E+00	.00E+00	.00E+00
cm245	1.16E-19	1.97E-21	1.62E-28	.00E+00
cm246	9.08E-29	5.98E-32	.00E+00	.00E+00
cm247	1.29E-16	1.29E-16	1.28E-16	1.25E-16
cm248	1.36E-19	1.23E-19	8.16E-20	2.94E-20
cm249	.00E+00	.00E+00	.00E+00	.00E+00
cm250	1.59E-38	2.17E-39	7.01E-43	.00E+00
cm251	.00E+00	.00E+00	.00E+00	.00E+00
bk249	.00E+00	.00E+00	.00E+00	.00E+00
bk250	.00E+00	.00E+00	.00E+00	.00E+00
bk251	.00E+00	.00E+00	.00E+00	.00E+00
cf249	.00E+00	.00E+00	.00E+00	.00E+00
cf250	.00E+00	.00E+00	.00E+00	.00E+00
cf251	.00E+00	.00E+00	.00E+00	.00E+00
cf252	.00E+00	.00E+00	.00E+00	.00E+00
cf253	.00E+00	.00E+00	.00E+00	.00E+00
cf254	.00E+00	.00E+00	.00E+00	.00E+00
cf255	.00E+00	.00E+00	.00E+00	.00E+00
es253	.00E+00	.00E+00	.00E+00	.00E+00
es254m	.00E+00	.00E+00	.00E+00	.00E+00
es254	.00E+00	.00E+00	.00E+00	.00E+00
es255	.00E+00	.00E+00	.00E+00	.00E+00
s250	.00E+00	.00E+00	.00E+00	.00E+00
total	8.87E+06	8.87E+06	8.87E+06	8.87E+06

1  
0

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

actinides

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nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

	initial300000.	yr500000.	yr999999.	yr
he 4	.00E+00	.00E+00	.00E+00	.00E+00
tl206	1.30E-05	1.24E-05	9.31E-06	5.22E-06

tl207	3.55E-01	3.56E-01	3.56E-01	3.56E-01
tl208	1.31E-05	1.56E-05	2.56E-05	5.03E-05
tl209	9.20E-02	1.00E-01	1.19E-01	1.13E-01
pb206	.00E+00	.00E+00	.00E+00	.00E+00
pb207	.00E+00	.00E+00	.00E+00	.00E+00
pb208	.00E+00	.00E+00	.00E+00	.00E+00
pb209	4.38E+00	4.77E+00	5.66E+00	5.36E+00
pb210	9.83E+00	9.39E+00	7.05E+00	3.96E+00
pb211	3.56E-01	3.57E-01	3.57E-01	3.57E-01
pb212	3.65E-05	4.34E-05	7.12E-05	1.40E-04
pb214	9.83E+00	9.40E+00	7.06E+00	3.96E+00
bi208	.00E+00	.00E+00	.00E+00	.00E+00
bi209	.00E+00	.00E+00	.00E+00	.00E+00
bi210m	.00E+00	.00E+00	.00E+00	.00E+00
bi210	9.83E+00	9.39E+00	7.05E+00	3.96E+00
bi211	3.56E-01	3.57E-01	3.57E-01	3.57E-01
bi212	3.65E-05	4.34E-05	7.12E-05	1.40E-04
bi213	4.38E+00	4.77E+00	5.66E+00	5.36E+00
bi214	9.83E+00	9.40E+00	7.06E+00	3.96E+00
po210	9.83E+00	9.39E+00	7.05E+00	3.96E+00
po211m	.00E+00	.00E+00	.00E+00	.00E+00
po211	9.78E-04	9.81E-04	9.82E-04	9.82E-04
po212	2.34E-05	2.78E-05	4.56E-05	8.97E-05
po213	4.29E+00	4.67E+00	5.54E+00	5.24E+00
po214	9.83E+00	9.39E+00	7.05E+00	3.96E+00
po215	3.56E-01	3.57E-01	3.57E-01	3.57E-01
po216	3.65E-05	4.34E-05	7.12E-05	1.40E-04
po218	9.83E+00	9.40E+00	7.06E+00	3.96E+00
at217	4.38E+00	4.77E+00	5.66E+00	5.36E+00
rn218	.00E+00	.00E+00	.00E+00	.00E+00
rn219	3.56E-01	3.57E-01	3.57E-01	3.57E-01
rn220	3.65E-05	4.34E-05	7.12E-05	1.40E-04
rn222	9.83E+00	9.40E+00	7.06E+00	3.96E+00
fr221	4.38E+00	4.77E+00	5.66E+00	5.36E+00
fr223	4.91E-03	4.92E-03	4.93E-03	4.93E-03
ra222	.00E+00	.00E+00	.00E+00	.00E+00
ra223	3.56E-01	3.57E-01	3.57E-01	3.57E-01
ra224	3.65E-05	4.34E-05	7.12E-05	1.40E-04
ra225	4.38E+00	4.77E+00	5.66E+00	5.36E+00
ra226	9.83E+00	9.40E+00	7.06E+00	3.96E+00
ra228	3.64E-05	4.34E-05	7.12E-05	1.40E-04
ac225	4.38E+00	4.77E+00	5.66E+00	5.36E+00
ac227	3.56E-01	3.57E-01	3.57E-01	3.57E-01
ac228	3.64E-05	4.34E-05	7.12E-05	1.40E-04
th226	.00E+00	.00E+00	.00E+00	.00E+00
th227	3.51E-01	3.52E-01	3.52E-01	3.52E-01
th228	3.65E-05	4.34E-05	7.12E-05	1.40E-04
th229	4.38E+00	4.77E+00	5.66E+00	5.36E+00
th230	9.70E+00	9.26E+00	7.03E+00	3.96E+00
th231	3.57E-01	3.57E-01	3.57E-01	3.57E-01

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

actinides

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	initial	300000. yr	500000. yr	999999. yr
th232	3.64E-05	4.34E-05	7.12E-05	1.40E-04
th233	.00E+00	.00E+00	.00E+00	.00E+00
th234	2.91E+00	2.91E+00	2.91E+00	2.91E+00
pa231	3.56E-01	3.57E-01	3.57E-01	3.57E-01
pa232	.00E+00	.00E+00	.00E+00	.00E+00

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

pa233	6.39E+00	6.29E+00	5.90E+00	5.01E+00
pa234m	2.91E+00	2.91E+00	2.91E+00	2.91E+00
pa234	3.78E-03	3.78E-03	3.78E-03	3.78E-03
pa235	.00E+00	.00E+00	.00E+00	.00E+00
u230	.00E+00	.00E+00	.00E+00	.00E+00
u231	.00E+00	.00E+00	.00E+00	.00E+00
u232	1.18E-07	8.74E-08	2.62E-08	1.28E-09
u233	4.48E+00	4.85E+00	5.55E+00	5.33E+00
u234	8.96E+00	8.16E+00	5.90E+00	3.64E+00
u235	3.57E-01	3.57E-01	3.57E-01	3.57E-01
u236	2.83E+00	2.83E+00	2.81E+00	2.77E+00
u237	4.78E-25	8.09E-27	.00E+00	.00E+00
u238	2.91E+00	2.91E+00	2.91E+00	2.91E+00
u239	.00E+00	.00E+00	.00E+00	.00E+00
u240	1.50E-24	1.72E-24	2.39E-24	3.24E-24
u241	.00E+00	.00E+00	.00E+00	.00E+00
np235	.00E+00	.00E+00	.00E+00	.00E+00
np236m	.00E+00	.00E+00	.00E+00	.00E+00
np236	1.33E-06	9.82E-07	2.94E-07	1.44E-08
np237	6.39E+00	6.29E+00	5.90E+00	5.01E+00
np238	.00E+00	.00E+00	.00E+00	.00E+00
np239	4.25E-15	3.86E-17	1.16E-20	1.13E-20
np240m	1.50E-24	1.72E-24	2.39E-24	3.24E-24
np240	1.80E-27	2.06E-27	2.87E-27	3.89E-27
np241	.00E+00	.00E+00	.00E+00	.00E+00
pu236	1.18E-07	8.74E-08	2.62E-08	1.28E-09
pu237	.00E+00	.00E+00	.00E+00	.00E+00
pu238	.00E+00	.00E+00	.00E+00	.00E+00
pu239	4.24E-01	1.01E-01	3.20E-04	1.82E-10
pu240	2.48E-10	1.26E-12	8.44E-22	3.24E-24
pu241	2.00E-20	3.38E-22	2.79E-29	.00E+00
pu242	9.57E-05	8.73E-05	6.02E-05	2.38E-05
pu243	1.17E-20	1.17E-20	1.16E-20	1.13E-20
pu244	1.50E-24	1.72E-24	2.39E-24	3.24E-24
pu245	.00E+00	.00E+00	.00E+00	.00E+00
pu246	.00E+00	.00E+00	.00E+00	.00E+00
am239	.00E+00	.00E+00	.00E+00	.00E+00
am240	.00E+00	.00E+00	.00E+00	.00E+00
am241	2.00E-20	3.38E-22	2.93E-29	.00E+00
am242m	.00E+00	.00E+00	.00E+00	.00E+00
am242	.00E+00	.00E+00	.00E+00	.00E+00
am243	4.25E-15	3.86E-17	1.16E-20	1.13E-20
am244m	.00E+00	.00E+00	.00E+00	.00E+00
am244	.00E+00	.00E+00	.00E+00	.00E+00
am245	.00E+00	.00E+00	.00E+00	.00E+00
am246	.00E+00	.00E+00	.00E+00	.00E+00
cm241	.00E+00	.00E+00	.00E+00	.00E+00

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0

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

actinides

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	initial	300000. yr	500000. yr	999999. yr
cm242	.00E+00	.00E+00	.00E+00	.00E+00
cm243	.00E+00	.00E+00	.00E+00	.00E+00
cm244	.00E+00	.00E+00	.00E+00	.00E+00
cm245	1.99E-20	3.38E-22	2.78E-29	.00E+00
cm246	2.79E-29	2.28E-32	.00E+00	.00E+00
cm247	1.17E-20	1.17E-20	1.16E-20	1.13E-20
cm248	5.76E-22	5.20E-22	3.46E-22	1.25E-22
cm249	.00E+00	.00E+00	.00E+00	.00E+00

cm250	.00E+00	.00E+00	.00E+00	.00E+00
cm251	.00E+00	.00E+00	.00E+00	.00E+00
bk249	.00E+00	.00E+00	.00E+00	.00E+00
bk250	.00E+00	.00E+00	.00E+00	.00E+00
bk251	.00E+00	.00E+00	.00E+00	.00E+00
cf249	.00E+00	.00E+00	.00E+00	.00E+00
cf250	.00E+00	.00E+00	.00E+00	.00E+00
cf251	.00E+00	.00E+00	.00E+00	.00E+00
cf252	.00E+00	.00E+00	.00E+00	.00E+00
cf253	.00E+00	.00E+00	.00E+00	.00E+00
cf254	.00E+00	.00E+00	.00E+00	.00E+00
cf255	.00E+00	.00E+00	.00E+00	.00E+00
es253	.00E+00	.00E+00	.00E+00	.00E+00
es254m	.00E+00	.00E+00	.00E+00	.00E+00
es254	.00E+00	.00E+00	.00E+00	.00E+00
es255	.00E+00	.00E+00	.00E+00	.00E+00
s250	.00E+00	.00E+00	.00E+00	.00E+00
total	1.75E+02	1.73E+02	1.55E+02	1.17E+02

1  
0

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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		nuclide concentrations, grams basis =per critical mass 10.1 MT UO2			
		initial	300000. yr	500000. yr	999999. yr
h	3	.00E+00	.00E+00	.00E+00	.00E+00
li	6	1.83E-04	1.83E-04	1.83E-04	1.83E-04
li	7	4.58E-06	4.58E-06	4.58E-06	4.58E-06
be	9	8.83E-06	8.83E-06	8.83E-06	8.83E-06
be	10	5.27E-05	5.16E-05	4.73E-05	3.81E-05
c	14	5.04E-19	1.19E-21	3.68E-32	.00E+00
ni	66	.00E+00	.00E+00	.00E+00	.00E+00
cu	66	.00E+00	.00E+00	.00E+00	.00E+00
zn	66	1.66E-07	1.66E-07	1.66E-07	1.66E-07
cu	67	.00E+00	.00E+00	.00E+00	.00E+00
zn	67	2.71E-08	2.71E-08	2.71E-08	2.71E-08
zn	68	1.61E-09	1.61E-09	1.61E-09	1.61E-09
zn	69	.00E+00	.00E+00	.00E+00	.00E+00
zn	69m	.00E+00	.00E+00	.00E+00	.00E+00
ga	69	5.26E-08	5.26E-08	5.26E-08	5.26E-08
zn	70	1.32E-06	1.32E-06	1.32E-06	1.32E-06
ga	70	.00E+00	.00E+00	.00E+00	.00E+00
ge	70	1.39E-09	1.39E-09	1.39E-09	1.39E-09
zn	71	.00E+00	.00E+00	.00E+00	.00E+00
zn	71m	.00E+00	.00E+00	.00E+00	.00E+00
ga	71	1.57E-05	1.57E-05	1.57E-05	1.57E-05
ge	71	.00E+00	.00E+00	.00E+00	.00E+00
ge	71m	.00E+00	.00E+00	.00E+00	.00E+00
co	72	.00E+00	.00E+00	.00E+00	.00E+00
ni	72	.00E+00	.00E+00	.00E+00	.00E+00
cu	72	.00E+00	.00E+00	.00E+00	.00E+00
zn	72	.00E+00	.00E+00	.00E+00	.00E+00
ga	72	.00E+00	.00E+00	.00E+00	.00E+00
ge	72	1.45E-03	1.45E-03	1.45E-03	1.45E-03
co	73	.00E+00	.00E+00	.00E+00	.00E+00
ni	73	.00E+00	.00E+00	.00E+00	.00E+00
cu	73	.00E+00	.00E+00	.00E+00	.00E+00
zn	73	.00E+00	.00E+00	.00E+00	.00E+00
ga	73	.00E+00	.00E+00	.00E+00	.00E+00
ge	73	5.82E-03	5.82E-03	5.82E-03	5.82E-03
ge	73m	.00E+00	.00E+00	.00E+00	.00E+00
co	74	.00E+00	.00E+00	.00E+00	.00E+00

ni 74	.00E+00	.00E+00	.00E+00	.00E+00
cu 74	.00E+00	.00E+00	.00E+00	.00E+00
zn 74	.00E+00	.00E+00	.00E+00	.00E+00
ga 74	.00E+00	.00E+00	.00E+00	.00E+00
ge 74	5.01E-03	5.01E-03	5.01E-03	5.01E-03
co 75	.00E+00	.00E+00	.00E+00	.00E+00
ni 75	.00E+00	.00E+00	.00E+00	.00E+00
cu 75	.00E+00	.00E+00	.00E+00	.00E+00
zn 75	.00E+00	.00E+00	.00E+00	.00E+00
ga 75	.00E+00	.00E+00	.00E+00	.00E+00
ge 75	.00E+00	.00E+00	.00E+00	.00E+00
ge 75m	.00E+00	.00E+00	.00E+00	.00E+00
as 75	5.65E-02	5.65E-02	5.65E-02	5.65E-02
ni 76	.00E+00	.00E+00	.00E+00	.00E+00
cu 76	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel  
nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2

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	initial	300000. yr	500000. yr	999999. yr
zn 76	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	1.84E-01	1.84E-01	1.84E-01	1.84E-01
as 76	.00E+00	.00E+00	.00E+00	.00E+00
se 76	3.71E-05	3.71E-05	3.71E-05	3.71E-05
ni 77	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	.00E+00	.00E+00	.00E+00	.00E+00
as 77	.00E+00	.00E+00	.00E+00	.00E+00
se 77	4.12E-01	4.12E-01	4.12E-01	4.12E-01
se 77m	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	.00E+00	.00E+00	.00E+00	.00E+00
as 78	.00E+00	.00E+00	.00E+00	.00E+00
se 78	1.12E+00	1.12E+00	1.12E+00	1.12E+00
cu 79	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	.00E+00	.00E+00	.00E+00	.00E+00
as 79	.00E+00	.00E+00	.00E+00	.00E+00
se 79	1.33E+00	1.20E+00	7.88E-01	2.76E-01
se 79m	.00E+00	.00E+00	.00E+00	.00E+00
br 79	9.45E-01	1.08E+00	1.49E+00	2.00E+00
br 79m	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	.00E+00	.00E+00	.00E+00	.00E+00
as 80	.00E+00	.00E+00	.00E+00	.00E+00
se 80	6.71E+00	6.71E+00	6.71E+00	6.71E+00
br 80	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	2.49E-05	2.49E-05	2.49E-05	2.49E-05

cu 81	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	.00E+00	.00E+00	.00E+00	.00E+00
as 81	.00E+00	.00E+00	.00E+00	.00E+00
se 81	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	.00E+00	.00E+00	.00E+00	.00E+00
br 81	1.00E+01	1.00E+01	1.00E+01	1.00E+01
kr 81	1.26E-07	1.07E-07	5.57E-08	1.09E-08
kr 81m	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
ge 82	.00E+00	.00E+00	.00E+00	.00E+00
as 82	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	.00E+00	.00E+00	.00E+00	.00E+00
se 82	1.70E+01	1.70E+01	1.70E+01	1.70E+01
br 82	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	1.67E-02	1.67E-02	1.67E-02	1.67E-02
zn 83	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	.00E+00	.00E+00	.00E+00	.00E+00
as 83	.00E+00	.00E+00	.00E+00	.00E+00
se 83	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	.00E+00	.00E+00	.00E+00	.00E+00
br 83	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	2.78E+01	2.78E+01	2.78E+01	2.78E+01
kr 83m	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	.00E+00	.00E+00	.00E+00	.00E+00
as 84	.00E+00	.00E+00	.00E+00	.00E+00
se 84	.00E+00	.00E+00	.00E+00	.00E+00
br 84	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	5.71E+01	5.71E+01	5.71E+01	5.71E+01
ga 85	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	.00E+00	.00E+00	.00E+00	.00E+00
as 85	.00E+00	.00E+00	.00E+00	.00E+00
se 85	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	.00E+00	.00E+00	.00E+00	.00E+00
br 85	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	.00E+00	.00E+00	.00E+00	.00E+00
kr 85m	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	6.55E+01	6.55E+01	6.55E+01	6.55E+01
ge 86	.00E+00	.00E+00	.00E+00	.00E+00
as 86	.00E+00	.00E+00	.00E+00	.00E+00
se 86	.00E+00	.00E+00	.00E+00	.00E+00
br 86	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	1.06E+02	1.06E+02	1.06E+02	1.06E+02
rb 86	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	4.05E-03	4.05E-03	4.05E-03	4.05E-03
ge 87	.00E+00	.00E+00	.00E+00	.00E+00
as 87	.00E+00	.00E+00	.00E+00	.00E+00



se 87	.00E+00	.00E+00	.00E+00	.00E+00
br 87	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	1.38E+02	1.38E+02	1.38E+02	1.38E+02
sr 87	7.72E-04	8.72E-04	1.27E-03	2.27E-03
sr 87m	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	.00E+00	.00E+00	.00E+00	.00E+00
as 88	.00E+00	.00E+00	.00E+00	.00E+00
se 88	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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	initial	300000. yr	500000. yr	999999. yr
	nuclide concentrations, grams basis =per critical mass 10.1 MT UO2			
br 88	.00E+00	.00E+00	.00E+00	.00E+00
kr 88	.00E+00	.00E+00	.00E+00	.00E+00
rb 88	.00E+00	.00E+00	.00E+00	.00E+00
sr 88	1.99E+02	1.99E+02	1.99E+02	1.99E+02
as 89	.00E+00	.00E+00	.00E+00	.00E+00
se 89	.00E+00	.00E+00	.00E+00	.00E+00
br 89	.00E+00	.00E+00	.00E+00	.00E+00
kr 89	.00E+00	.00E+00	.00E+00	.00E+00
rb 89	.00E+00	.00E+00	.00E+00	.00E+00
sr 89	.00E+00	.00E+00	.00E+00	.00E+00
y 89	2.70E+02	2.70E+02	2.70E+02	2.70E+02
y 89m	.00E+00	.00E+00	.00E+00	.00E+00
as 90	.00E+00	.00E+00	.00E+00	.00E+00
se 90	.00E+00	.00E+00	.00E+00	.00E+00
br 90	.00E+00	.00E+00	.00E+00	.00E+00
kr 90	.00E+00	.00E+00	.00E+00	.00E+00
rb 90	.00E+00	.00E+00	.00E+00	.00E+00
rb 90m	.00E+00	.00E+00	.00E+00	.00E+00
sr 90	.00E+00	.00E+00	.00E+00	.00E+00
y 90	.00E+00	.00E+00	.00E+00	.00E+00
y 90m	.00E+00	.00E+00	.00E+00	.00E+00
zr 90	3.29E+02	3.29E+02	3.29E+02	3.29E+02
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00
se 91	.00E+00	.00E+00	.00E+00	.00E+00
br 91	.00E+00	.00E+00	.00E+00	.00E+00
kr 91	.00E+00	.00E+00	.00E+00	.00E+00
rb 91	.00E+00	.00E+00	.00E+00	.00E+00
sr 91	.00E+00	.00E+00	.00E+00	.00E+00
y 91	.00E+00	.00E+00	.00E+00	.00E+00
y 91m	.00E+00	.00E+00	.00E+00	.00E+00
zr 91	3.38E+02	3.38E+02	3.38E+02	3.38E+02
nb 91	.00E+00	.00E+00	.00E+00	.00E+00
se 92	.00E+00	.00E+00	.00E+00	.00E+00
br 92	.00E+00	.00E+00	.00E+00	.00E+00
kr 92	.00E+00	.00E+00	.00E+00	.00E+00
rb 92	.00E+00	.00E+00	.00E+00	.00E+00
sr 92	.00E+00	.00E+00	.00E+00	.00E+00
y 92	.00E+00	.00E+00	.00E+00	.00E+00
zr 92	3.46E+02	3.46E+02	3.46E+02	3.46E+02
nb 92	4.38E-08	4.38E-08	4.36E-08	4.31E-08
se 93	.00E+00	.00E+00	.00E+00	.00E+00
br 93	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	.00E+00	.00E+00	.00E+00	.00E+00
y 93	.00E+00	.00E+00	.00E+00	.00E+00

zr 93	2.22E+02	2.17E+02	1.98E+02	1.58E+02
nb 93	2.72E+01	3.22E+01	5.10E+01	9.12E+01
nb 93m	2.34E-03	2.29E-03	2.09E-03	1.67E-03
br 94	.00E+00	.00E+00	.00E+00	.00E+00
kr 94	.00E+00	.00E+00	.00E+00	.00E+00
rb 94	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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	initial	300000. yr	500000. yr	999999. yr
nuclide concentrations, grams				
basis =per critical mass 10.1 MT UO2				
sr 94	.00E+00	.00E+00	.00E+00	.00E+00
y 94	.00E+00	.00E+00	.00E+00	.00E+00
zr 94	3.86E+02	3.86E+02	3.86E+02	3.86E+02
nb 94	2.86E-08	5.19E-09	5.62E-12	2.16E-19
nb 94m	.00E+00	.00E+00	.00E+00	.00E+00
br 95	.00E+00	.00E+00	.00E+00	.00E+00
kr 95	.00E+00	.00E+00	.00E+00	.00E+00
rb 95	.00E+00	.00E+00	.00E+00	.00E+00
sr 95	.00E+00	.00E+00	.00E+00	.00E+00
y 95	.00E+00	.00E+00	.00E+00	.00E+00
zr 95	.00E+00	.00E+00	.00E+00	.00E+00
nb 95	.00E+00	.00E+00	.00E+00	.00E+00
nb 95m	.00E+00	.00E+00	.00E+00	.00E+00
mo 95	3.94E+02	3.94E+02	3.94E+02	3.94E+02
br 96	.00E+00	.00E+00	.00E+00	.00E+00
kr 96	.00E+00	.00E+00	.00E+00	.00E+00
rb 96	.00E+00	.00E+00	.00E+00	.00E+00
sr 96	.00E+00	.00E+00	.00E+00	.00E+00
y 96	.00E+00	.00E+00	.00E+00	.00E+00
zr 96	3.88E+02	3.88E+02	3.88E+02	3.88E+02
nb 96	.00E+00	.00E+00	.00E+00	.00E+00
mo 96	9.32E-01	9.32E-01	9.32E-01	9.32E-01
kr 97	.00E+00	.00E+00	.00E+00	.00E+00
rb 97	.00E+00	.00E+00	.00E+00	.00E+00
sr 97	.00E+00	.00E+00	.00E+00	.00E+00
y 97	.00E+00	.00E+00	.00E+00	.00E+00
zr 97	.00E+00	.00E+00	.00E+00	.00E+00
nb 97	.00E+00	.00E+00	.00E+00	.00E+00
nb 97m	.00E+00	.00E+00	.00E+00	.00E+00
mo 97	3.55E+02	3.55E+02	3.55E+02	3.55E+02
kr 98	.00E+00	.00E+00	.00E+00	.00E+00
rb 98	.00E+00	.00E+00	.00E+00	.00E+00
sr 98	.00E+00	.00E+00	.00E+00	.00E+00
y 98	.00E+00	.00E+00	.00E+00	.00E+00
zr 98	.00E+00	.00E+00	.00E+00	.00E+00
nb 98	.00E+00	.00E+00	.00E+00	.00E+00
nb 98m	.00E+00	.00E+00	.00E+00	.00E+00
mo 98	3.71E+02	3.71E+02	3.71E+02	3.71E+02
tc 98	7.95E-05	7.88E-05	7.63E-05	7.02E-05
rb 99	.00E+00	.00E+00	.00E+00	.00E+00
sr 99	.00E+00	.00E+00	.00E+00	.00E+00
y 99	.00E+00	.00E+00	.00E+00	.00E+00
zr 99	.00E+00	.00E+00	.00E+00	.00E+00
nb 99	.00E+00	.00E+00	.00E+00	.00E+00
nb 99m	.00E+00	.00E+00	.00E+00	.00E+00
mo 99	.00E+00	.00E+00	.00E+00	.00E+00
tc 99	1.70E+02	1.45E+02	7.49E+01	1.45E+01
tc 99m	.00E+00	.00E+00	.00E+00	.00E+00
ru 99	2.23E+02	2.49E+02	3.18E+02	3.79E+02

rb100	.00E+00	.00E+00	.00E+00	.00E+00
sr100	.00E+00	.00E+00	.00E+00	.00E+00
y100	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2

	initial	300000.	yr500000.	yr999999.	yr
zr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo100	4.11E+02	4.11E+02	4.11E+02	4.11E+02	4.11E+02
tc100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	1.72E+00	1.72E+00	1.72E+00	1.72E+00	1.72E+00
rb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru101	3.40E+02	3.40E+02	3.40E+02	3.40E+02	3.40E+02
sr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru102	2.94E+02	2.94E+02	2.94E+02	2.94E+02	2.94E+02
rh102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103	2.22E+02	2.22E+02	2.22E+02	2.22E+02	2.22E+02
rh103m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru104	1.47E+02	1.47E+02	1.47E+02	1.47E+02	1.47E+02
rh104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd104	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00
y105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd105	9.04E+01	9.04E+01	9.04E+01	9.04E+01	9.04E+01

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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	nuclide concentrations, grams basis =per critical mass 10.1 MT UO2			
	initial	300000. yr	500000. yr	999999. yr
y106	.00E+00	.00E+00	.00E+00	.00E+00
zr106	.00E+00	.00E+00	.00E+00	.00E+00
nb106	.00E+00	.00E+00	.00E+00	.00E+00
mo106	.00E+00	.00E+00	.00E+00	.00E+00
tc106	.00E+00	.00E+00	.00E+00	.00E+00
ru106	.00E+00	.00E+00	.00E+00	.00E+00
rh106	.00E+00	.00E+00	.00E+00	.00E+00
rh106m	.00E+00	.00E+00	.00E+00	.00E+00
pd106	4.82E+01	4.82E+01	4.82E+01	4.82E+01
ag106	.00E+00	.00E+00	.00E+00	.00E+00
y107	.00E+00	.00E+00	.00E+00	.00E+00
zr107	.00E+00	.00E+00	.00E+00	.00E+00
nb107	.00E+00	.00E+00	.00E+00	.00E+00
mo107	.00E+00	.00E+00	.00E+00	.00E+00
tc107	.00E+00	.00E+00	.00E+00	.00E+00
ru107	.00E+00	.00E+00	.00E+00	.00E+00
rh107	.00E+00	.00E+00	.00E+00	.00E+00
pd107	2.47E+01	2.46E+01	2.41E+01	2.28E+01
pd107m	.00E+00	.00E+00	.00E+00	.00E+00
ag107	6.79E-01	8.11E-01	1.33E+00	2.58E+00
zr108	.00E+00	.00E+00	.00E+00	.00E+00
nb108	.00E+00	.00E+00	.00E+00	.00E+00
mo108	.00E+00	.00E+00	.00E+00	.00E+00
tc108	.00E+00	.00E+00	.00E+00	.00E+00
ru108	.00E+00	.00E+00	.00E+00	.00E+00
rh108	.00E+00	.00E+00	.00E+00	.00E+00
rh108m	.00E+00	.00E+00	.00E+00	.00E+00
pd108	1.45E+01	1.45E+01	1.45E+01	1.45E+01
ag108	.00E+00	.00E+00	.00E+00	.00E+00
ag108m	.00E+00	.00E+00	.00E+00	.00E+00
cd108	2.11E-05	2.11E-05	2.11E-05	2.11E-05
zr109	.00E+00	.00E+00	.00E+00	.00E+00
nb109	.00E+00	.00E+00	.00E+00	.00E+00
mo109	.00E+00	.00E+00	.00E+00	.00E+00
tc109	.00E+00	.00E+00	.00E+00	.00E+00
ru109	.00E+00	.00E+00	.00E+00	.00E+00
rh109	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	.00E+00	.00E+00	.00E+00	.00E+00
pd109	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	.00E+00	.00E+00	.00E+00	.00E+00
ag109	1.05E+01	1.05E+01	1.05E+01	1.05E+01
ag109m	.00E+00	.00E+00	.00E+00	.00E+00
cd109	.00E+00	.00E+00	.00E+00	.00E+00
nb110	.00E+00	.00E+00	.00E+00	.00E+00
mo110	.00E+00	.00E+00	.00E+00	.00E+00
tc110	.00E+00	.00E+00	.00E+00	.00E+00
ru110	.00E+00	.00E+00	.00E+00	.00E+00
rh110	.00E+00	.00E+00	.00E+00	.00E+00
rh110m	.00E+00	.00E+00	.00E+00	.00E+00
pd110	4.79E+00	4.79E+00	4.79E+00	4.79E+00
ag110	.00E+00	.00E+00	.00E+00	.00E+00
ag110m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide concentrations, grams

	basis =per critical mass 10.1 MT UO2			
	initial300000.	yr500000.	yr999999.	yr
cd110	1.56E-01	1.56E-01	1.56E-01	1.56E-01
nb111	.00E+00	.00E+00	.00E+00	.00E+00
mo111	.00E+00	.00E+00	.00E+00	.00E+00
tc111	.00E+00	.00E+00	.00E+00	.00E+00
ru111	.00E+00	.00E+00	.00E+00	.00E+00
rh111	.00E+00	.00E+00	.00E+00	.00E+00
pd111	.00E+00	.00E+00	.00E+00	.00E+00
pd111m	.00E+00	.00E+00	.00E+00	.00E+00
ag111	.00E+00	.00E+00	.00E+00	.00E+00
ag111m	.00E+00	.00E+00	.00E+00	.00E+00
cd111	2.78E+00	2.78E+00	2.78E+00	2.78E+00
cd111m	.00E+00	.00E+00	.00E+00	.00E+00
nb112	.00E+00	.00E+00	.00E+00	.00E+00
mo112	.00E+00	.00E+00	.00E+00	.00E+00
tc112	.00E+00	.00E+00	.00E+00	.00E+00
ru112	.00E+00	.00E+00	.00E+00	.00E+00
rh112	.00E+00	.00E+00	.00E+00	.00E+00
pd112	.00E+00	.00E+00	.00E+00	.00E+00
ag112	.00E+00	.00E+00	.00E+00	.00E+00
cd112	1.79E+00	1.79E+00	1.79E+00	1.79E+00
mo113	.00E+00	.00E+00	.00E+00	.00E+00
tc113	.00E+00	.00E+00	.00E+00	.00E+00
ru113	.00E+00	.00E+00	.00E+00	.00E+00
rh113	.00E+00	.00E+00	.00E+00	.00E+00
pd113	.00E+00	.00E+00	.00E+00	.00E+00
ag113	.00E+00	.00E+00	.00E+00	.00E+00
ag113m	.00E+00	.00E+00	.00E+00	.00E+00
cd113	2.18E-01	2.18E-01	2.18E-01	2.18E-01
cd113m	.00E+00	.00E+00	.00E+00	.00E+00
in113	2.46E-02	2.46E-02	2.46E-02	2.46E-02
in113m	.00E+00	.00E+00	.00E+00	.00E+00
mo114	.00E+00	.00E+00	.00E+00	.00E+00
tc114	.00E+00	.00E+00	.00E+00	.00E+00
ru114	.00E+00	.00E+00	.00E+00	.00E+00
rh114	.00E+00	.00E+00	.00E+00	.00E+00
pd114	.00E+00	.00E+00	.00E+00	.00E+00
ag114	.00E+00	.00E+00	.00E+00	.00E+00
cd114	2.58E+00	2.58E+00	2.58E+00	2.58E+00
in114	.00E+00	.00E+00	.00E+00	.00E+00
in114m	.00E+00	.00E+00	.00E+00	.00E+00
sn114	3.20E-05	3.20E-05	3.20E-05	3.20E-05
mo115	.00E+00	.00E+00	.00E+00	.00E+00
tc115	.00E+00	.00E+00	.00E+00	.00E+00
ru115	.00E+00	.00E+00	.00E+00	.00E+00
rh115	.00E+00	.00E+00	.00E+00	.00E+00
pd115	.00E+00	.00E+00	.00E+00	.00E+00
ag115	.00E+00	.00E+00	.00E+00	.00E+00
ag115m	.00E+00	.00E+00	.00E+00	.00E+00
cd115	.00E+00	.00E+00	.00E+00	.00E+00
cd115m	.00E+00	.00E+00	.00E+00	.00E+00
in115	9.35E-01	9.35E-01	9.35E-01	9.35E-01
in115m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel				
	nuclide concentrations, grams			
	basis =per critical mass 10.1 MT UO2			
	initial300000.	yr500000.	yr999999.	yr
sn115	4.80E-02	4.80E-02	4.80E-02	4.80E-02

fission products

tc116	.00E+00	.00E+00	.00E+00	.00E+00
ru116	.00E+00	.00E+00	.00E+00	.00E+00
rh116	.00E+00	.00E+00	.00E+00	.00E+00
pd116	.00E+00	.00E+00	.00E+00	.00E+00
ag116	.00E+00	.00E+00	.00E+00	.00E+00
ag116m	.00E+00	.00E+00	.00E+00	.00E+00
cd116	1.49E+00	1.49E+00	1.49E+00	1.49E+00
in116	.00E+00	.00E+00	.00E+00	.00E+00
in116m	.00E+00	.00E+00	.00E+00	.00E+00
sn116	2.24E-02	2.24E-02	2.24E-02	2.24E-02
tc117	.00E+00	.00E+00	.00E+00	.00E+00
ru117	.00E+00	.00E+00	.00E+00	.00E+00
rh117	.00E+00	.00E+00	.00E+00	.00E+00
pd117	.00E+00	.00E+00	.00E+00	.00E+00
ag117	.00E+00	.00E+00	.00E+00	.00E+00
ag117m	.00E+00	.00E+00	.00E+00	.00E+00
cd117	.00E+00	.00E+00	.00E+00	.00E+00
cd117m	.00E+00	.00E+00	.00E+00	.00E+00
in117	.00E+00	.00E+00	.00E+00	.00E+00
in117m	.00E+00	.00E+00	.00E+00	.00E+00
sn117	1.09E+00	1.09E+00	1.09E+00	1.09E+00
sn117m	.00E+00	.00E+00	.00E+00	.00E+00
tc118	.00E+00	.00E+00	.00E+00	.00E+00
ru118	.00E+00	.00E+00	.00E+00	.00E+00
rh118	.00E+00	.00E+00	.00E+00	.00E+00
pd118	.00E+00	.00E+00	.00E+00	.00E+00
ag118	.00E+00	.00E+00	.00E+00	.00E+00
ag118m	.00E+00	.00E+00	.00E+00	.00E+00
cd118	.00E+00	.00E+00	.00E+00	.00E+00
in118	.00E+00	.00E+00	.00E+00	.00E+00
in118m	.00E+00	.00E+00	.00E+00	.00E+00
sn118	1.03E+00	1.03E+00	1.03E+00	1.03E+00
ru119	.00E+00	.00E+00	.00E+00	.00E+00
rh119	.00E+00	.00E+00	.00E+00	.00E+00
pd119	.00E+00	.00E+00	.00E+00	.00E+00
ag119	.00E+00	.00E+00	.00E+00	.00E+00
cd119	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	.00E+00	.00E+00	.00E+00	.00E+00
in119	.00E+00	.00E+00	.00E+00	.00E+00
in119m	.00E+00	.00E+00	.00E+00	.00E+00
sn119	1.13E+00	1.13E+00	1.13E+00	1.13E+00
sn119m	.00E+00	.00E+00	.00E+00	.00E+00
ru120	.00E+00	.00E+00	.00E+00	.00E+00
rh120	.00E+00	.00E+00	.00E+00	.00E+00
pd120	.00E+00	.00E+00	.00E+00	.00E+00
ag120	.00E+00	.00E+00	.00E+00	.00E+00
cd120	.00E+00	.00E+00	.00E+00	.00E+00
in120	.00E+00	.00E+00	.00E+00	.00E+00
in120m	.00E+00	.00E+00	.00E+00	.00E+00
sn120	1.12E+00	1.12E+00	1.12E+00	1.12E+00
rh121	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel  
 nuclide concentrations, grams  
 basis =per critical mass 10.1 MT UO2

fission products

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	initial	300000. yr	500000. yr	999999. yr
pd121	.00E+00	.00E+00	.00E+00	.00E+00
ag121	.00E+00	.00E+00	.00E+00	.00E+00
cd121	.00E+00	.00E+00	.00E+00	.00E+00
in121	.00E+00	.00E+00	.00E+00	.00E+00

in121m	.00E+00	.00E+00	.00E+00	.00E+00
sn121	.00E+00	.00E+00	.00E+00	.00E+00
sn121m	.00E+00	.00E+00	.00E+00	.00E+00
sb121	1.22E+00	1.22E+00	1.22E+00	1.22E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00
pd122	.00E+00	.00E+00	.00E+00	.00E+00
ag122	.00E+00	.00E+00	.00E+00	.00E+00
cd122	.00E+00	.00E+00	.00E+00	.00E+00
in122	.00E+00	.00E+00	.00E+00	.00E+00
in122m	.00E+00	.00E+00	.00E+00	.00E+00
sn122	1.44E+00	1.44E+00	1.44E+00	1.44E+00
sb122	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	.00E+00	.00E+00	.00E+00	.00E+00
te122	1.05E-03	1.05E-03	1.05E-03	1.05E-03
rh123	.00E+00	.00E+00	.00E+00	.00E+00
pd123	.00E+00	.00E+00	.00E+00	.00E+00
ag123	.00E+00	.00E+00	.00E+00	.00E+00
cd123	.00E+00	.00E+00	.00E+00	.00E+00
in123	.00E+00	.00E+00	.00E+00	.00E+00
in123m	.00E+00	.00E+00	.00E+00	.00E+00
sn123	.00E+00	.00E+00	.00E+00	.00E+00
sn123m	.00E+00	.00E+00	.00E+00	.00E+00
sb123	1.47E+00	1.47E+00	1.47E+00	1.47E+00
te123	3.07E-07	3.07E-07	3.07E-07	3.07E-07
te123m	.00E+00	.00E+00	.00E+00	.00E+00
pd124	.00E+00	.00E+00	.00E+00	.00E+00
ag124	.00E+00	.00E+00	.00E+00	.00E+00
cd124	.00E+00	.00E+00	.00E+00	.00E+00
in124	.00E+00	.00E+00	.00E+00	.00E+00
sn124	2.44E+00	2.44E+00	2.44E+00	2.44E+00
sb124	.00E+00	.00E+00	.00E+00	.00E+00
sb124m	.00E+00	.00E+00	.00E+00	.00E+00
te124	2.18E-03	2.18E-03	2.18E-03	2.18E-03
pd125	.00E+00	.00E+00	.00E+00	.00E+00
ag125	.00E+00	.00E+00	.00E+00	.00E+00
cd125	.00E+00	.00E+00	.00E+00	.00E+00
in125	.00E+00	.00E+00	.00E+00	.00E+00
in125m	.00E+00	.00E+00	.00E+00	.00E+00
sn125	.00E+00	.00E+00	.00E+00	.00E+00
sn125m	.00E+00	.00E+00	.00E+00	.00E+00
sb125	.00E+00	.00E+00	.00E+00	.00E+00
te125	2.85E+00	2.85E+00	2.85E+00	2.85E+00
te125m	.00E+00	.00E+00	.00E+00	.00E+00
pd126	.00E+00	.00E+00	.00E+00	.00E+00
ag126	.00E+00	.00E+00	.00E+00	.00E+00
cd126	.00E+00	.00E+00	.00E+00	.00E+00
in126	.00E+00	.00E+00	.00E+00	.00E+00
sn126	7.70E-01	5.45E-01	1.36E-01	4.26E-03

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel  
nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2

fission products

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	initial	300000. yr	500000. yr	999999. yr
sb126	3.66E-08	2.59E-08	6.47E-09	2.02E-10
sb126m	2.78E-10	1.97E-10	4.92E-11	1.54E-12
te126	3.77E+00	4.00E+00	4.40E+00	4.54E+00
xe126	4.59E-10	4.59E-10	4.59E-10	4.59E-10
ag127	.00E+00	.00E+00	.00E+00	.00E+00
cd127	.00E+00	.00E+00	.00E+00	.00E+00
in127	.00E+00	.00E+00	.00E+00	.00E+00

in127m	.00E+00	.00E+00	.00E+00	.00E+00
sn127	.00E+00	.00E+00	.00E+00	.00E+00
sn127m	.00E+00	.00E+00	.00E+00	.00E+00
sb127	.00E+00	.00E+00	.00E+00	.00E+00
te127	.00E+00	.00E+00	.00E+00	.00E+00
te127m	.00E+00	.00E+00	.00E+00	.00E+00
i127	1.21E+01	1.21E+01	1.21E+01	1.21E+01
xe127	.00E+00	.00E+00	.00E+00	.00E+00
ag128	.00E+00	.00E+00	.00E+00	.00E+00
cd128	.00E+00	.00E+00	.00E+00	.00E+00
in128	.00E+00	.00E+00	.00E+00	.00E+00
sn128	.00E+00	.00E+00	.00E+00	.00E+00
sb128	.00E+00	.00E+00	.00E+00	.00E+00
sb128m	.00E+00	.00E+00	.00E+00	.00E+00
te128	3.17E+01	3.17E+01	3.17E+01	3.17E+01
i128	.00E+00	.00E+00	.00E+00	.00E+00
xe128	9.50E-03	9.50E-03	9.50E-03	9.50E-03
cd129	.00E+00	.00E+00	.00E+00	.00E+00
in129	.00E+00	.00E+00	.00E+00	.00E+00
sn129	.00E+00	.00E+00	.00E+00	.00E+00
sn129m	.00E+00	.00E+00	.00E+00	.00E+00
sb129	.00E+00	.00E+00	.00E+00	.00E+00
te129	.00E+00	.00E+00	.00E+00	.00E+00
te129m	.00E+00	.00E+00	.00E+00	.00E+00
i129	6.68E+01	6.66E+01	6.60E+01	6.46E+01
xe129	7.56E-01	9.03E-01	1.49E+00	2.93E+00
xe129m	.00E+00	.00E+00	.00E+00	.00E+00
cd130	.00E+00	.00E+00	.00E+00	.00E+00
in130	.00E+00	.00E+00	.00E+00	.00E+00
sn130	.00E+00	.00E+00	.00E+00	.00E+00
sb130	.00E+00	.00E+00	.00E+00	.00E+00
sb130m	.00E+00	.00E+00	.00E+00	.00E+00
te130	1.52E+02	1.52E+02	1.52E+02	1.52E+02
i130	.00E+00	.00E+00	.00E+00	.00E+00
i130m	.00E+00	.00E+00	.00E+00	.00E+00
xe130	1.79E-01	1.79E-01	1.79E-01	1.79E-01
cd131	.00E+00	.00E+00	.00E+00	.00E+00
in131	.00E+00	.00E+00	.00E+00	.00E+00
sn131	.00E+00	.00E+00	.00E+00	.00E+00
sb131	.00E+00	.00E+00	.00E+00	.00E+00
te131	.00E+00	.00E+00	.00E+00	.00E+00
te131m	.00E+00	.00E+00	.00E+00	.00E+00
i131	.00E+00	.00E+00	.00E+00	.00E+00
xe131	2.49E+02	2.49E+02	2.49E+02	2.49E+02
xe131m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
cd132	.00E+00	.00E+00	.00E+00	.00E+00
in132	.00E+00	.00E+00	.00E+00	.00E+00
sn132	.00E+00	.00E+00	.00E+00	.00E+00
sb132	.00E+00	.00E+00	.00E+00	.00E+00
sb132m	.00E+00	.00E+00	.00E+00	.00E+00
te132	.00E+00	.00E+00	.00E+00	.00E+00
i132	.00E+00	.00E+00	.00E+00	.00E+00
xe132	3.83E+02	3.83E+02	3.83E+02	3.83E+02
cs132	.00E+00	.00E+00	.00E+00	.00E+00
ba132	1.54E-06	1.54E-06	1.54E-06	1.54E-06

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in133	.00E+00	.00E+00	.00E+00	.00E+00
sn133	.00E+00	.00E+00	.00E+00	.00E+00
sb133	.00E+00	.00E+00	.00E+00	.00E+00
te133	.00E+00	.00E+00	.00E+00	.00E+00
te133m	.00E+00	.00E+00	.00E+00	.00E+00
i133	.00E+00	.00E+00	.00E+00	.00E+00
i133m	.00E+00	.00E+00	.00E+00	.00E+00
xe133	.00E+00	.00E+00	.00E+00	.00E+00
xe133m	.00E+00	.00E+00	.00E+00	.00E+00
cs133	5.81E+02	5.81E+02	5.81E+02	5.81E+02
ba133	.00E+00	.00E+00	.00E+00	.00E+00
in134	.00E+00	.00E+00	.00E+00	.00E+00
sn134	.00E+00	.00E+00	.00E+00	.00E+00
sb134	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	.00E+00	.00E+00	.00E+00	.00E+00
te134	.00E+00	.00E+00	.00E+00	.00E+00
i134	.00E+00	.00E+00	.00E+00	.00E+00
i134m	.00E+00	.00E+00	.00E+00	.00E+00
xe134	6.84E+02	6.84E+02	6.84E+02	6.84E+02
xe134m	.00E+00	.00E+00	.00E+00	.00E+00
cs134	.00E+00	.00E+00	.00E+00	.00E+00
cs134m	.00E+00	.00E+00	.00E+00	.00E+00
ba134	3.17E+00	3.17E+00	3.17E+00	3.17E+00
sn135	.00E+00	.00E+00	.00E+00	.00E+00
sb135	.00E+00	.00E+00	.00E+00	.00E+00
te135	.00E+00	.00E+00	.00E+00	.00E+00
i135	.00E+00	.00E+00	.00E+00	.00E+00
xe135	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	.00E+00	.00E+00	.00E+00	.00E+00
cs135	5.39E+02	5.31E+02	5.00E+02	4.30E+02
cs135m	.00E+00	.00E+00	.00E+00	.00E+00
ba135	4.31E+01	5.11E+01	8.22E+01	1.52E+02
ba135m	.00E+00	.00E+00	.00E+00	.00E+00
sn136	.00E+00	.00E+00	.00E+00	.00E+00
sb136	.00E+00	.00E+00	.00E+00	.00E+00
te136	.00E+00	.00E+00	.00E+00	.00E+00
i136	.00E+00	.00E+00	.00E+00	.00E+00
i136m	.00E+00	.00E+00	.00E+00	.00E+00
xe136	5.63E+02	5.63E+02	5.63E+02	5.63E+02
cs136	.00E+00	.00E+00	.00E+00	.00E+00
ba136	1.59E+00	1.59E+00	1.59E+00	1.59E+00
ba136m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
sb137	.00E+00	.00E+00	.00E+00	.00E+00
te137	.00E+00	.00E+00	.00E+00	.00E+00
i137	.00E+00	.00E+00	.00E+00	.00E+00
xe137	.00E+00	.00E+00	.00E+00	.00E+00
cs137	.00E+00	.00E+00	.00E+00	.00E+00
ba137	5.65E+02	5.65E+02	5.65E+02	5.65E+02
ba137m	.00E+00	.00E+00	.00E+00	.00E+00
sb138	.00E+00	.00E+00	.00E+00	.00E+00
te138	.00E+00	.00E+00	.00E+00	.00E+00
i138	.00E+00	.00E+00	.00E+00	.00E+00
xe138	.00E+00	.00E+00	.00E+00	.00E+00
cs138	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	.00E+00	.00E+00	.00E+00	.00E+00

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ba138	5.99E+02	5.99E+02	5.99E+02	5.99E+02
la138	3.18E-03	3.18E-03	3.18E-03	3.18E-03
sb139	.00E+00	.00E+00	.00E+00	.00E+00
te139	.00E+00	.00E+00	.00E+00	.00E+00
i139	.00E+00	.00E+00	.00E+00	.00E+00
xe139	.00E+00	.00E+00	.00E+00	.00E+00
cs139	.00E+00	.00E+00	.00E+00	.00E+00
ba139	.00E+00	.00E+00	.00E+00	.00E+00
la139	5.72E+02	5.72E+02	5.72E+02	5.72E+02
ce139	.00E+00	.00E+00	.00E+00	.00E+00
pr139	.00E+00	.00E+00	.00E+00	.00E+00
te140	.00E+00	.00E+00	.00E+00	.00E+00
i140	.00E+00	.00E+00	.00E+00	.00E+00
xe140	.00E+00	.00E+00	.00E+00	.00E+00
cs140	.00E+00	.00E+00	.00E+00	.00E+00
ba140	.00E+00	.00E+00	.00E+00	.00E+00
la140	.00E+00	.00E+00	.00E+00	.00E+00
ce140	5.73E+02	5.73E+02	5.73E+02	5.73E+02
pr140	.00E+00	.00E+00	.00E+00	.00E+00
te141	.00E+00	.00E+00	.00E+00	.00E+00
i141	.00E+00	.00E+00	.00E+00	.00E+00
xe141	.00E+00	.00E+00	.00E+00	.00E+00
cs141	.00E+00	.00E+00	.00E+00	.00E+00
ba141	.00E+00	.00E+00	.00E+00	.00E+00
la141	.00E+00	.00E+00	.00E+00	.00E+00
ce141	.00E+00	.00E+00	.00E+00	.00E+00
pr141	5.30E+02	5.30E+02	5.30E+02	5.30E+02
nd141	.00E+00	.00E+00	.00E+00	.00E+00
te142	.00E+00	.00E+00	.00E+00	.00E+00
i142	.00E+00	.00E+00	.00E+00	.00E+00
xe142	.00E+00	.00E+00	.00E+00	.00E+00
cs142	.00E+00	.00E+00	.00E+00	.00E+00
ba142	.00E+00	.00E+00	.00E+00	.00E+00
la142	.00E+00	.00E+00	.00E+00	.00E+00
ce142	5.38E+02	5.38E+02	5.38E+02	5.38E+02
pr142	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00
nd142	5.58E-01	5.58E-01	5.58E-01	5.58E-01
i143	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel  
nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2

fission products

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	initial	300000.	yr500000.	yr999999.	yr
xe143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd143	5.30E+02	5.30E+02	5.30E+02	5.30E+02	5.30E+02
i144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd144	5.16E+02	5.16E+02	5.16E+02	5.16E+02	5.16E+02

i145	.00E+00	.00E+00	.00E+00	.00E+00
xe145	.00E+00	.00E+00	.00E+00	.00E+00
cs145	.00E+00	.00E+00	.00E+00	.00E+00
ba145	.00E+00	.00E+00	.00E+00	.00E+00
la145	.00E+00	.00E+00	.00E+00	.00E+00
ce145	.00E+00	.00E+00	.00E+00	.00E+00
pr145	.00E+00	.00E+00	.00E+00	.00E+00
nd145	3.64E+02	3.64E+02	3.64E+02	3.64E+02
pm145	.00E+00	.00E+00	.00E+00	.00E+00
sm145	.00E+00	.00E+00	.00E+00	.00E+00
xe146	.00E+00	.00E+00	.00E+00	.00E+00
cs146	.00E+00	.00E+00	.00E+00	.00E+00
ba146	.00E+00	.00E+00	.00E+00	.00E+00
la146	.00E+00	.00E+00	.00E+00	.00E+00
ce146	.00E+00	.00E+00	.00E+00	.00E+00
pr146	.00E+00	.00E+00	.00E+00	.00E+00
nd146	2.84E+02	2.84E+02	2.84E+02	2.84E+02
pm146	.00E+00	.00E+00	.00E+00	.00E+00
sm146	2.55E-04	2.55E-04	2.54E-04	2.53E-04
xe147	.00E+00	.00E+00	.00E+00	.00E+00
cs147	.00E+00	.00E+00	.00E+00	.00E+00
ba147	.00E+00	.00E+00	.00E+00	.00E+00
la147	.00E+00	.00E+00	.00E+00	.00E+00
ce147	.00E+00	.00E+00	.00E+00	.00E+00
pr147	.00E+00	.00E+00	.00E+00	.00E+00
nd147	.00E+00	.00E+00	.00E+00	.00E+00
pm147	.00E+00	.00E+00	.00E+00	.00E+00
sm147	2.14E+02	2.14E+02	2.14E+02	2.14E+02
cs148	.00E+00	.00E+00	.00E+00	.00E+00
ba148	.00E+00	.00E+00	.00E+00	.00E+00
la148	.00E+00	.00E+00	.00E+00	.00E+00
ce148	.00E+00	.00E+00	.00E+00	.00E+00
pr148	.00E+00	.00E+00	.00E+00	.00E+00
nd148	1.63E+02	1.63E+02	1.63E+02	1.63E+02
pm148	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

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	initial	300000. yr	500000. yr	999999. yr
sm148	2.58E+00	2.58E+00	2.58E+00	2.58E+00
cs149	.00E+00	.00E+00	.00E+00	.00E+00
ba149	.00E+00	.00E+00	.00E+00	.00E+00
la149	.00E+00	.00E+00	.00E+00	.00E+00
ce149	.00E+00	.00E+00	.00E+00	.00E+00
pr149	.00E+00	.00E+00	.00E+00	.00E+00
nd149	.00E+00	.00E+00	.00E+00	.00E+00
pm149	.00E+00	.00E+00	.00E+00	.00E+00
sm149	8.02E+00	8.02E+00	8.02E+00	8.02E+00
eu149	.00E+00	.00E+00	.00E+00	.00E+00
cs150	.00E+00	.00E+00	.00E+00	.00E+00
ba150	.00E+00	.00E+00	.00E+00	.00E+00
la150	.00E+00	.00E+00	.00E+00	.00E+00
ce150	.00E+00	.00E+00	.00E+00	.00E+00
pr150	.00E+00	.00E+00	.00E+00	.00E+00
nd150	6.73E+01	6.73E+01	6.73E+01	6.73E+01
pm150	.00E+00	.00E+00	.00E+00	.00E+00
sm150	9.83E+01	9.83E+01	9.83E+01	9.83E+01
eu150	.00E+00	.00E+00	.00E+00	.00E+00

nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2

ba151	.00E+00	.00E+00	.00E+00	.00E+00
la151	.00E+00	.00E+00	.00E+00	.00E+00
ce151	.00E+00	.00E+00	.00E+00	.00E+00
pr151	.00E+00	.00E+00	.00E+00	.00E+00
nd151	.00E+00	.00E+00	.00E+00	.00E+00
pm151	.00E+00	.00E+00	.00E+00	.00E+00
sm151	.00E+00	.00E+00	.00E+00	.00E+00
eu151	2.83E+01	2.83E+01	2.83E+01	2.83E+01
ba152	.00E+00	.00E+00	.00E+00	.00E+00
la152	.00E+00	.00E+00	.00E+00	.00E+00
ce152	.00E+00	.00E+00	.00E+00	.00E+00
pr152	.00E+00	.00E+00	.00E+00	.00E+00
nd152	.00E+00	.00E+00	.00E+00	.00E+00
pm152	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	.00E+00	.00E+00	.00E+00	.00E+00
sm152	3.80E+01	3.80E+01	3.80E+01	3.80E+01
eu152	.00E+00	.00E+00	.00E+00	.00E+00
eu152m	.00E+00	.00E+00	.00E+00	.00E+00
gd152	7.11E+00	7.11E+00	7.11E+00	7.11E+00
la153	.00E+00	.00E+00	.00E+00	.00E+00
ce153	.00E+00	.00E+00	.00E+00	.00E+00
pr153	.00E+00	.00E+00	.00E+00	.00E+00
nd153	.00E+00	.00E+00	.00E+00	.00E+00
pm153	.00E+00	.00E+00	.00E+00	.00E+00
sm153	.00E+00	.00E+00	.00E+00	.00E+00
eu153	1.90E+01	1.90E+01	1.90E+01	1.90E+01
gd153	.00E+00	.00E+00	.00E+00	.00E+00
la154	.00E+00	.00E+00	.00E+00	.00E+00
ce154	.00E+00	.00E+00	.00E+00	.00E+00
pr154	.00E+00	.00E+00	.00E+00	.00E+00
nd154	.00E+00	.00E+00	.00E+00	.00E+00
pm154	.00E+00	.00E+00	.00E+00	.00E+00
pm154m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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	nuclide concentrations, grams basis =per critical mass 10.1 MT UO2			
	initial	300000. yr	500000. yr	999999. yr
sm154	8.99E+00	8.99E+00	8.99E+00	8.99E+00
eu154	.00E+00	.00E+00	.00E+00	.00E+00
gd154	5.97E-01	5.97E-01	5.97E-01	5.97E-01
la155	.00E+00	.00E+00	.00E+00	.00E+00
ce155	.00E+00	.00E+00	.00E+00	.00E+00
pr155	.00E+00	.00E+00	.00E+00	.00E+00
nd155	.00E+00	.00E+00	.00E+00	.00E+00
pm155	.00E+00	.00E+00	.00E+00	.00E+00
sm155	.00E+00	.00E+00	.00E+00	.00E+00
eu155	.00E+00	.00E+00	.00E+00	.00E+00
gd155m	.00E+00	.00E+00	.00E+00	.00E+00
gd155	8.62E-01	8.62E-01	8.62E-01	8.62E-01
ce156	.00E+00	.00E+00	.00E+00	.00E+00
pr156	.00E+00	.00E+00	.00E+00	.00E+00
nd156	.00E+00	.00E+00	.00E+00	.00E+00
pm156	.00E+00	.00E+00	.00E+00	.00E+00
sm156	.00E+00	.00E+00	.00E+00	.00E+00
eu156	.00E+00	.00E+00	.00E+00	.00E+00
gd156	5.66E+00	5.66E+00	5.66E+00	5.66E+00
ce157	.00E+00	.00E+00	.00E+00	.00E+00
pr157	.00E+00	.00E+00	.00E+00	.00E+00
nd157	.00E+00	.00E+00	.00E+00	.00E+00

pm157	.00E+00	.00E+00	.00E+00	.00E+00
sm157	.00E+00	.00E+00	.00E+00	.00E+00
eu157	.00E+00	.00E+00	.00E+00	.00E+00
gd157	7.02E-02	7.02E-02	7.02E-02	7.02E-02
pr158	.00E+00	.00E+00	.00E+00	.00E+00
nd158	.00E+00	.00E+00	.00E+00	.00E+00
pm158	.00E+00	.00E+00	.00E+00	.00E+00
sm158	.00E+00	.00E+00	.00E+00	.00E+00
eu158	.00E+00	.00E+00	.00E+00	.00E+00
gd158	1.65E+00	1.65E+00	1.65E+00	1.65E+00
pr159	.00E+00	.00E+00	.00E+00	.00E+00
nd159	.00E+00	.00E+00	.00E+00	.00E+00
pm159	.00E+00	.00E+00	.00E+00	.00E+00
sm159	.00E+00	.00E+00	.00E+00	.00E+00
eu159	.00E+00	.00E+00	.00E+00	.00E+00
gd159	.00E+00	.00E+00	.00E+00	.00E+00
tb159	2.45E-01	2.45E-01	2.45E-01	2.45E-01
nd160	.00E+00	.00E+00	.00E+00	.00E+00
pm160	.00E+00	.00E+00	.00E+00	.00E+00
sm160	.00E+00	.00E+00	.00E+00	.00E+00
eu160	.00E+00	.00E+00	.00E+00	.00E+00
gd160	9.96E-02	9.96E-02	9.96E-02	9.96E-02
tb160	.00E+00	.00E+00	.00E+00	.00E+00
dy160	6.86E-04	6.86E-04	6.86E-04	6.86E-04
nd161	.00E+00	.00E+00	.00E+00	.00E+00
pm161	.00E+00	.00E+00	.00E+00	.00E+00
sm161	.00E+00	.00E+00	.00E+00	.00E+00
eu161	.00E+00	.00E+00	.00E+00	.00E+00
gd161	.00E+00	.00E+00	.00E+00	.00E+00
tb161	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
dy161	4.06E-02	4.06E-02	4.06E-02	4.06E-02
pm162	.00E+00	.00E+00	.00E+00	.00E+00
sm162	.00E+00	.00E+00	.00E+00	.00E+00
eu162	.00E+00	.00E+00	.00E+00	.00E+00
gd162	.00E+00	.00E+00	.00E+00	.00E+00
tb162	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	.00E+00	.00E+00	.00E+00	.00E+00
dy162	1.93E-02	1.93E-02	1.93E-02	1.93E-02
sm163	.00E+00	.00E+00	.00E+00	.00E+00
eu163	.00E+00	.00E+00	.00E+00	.00E+00
gd163	.00E+00	.00E+00	.00E+00	.00E+00
tb163	.00E+00	.00E+00	.00E+00	.00E+00
tb163m	.00E+00	.00E+00	.00E+00	.00E+00
dy163	7.35E-03	7.35E-03	7.35E-03	7.35E-03
sm164	.00E+00	.00E+00	.00E+00	.00E+00
eu164	.00E+00	.00E+00	.00E+00	.00E+00
gd164	.00E+00	.00E+00	.00E+00	.00E+00
tb164	.00E+00	.00E+00	.00E+00	.00E+00
dy164	2.40E-03	2.40E-03	2.40E-03	2.40E-03
sm165	.00E+00	.00E+00	.00E+00	.00E+00
eu165	.00E+00	.00E+00	.00E+00	.00E+00
gd165	.00E+00	.00E+00	.00E+00	.00E+00
tb165	.00E+00	.00E+00	.00E+00	.00E+00
dy165	.00E+00	.00E+00	.00E+00	.00E+00
dy165m	.00E+00	.00E+00	.00E+00	.00E+00

fission products

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ho165	1.34E-03	1.34E-03	1.34E-03	1.34E-03
dy166	.00E+00	.00E+00	.00E+00	.00E+00
ho166	.00E+00	.00E+00	.00E+00	.00E+00
ho166m	.00E+00	.00E+00	.00E+00	.00E+00
er166	1.64E-04	1.64E-04	1.64E-04	1.64E-04
er167	3.51E-07	3.51E-07	3.51E-07	3.51E-07
er167m	.00E+00	.00E+00	.00E+00	.00E+00
er168	1.36E-07	1.36E-07	1.36E-07	1.36E-07
yb168	.00E+00	.00E+00	.00E+00	.00E+00
er169	.00E+00	.00E+00	.00E+00	.00E+00
tm169	2.71E-07	2.71E-07	2.71E-07	2.71E-07
yb169	.00E+00	.00E+00	.00E+00	.00E+00
er170	2.85E-07	2.85E-07	2.85E-07	2.85E-07
tm170	.00E+00	.00E+00	.00E+00	.00E+00
tm170m	.00E+00	.00E+00	.00E+00	.00E+00
yb170	1.63E-09	1.63E-09	1.63E-09	1.63E-09
er171	.00E+00	.00E+00	.00E+00	.00E+00
tm171	.00E+00	.00E+00	.00E+00	.00E+00
yb171	3.96E-07	3.96E-07	3.96E-07	3.96E-07
er172	.00E+00	.00E+00	.00E+00	.00E+00
tm172	.00E+00	.00E+00	.00E+00	.00E+00
yb172	2.57E-07	2.57E-07	2.57E-07	2.57E-07
total	1.51E+04	1.51E+04	1.51E+04	1.51E+04

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
h 3	.00E+00	.00E+00	.00E+00	.00E+00
li 6	.00E+00	.00E+00	.00E+00	.00E+00
li 7	.00E+00	.00E+00	.00E+00	.00E+00
be 9	.00E+00	.00E+00	.00E+00	.00E+00
be 10	1.18E-06	1.15E-06	1.06E-06	8.51E-07
c 14	2.25E-18	5.30E-21	1.60E-31	.00E+00
ni 66	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	.00E+00	.00E+00	.00E+00	.00E+00
cu 67	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	.00E+00	.00E+00	.00E+00	.00E+00
zn 68	.00E+00	.00E+00	.00E+00	.00E+00
zn 69	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	.00E+00	.00E+00	.00E+00	.00E+00
zn 70	.00E+00	.00E+00	.00E+00	.00E+00
ga 70	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	.00E+00	.00E+00	.00E+00	.00E+00
zn 71	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	.00E+00	.00E+00	.00E+00	.00E+00
ge 71	.00E+00	.00E+00	.00E+00	.00E+00
ge 71m	.00E+00	.00E+00	.00E+00	.00E+00
co 72	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	.00E+00	.00E+00	.00E+00	.00E+00
co 73	.00E+00	.00E+00	.00E+00	.00E+00
ni 73	.00E+00	.00E+00	.00E+00	.00E+00
cu 73	.00E+00	.00E+00	.00E+00	.00E+00

zn 73	.00E+00	.00E+00	.00E+00	.00E+00
ga 73	.00E+00	.00E+00	.00E+00	.00E+00
ge 73	.00E+00	.00E+00	.00E+00	.00E+00
ge 73m	.00E+00	.00E+00	.00E+00	.00E+00
co 74	.00E+00	.00E+00	.00E+00	.00E+00
ni 74	.00E+00	.00E+00	.00E+00	.00E+00
cu 74	.00E+00	.00E+00	.00E+00	.00E+00
zn 74	.00E+00	.00E+00	.00E+00	.00E+00
ga 74	.00E+00	.00E+00	.00E+00	.00E+00
ge 74	.00E+00	.00E+00	.00E+00	.00E+00
co 75	.00E+00	.00E+00	.00E+00	.00E+00
ni 75	.00E+00	.00E+00	.00E+00	.00E+00
cu 75	.00E+00	.00E+00	.00E+00	.00E+00
zn 75	.00E+00	.00E+00	.00E+00	.00E+00
ga 75	.00E+00	.00E+00	.00E+00	.00E+00
ge 75	.00E+00	.00E+00	.00E+00	.00E+00
ge 75m	.00E+00	.00E+00	.00E+00	.00E+00
as 75	.00E+00	.00E+00	.00E+00	.00E+00
ni 76	.00E+00	.00E+00	.00E+00	.00E+00
cu 76	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
zn 76	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	.00E+00	.00E+00	.00E+00	.00E+00
as 76	.00E+00	.00E+00	.00E+00	.00E+00
se 76	.00E+00	.00E+00	.00E+00	.00E+00
ni 77	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	.00E+00	.00E+00	.00E+00	.00E+00
as 77	.00E+00	.00E+00	.00E+00	.00E+00
se 77	.00E+00	.00E+00	.00E+00	.00E+00
se 77m	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	.00E+00	.00E+00	.00E+00	.00E+00
as 78	.00E+00	.00E+00	.00E+00	.00E+00
se 78	.00E+00	.00E+00	.00E+00	.00E+00
cu 79	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	.00E+00	.00E+00	.00E+00	.00E+00
as 79	.00E+00	.00E+00	.00E+00	.00E+00
se 79	1.83E-02	1.65E-02	1.08E-02	3.78E-03
se 79m	.00E+00	.00E+00	.00E+00	.00E+00
br 79	.00E+00	.00E+00	.00E+00	.00E+00
br 79m	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	.00E+00	.00E+00	.00E+00	.00E+00

as 80	.00E+00	.00E+00	.00E+00	.00E+00
se 80	.00E+00	.00E+00	.00E+00	.00E+00
br 80	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	.00E+00	.00E+00	.00E+00	.00E+00
cu 81	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	.00E+00	.00E+00	.00E+00	.00E+00
as 81	.00E+00	.00E+00	.00E+00	.00E+00
se 81	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	.00E+00	.00E+00	.00E+00	.00E+00
br 81	.00E+00	.00E+00	.00E+00	.00E+00
kr 81	2.61E-09	2.21E-09	1.16E-09	2.27E-10
kr 81m	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
ge 82	.00E+00	.00E+00	.00E+00	.00E+00
as 82	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	.00E+00	.00E+00	.00E+00	.00E+00
se 82	.00E+00	.00E+00	.00E+00	.00E+00
br 82	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	.00E+00	.00E+00	.00E+00	.00E+00
zn 83	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	.00E+00	.00E+00	.00E+00	.00E+00
as 83	.00E+00	.00E+00	.00E+00	.00E+00
se 83	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	.00E+00	.00E+00	.00E+00	.00E+00
br 83	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	.00E+00	.00E+00	.00E+00	.00E+00
kr 83m	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	.00E+00	.00E+00	.00E+00	.00E+00
as 84	.00E+00	.00E+00	.00E+00	.00E+00
se 84	.00E+00	.00E+00	.00E+00	.00E+00
br 84	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	.00E+00	.00E+00	.00E+00	.00E+00
ga 85	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	.00E+00	.00E+00	.00E+00	.00E+00
as 85	.00E+00	.00E+00	.00E+00	.00E+00
se 85	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	.00E+00	.00E+00	.00E+00	.00E+00
br 85	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	.00E+00	.00E+00	.00E+00	.00E+00
kr 85m	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	.00E+00	.00E+00	.00E+00	.00E+00
ge 86	.00E+00	.00E+00	.00E+00	.00E+00
as 86	.00E+00	.00E+00	.00E+00	.00E+00
se 86	.00E+00	.00E+00	.00E+00	.00E+00
br 86	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	.00E+00	.00E+00	.00E+00	.00E+00



rb 86	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	.00E+00	.00E+00	.00E+00	.00E+00
ge 87	.00E+00	.00E+00	.00E+00	.00E+00
as 87	.00E+00	.00E+00	.00E+00	.00E+00
se 87	.00E+00	.00E+00	.00E+00	.00E+00
br 87	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	1.18E-05	1.18E-05	1.18E-05	1.18E-05
sr 87	.00E+00	.00E+00	.00E+00	.00E+00
sr 87m	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	.00E+00	.00E+00	.00E+00	.00E+00
as 88	.00E+00	.00E+00	.00E+00	.00E+00
se 88	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

	initial	300000.	yr500000.	yr999999.	yr
br 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 92	4.87E-12	4.86E-12	4.84E-12	4.79E-12	
se 93	.00E+00	.00E+00	.00E+00	.00E+00	

br 93	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	.00E+00	.00E+00	.00E+00	.00E+00
y 93	.00E+00	.00E+00	.00E+00	.00E+00
zr 93	5.58E-01	5.46E-01	4.98E-01	3.97E-01
nb 93	.00E+00	.00E+00	.00E+00	.00E+00
nb 93m	5.58E-01	5.46E-01	4.98E-01	3.97E-01
br 94	.00E+00	.00E+00	.00E+00	.00E+00
kr 94	.00E+00	.00E+00	.00E+00	.00E+00
rb 94	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

	initial	300000.	yr500000.	yr999999.	yr
sr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 94	5.37E-09	9.74E-10	1.05E-12	4.05E-20	
nb 94m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc 98	6.91E-08	6.85E-08	6.63E-08	6.10E-08	
rb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

nb 99m	.00E+00	.00E+00	.00E+00	.00E+00
mo 99	.00E+00	.00E+00	.00E+00	.00E+00
tc 99	2.91E+00	2.47E+00	1.28E+00	2.48E-01
tc 99m	.00E+00	.00E+00	.00E+00	.00E+00
ru 99	.00E+00	.00E+00	.00E+00	.00E+00
rb100	.00E+00	.00E+00	.00E+00	.00E+00
sr100	.00E+00	.00E+00	.00E+00	.00E+00
y100	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
zr100	.00E+00	.00E+00	.00E+00	.00E+00
nb100	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	.00E+00	.00E+00	.00E+00	.00E+00
mo100	.00E+00	.00E+00	.00E+00	.00E+00
tc100	.00E+00	.00E+00	.00E+00	.00E+00
ru100	.00E+00	.00E+00	.00E+00	.00E+00
rb101	.00E+00	.00E+00	.00E+00	.00E+00
sr101	.00E+00	.00E+00	.00E+00	.00E+00
y101	.00E+00	.00E+00	.00E+00	.00E+00
zr101	.00E+00	.00E+00	.00E+00	.00E+00
nb101	.00E+00	.00E+00	.00E+00	.00E+00
mo101	.00E+00	.00E+00	.00E+00	.00E+00
tc101	.00E+00	.00E+00	.00E+00	.00E+00
ru101	.00E+00	.00E+00	.00E+00	.00E+00
sr102	.00E+00	.00E+00	.00E+00	.00E+00
y102	.00E+00	.00E+00	.00E+00	.00E+00
zr102	.00E+00	.00E+00	.00E+00	.00E+00
nb102	.00E+00	.00E+00	.00E+00	.00E+00
mo102	.00E+00	.00E+00	.00E+00	.00E+00
tc102	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	.00E+00	.00E+00	.00E+00	.00E+00
ru102	.00E+00	.00E+00	.00E+00	.00E+00
rh102	.00E+00	.00E+00	.00E+00	.00E+00
pd102	.00E+00	.00E+00	.00E+00	.00E+00
sr103	.00E+00	.00E+00	.00E+00	.00E+00
y103	.00E+00	.00E+00	.00E+00	.00E+00
zr103	.00E+00	.00E+00	.00E+00	.00E+00
nb103	.00E+00	.00E+00	.00E+00	.00E+00
mo103	.00E+00	.00E+00	.00E+00	.00E+00
tc103	.00E+00	.00E+00	.00E+00	.00E+00
ru103	.00E+00	.00E+00	.00E+00	.00E+00
rh103	.00E+00	.00E+00	.00E+00	.00E+00
rh103m	.00E+00	.00E+00	.00E+00	.00E+00
sr104	.00E+00	.00E+00	.00E+00	.00E+00
y104	.00E+00	.00E+00	.00E+00	.00E+00
zr104	.00E+00	.00E+00	.00E+00	.00E+00
nb104	.00E+00	.00E+00	.00E+00	.00E+00
mo104	.00E+00	.00E+00	.00E+00	.00E+00
tc104	.00E+00	.00E+00	.00E+00	.00E+00
ru104	.00E+00	.00E+00	.00E+00	.00E+00
rh104	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	.00E+00	.00E+00	.00E+00	.00E+00
pd104	.00E+00	.00E+00	.00E+00	.00E+00
y105	.00E+00	.00E+00	.00E+00	.00E+00
zr105	.00E+00	.00E+00	.00E+00	.00E+00
nb105	.00E+00	.00E+00	.00E+00	.00E+00
mo105	.00E+00	.00E+00	.00E+00	.00E+00

tc105	.00E+00	.00E+00	.00E+00	.00E+00
ru105	.00E+00	.00E+00	.00E+00	.00E+00
rh105	.00E+00	.00E+00	.00E+00	.00E+00
rh105m	.00E+00	.00E+00	.00E+00	.00E+00
pd105	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

page 230

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
y106	.00E+00	.00E+00	.00E+00	.00E+00
zr106	.00E+00	.00E+00	.00E+00	.00E+00
nb106	.00E+00	.00E+00	.00E+00	.00E+00
mo106	.00E+00	.00E+00	.00E+00	.00E+00
tc106	.00E+00	.00E+00	.00E+00	.00E+00
ru106	.00E+00	.00E+00	.00E+00	.00E+00
rh106	.00E+00	.00E+00	.00E+00	.00E+00
rh106m	.00E+00	.00E+00	.00E+00	.00E+00
pd106	.00E+00	.00E+00	.00E+00	.00E+00
ag106	.00E+00	.00E+00	.00E+00	.00E+00
y107	.00E+00	.00E+00	.00E+00	.00E+00
zr107	.00E+00	.00E+00	.00E+00	.00E+00
nb107	.00E+00	.00E+00	.00E+00	.00E+00
mo107	.00E+00	.00E+00	.00E+00	.00E+00
tc107	.00E+00	.00E+00	.00E+00	.00E+00
ru107	.00E+00	.00E+00	.00E+00	.00E+00
rh107	.00E+00	.00E+00	.00E+00	.00E+00
pd107	1.27E-02	1.26E-02	1.24E-02	1.17E-02
pd107m	.00E+00	.00E+00	.00E+00	.00E+00
ag107	.00E+00	.00E+00	.00E+00	.00E+00
zr108	.00E+00	.00E+00	.00E+00	.00E+00
nb108	.00E+00	.00E+00	.00E+00	.00E+00
mo108	.00E+00	.00E+00	.00E+00	.00E+00
tc108	.00E+00	.00E+00	.00E+00	.00E+00
ru108	.00E+00	.00E+00	.00E+00	.00E+00
rh108	.00E+00	.00E+00	.00E+00	.00E+00
rh108m	.00E+00	.00E+00	.00E+00	.00E+00
pd108	.00E+00	.00E+00	.00E+00	.00E+00
ag108	.00E+00	.00E+00	.00E+00	.00E+00
ag108m	.00E+00	.00E+00	.00E+00	.00E+00
cd108	.00E+00	.00E+00	.00E+00	.00E+00
zr109	.00E+00	.00E+00	.00E+00	.00E+00
nb109	.00E+00	.00E+00	.00E+00	.00E+00
mo109	.00E+00	.00E+00	.00E+00	.00E+00
tc109	.00E+00	.00E+00	.00E+00	.00E+00
ru109	.00E+00	.00E+00	.00E+00	.00E+00
rh109	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	.00E+00	.00E+00	.00E+00	.00E+00
pd109	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	.00E+00	.00E+00	.00E+00	.00E+00
ag109	.00E+00	.00E+00	.00E+00	.00E+00
ag109m	.00E+00	.00E+00	.00E+00	.00E+00
cd109	.00E+00	.00E+00	.00E+00	.00E+00
nb110	.00E+00	.00E+00	.00E+00	.00E+00
mo110	.00E+00	.00E+00	.00E+00	.00E+00
tc110	.00E+00	.00E+00	.00E+00	.00E+00
ru110	.00E+00	.00E+00	.00E+00	.00E+00
rh110	.00E+00	.00E+00	.00E+00	.00E+00
rh110m	.00E+00	.00E+00	.00E+00	.00E+00
pd110	.00E+00	.00E+00	.00E+00	.00E+00

ag110 .00E+00 .00E+00 .00E+00 .00E+00  
 ag110m .00E+00 .00E+00 .00E+00 .00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

page 231

nuclide radioactivity, curies  
 basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
cd110	.00E+00	.00E+00	.00E+00	.00E+00
nb111	.00E+00	.00E+00	.00E+00	.00E+00
mo111	.00E+00	.00E+00	.00E+00	.00E+00
tc111	.00E+00	.00E+00	.00E+00	.00E+00
ru111	.00E+00	.00E+00	.00E+00	.00E+00
rh111	.00E+00	.00E+00	.00E+00	.00E+00
pd111	.00E+00	.00E+00	.00E+00	.00E+00
pd111m	.00E+00	.00E+00	.00E+00	.00E+00
ag111	.00E+00	.00E+00	.00E+00	.00E+00
ag111m	.00E+00	.00E+00	.00E+00	.00E+00
cd111	.00E+00	.00E+00	.00E+00	.00E+00
cd111m	.00E+00	.00E+00	.00E+00	.00E+00
nb112	.00E+00	.00E+00	.00E+00	.00E+00
mo112	.00E+00	.00E+00	.00E+00	.00E+00
tc112	.00E+00	.00E+00	.00E+00	.00E+00
ru112	.00E+00	.00E+00	.00E+00	.00E+00
rh112	.00E+00	.00E+00	.00E+00	.00E+00
pd112	.00E+00	.00E+00	.00E+00	.00E+00
ag112	.00E+00	.00E+00	.00E+00	.00E+00
cd112	.00E+00	.00E+00	.00E+00	.00E+00
mo113	.00E+00	.00E+00	.00E+00	.00E+00
tc113	.00E+00	.00E+00	.00E+00	.00E+00
ru113	.00E+00	.00E+00	.00E+00	.00E+00
rh113	.00E+00	.00E+00	.00E+00	.00E+00
pd113	.00E+00	.00E+00	.00E+00	.00E+00
ag113	.00E+00	.00E+00	.00E+00	.00E+00
ag113m	.00E+00	.00E+00	.00E+00	.00E+00
cd113	7.43E-14	7.43E-14	7.43E-14	7.43E-14
cd113m	.00E+00	.00E+00	.00E+00	.00E+00
in113	.00E+00	.00E+00	.00E+00	.00E+00
in113m	.00E+00	.00E+00	.00E+00	.00E+00
mo114	.00E+00	.00E+00	.00E+00	.00E+00
tc114	.00E+00	.00E+00	.00E+00	.00E+00
ru114	.00E+00	.00E+00	.00E+00	.00E+00
rh114	.00E+00	.00E+00	.00E+00	.00E+00
pd114	.00E+00	.00E+00	.00E+00	.00E+00
ag114	.00E+00	.00E+00	.00E+00	.00E+00
cd114	.00E+00	.00E+00	.00E+00	.00E+00
in114	.00E+00	.00E+00	.00E+00	.00E+00
in114m	.00E+00	.00E+00	.00E+00	.00E+00
sn114	.00E+00	.00E+00	.00E+00	.00E+00
mo115	.00E+00	.00E+00	.00E+00	.00E+00
tc115	.00E+00	.00E+00	.00E+00	.00E+00
ru115	.00E+00	.00E+00	.00E+00	.00E+00
rh115	.00E+00	.00E+00	.00E+00	.00E+00
pd115	.00E+00	.00E+00	.00E+00	.00E+00
ag115	.00E+00	.00E+00	.00E+00	.00E+00
ag115m	.00E+00	.00E+00	.00E+00	.00E+00
cd115	.00E+00	.00E+00	.00E+00	.00E+00
cd115m	.00E+00	.00E+00	.00E+00	.00E+00
in115	6.60E-12	6.60E-12	6.60E-12	6.60E-12
in115m	.00E+00	.00E+00	.00E+00	.00E+00

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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel fission products page 232

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
sn115	.00E+00	.00E+00	.00E+00	.00E+00
tc116	.00E+00	.00E+00	.00E+00	.00E+00
ru116	.00E+00	.00E+00	.00E+00	.00E+00
rh116	.00E+00	.00E+00	.00E+00	.00E+00
pd116	.00E+00	.00E+00	.00E+00	.00E+00
ag116	.00E+00	.00E+00	.00E+00	.00E+00
ag116m	.00E+00	.00E+00	.00E+00	.00E+00
cd116	.00E+00	.00E+00	.00E+00	.00E+00
in116	.00E+00	.00E+00	.00E+00	.00E+00
in116m	.00E+00	.00E+00	.00E+00	.00E+00
sn116	.00E+00	.00E+00	.00E+00	.00E+00
tc117	.00E+00	.00E+00	.00E+00	.00E+00
ru117	.00E+00	.00E+00	.00E+00	.00E+00
rh117	.00E+00	.00E+00	.00E+00	.00E+00
pd117	.00E+00	.00E+00	.00E+00	.00E+00
ag117	.00E+00	.00E+00	.00E+00	.00E+00
ag117m	.00E+00	.00E+00	.00E+00	.00E+00
cd117	.00E+00	.00E+00	.00E+00	.00E+00
cd117m	.00E+00	.00E+00	.00E+00	.00E+00
in117	.00E+00	.00E+00	.00E+00	.00E+00
in117m	.00E+00	.00E+00	.00E+00	.00E+00
sn117	.00E+00	.00E+00	.00E+00	.00E+00
sn117m	.00E+00	.00E+00	.00E+00	.00E+00
tc118	.00E+00	.00E+00	.00E+00	.00E+00
ru118	.00E+00	.00E+00	.00E+00	.00E+00
rh118	.00E+00	.00E+00	.00E+00	.00E+00
pd118	.00E+00	.00E+00	.00E+00	.00E+00
ag118	.00E+00	.00E+00	.00E+00	.00E+00
ag118m	.00E+00	.00E+00	.00E+00	.00E+00
cd118	.00E+00	.00E+00	.00E+00	.00E+00
in118	.00E+00	.00E+00	.00E+00	.00E+00
in118m	.00E+00	.00E+00	.00E+00	.00E+00
sn118	.00E+00	.00E+00	.00E+00	.00E+00
ru119	.00E+00	.00E+00	.00E+00	.00E+00
rh119	.00E+00	.00E+00	.00E+00	.00E+00
pd119	.00E+00	.00E+00	.00E+00	.00E+00
ag119	.00E+00	.00E+00	.00E+00	.00E+00
cd119	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	.00E+00	.00E+00	.00E+00	.00E+00
in119	.00E+00	.00E+00	.00E+00	.00E+00
in119m	.00E+00	.00E+00	.00E+00	.00E+00
sn119	.00E+00	.00E+00	.00E+00	.00E+00
sn119m	.00E+00	.00E+00	.00E+00	.00E+00
ru120	.00E+00	.00E+00	.00E+00	.00E+00
rh120	.00E+00	.00E+00	.00E+00	.00E+00
pd120	.00E+00	.00E+00	.00E+00	.00E+00
ag120	.00E+00	.00E+00	.00E+00	.00E+00
cd120	.00E+00	.00E+00	.00E+00	.00E+00
in120	.00E+00	.00E+00	.00E+00	.00E+00
in120m	.00E+00	.00E+00	.00E+00	.00E+00
sn120	.00E+00	.00E+00	.00E+00	.00E+00
rh121	.00E+00	.00E+00	.00E+00	.00E+00

1 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel fission products page 233

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

	initial	300000.	yr500000.	yr999999.	yr
pd121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te123	7.20E-17	7.20E-17	7.20E-17	7.20E-17	7.20E-17
te123m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb124m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te125m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn126	2.19E-02	1.55E-02	3.87E-03	1.21E-04	

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Part B 8X UO2 in Tuff (47X H2O) DBF Fuel

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

fission products

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	initial	300000.	yr500000.	yr999999.	yr
sb126	3.06E-03	2.16E-03	5.41E-04	1.69E-05	
sb126m	2.19E-02	1.55E-02	3.87E-03	1.21E-04	

te126	.00E+00	.00E+00	.00E+00	.00E+00
xe126	.00E+00	.00E+00	.00E+00	.00E+00
ag127	.00E+00	.00E+00	.00E+00	.00E+00
cd127	.00E+00	.00E+00	.00E+00	.00E+00
in127	.00E+00	.00E+00	.00E+00	.00E+00
in127m	.00E+00	.00E+00	.00E+00	.00E+00
sn127	.00E+00	.00E+00	.00E+00	.00E+00
sn127m	.00E+00	.00E+00	.00E+00	.00E+00
sb127	.00E+00	.00E+00	.00E+00	.00E+00
te127	.00E+00	.00E+00	.00E+00	.00E+00
te127m	.00E+00	.00E+00	.00E+00	.00E+00
i127	.00E+00	.00E+00	.00E+00	.00E+00
xe127	.00E+00	.00E+00	.00E+00	.00E+00
ag128	.00E+00	.00E+00	.00E+00	.00E+00
cd128	.00E+00	.00E+00	.00E+00	.00E+00
in128	.00E+00	.00E+00	.00E+00	.00E+00
sn128	.00E+00	.00E+00	.00E+00	.00E+00
sb128	.00E+00	.00E+00	.00E+00	.00E+00
sb128m	.00E+00	.00E+00	.00E+00	.00E+00
te128	.00E+00	.00E+00	.00E+00	.00E+00
i128	.00E+00	.00E+00	.00E+00	.00E+00
xe128	.00E+00	.00E+00	.00E+00	.00E+00
cd129	.00E+00	.00E+00	.00E+00	.00E+00
in129	.00E+00	.00E+00	.00E+00	.00E+00
sn129	.00E+00	.00E+00	.00E+00	.00E+00
sn129m	.00E+00	.00E+00	.00E+00	.00E+00
sb129	.00E+00	.00E+00	.00E+00	.00E+00
te129	.00E+00	.00E+00	.00E+00	.00E+00
te129m	.00E+00	.00E+00	.00E+00	.00E+00
i129	1.18E-02	1.18E-02	1.17E-02	1.14E-02
xe129	.00E+00	.00E+00	.00E+00	.00E+00
xe129m	.00E+00	.00E+00	.00E+00	.00E+00
cd130	.00E+00	.00E+00	.00E+00	.00E+00
in130	.00E+00	.00E+00	.00E+00	.00E+00
sn130	.00E+00	.00E+00	.00E+00	.00E+00
sb130	.00E+00	.00E+00	.00E+00	.00E+00
sb130m	.00E+00	.00E+00	.00E+00	.00E+00
te130	.00E+00	.00E+00	.00E+00	.00E+00
i130	.00E+00	.00E+00	.00E+00	.00E+00
i130m	.00E+00	.00E+00	.00E+00	.00E+00
xe130	.00E+00	.00E+00	.00E+00	.00E+00
cd131	.00E+00	.00E+00	.00E+00	.00E+00
in131	.00E+00	.00E+00	.00E+00	.00E+00
sn131	.00E+00	.00E+00	.00E+00	.00E+00
sb131	.00E+00	.00E+00	.00E+00	.00E+00
te131	.00E+00	.00E+00	.00E+00	.00E+00
te131m	.00E+00	.00E+00	.00E+00	.00E+00
i131	.00E+00	.00E+00	.00E+00	.00E+00
xe131	.00E+00	.00E+00	.00E+00	.00E+00
xe131m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

fission products

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	initial	300000. yr	500000. yr	999999. yr
cd132	.00E+00	.00E+00	.00E+00	.00E+00
in132	.00E+00	.00E+00	.00E+00	.00E+00
sn132	.00E+00	.00E+00	.00E+00	.00E+00
sb132	.00E+00	.00E+00	.00E+00	.00E+00
sb132m	.00E+00	.00E+00	.00E+00	.00E+00



te132	.00E+00	.00E+00	.00E+00	.00E+00
i132	.00E+00	.00E+00	.00E+00	.00E+00
xe132	.00E+00	.00E+00	.00E+00	.00E+00
cs132	.00E+00	.00E+00	.00E+00	.00E+00
ba132	.00E+00	.00E+00	.00E+00	.00E+00
in133	.00E+00	.00E+00	.00E+00	.00E+00
sn133	.00E+00	.00E+00	.00E+00	.00E+00
sb133	.00E+00	.00E+00	.00E+00	.00E+00
te133	.00E+00	.00E+00	.00E+00	.00E+00
te133m	.00E+00	.00E+00	.00E+00	.00E+00
i133	.00E+00	.00E+00	.00E+00	.00E+00
i133m	.00E+00	.00E+00	.00E+00	.00E+00
xe133	.00E+00	.00E+00	.00E+00	.00E+00
xe133m	.00E+00	.00E+00	.00E+00	.00E+00
cs133	.00E+00	.00E+00	.00E+00	.00E+00
ba133	.00E+00	.00E+00	.00E+00	.00E+00
in134	.00E+00	.00E+00	.00E+00	.00E+00
sn134	.00E+00	.00E+00	.00E+00	.00E+00
sb134	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	.00E+00	.00E+00	.00E+00	.00E+00
te134	.00E+00	.00E+00	.00E+00	.00E+00
i134	.00E+00	.00E+00	.00E+00	.00E+00
i134m	.00E+00	.00E+00	.00E+00	.00E+00
xe134	.00E+00	.00E+00	.00E+00	.00E+00
xe134m	.00E+00	.00E+00	.00E+00	.00E+00
cs134	.00E+00	.00E+00	.00E+00	.00E+00
cs134m	.00E+00	.00E+00	.00E+00	.00E+00
ba134	.00E+00	.00E+00	.00E+00	.00E+00
sn135	.00E+00	.00E+00	.00E+00	.00E+00
sb135	.00E+00	.00E+00	.00E+00	.00E+00
te135	.00E+00	.00E+00	.00E+00	.00E+00
i135	.00E+00	.00E+00	.00E+00	.00E+00
xe135	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	.00E+00	.00E+00	.00E+00	.00E+00
cs135	6.21E-01	6.12E-01	5.76E-01	4.95E-01
cs135m	.00E+00	.00E+00	.00E+00	.00E+00
ba135	.00E+00	.00E+00	.00E+00	.00E+00
ba135m	.00E+00	.00E+00	.00E+00	.00E+00
sn136	.00E+00	.00E+00	.00E+00	.00E+00
sb136	.00E+00	.00E+00	.00E+00	.00E+00
te136	.00E+00	.00E+00	.00E+00	.00E+00
i136	.00E+00	.00E+00	.00E+00	.00E+00
i136m	.00E+00	.00E+00	.00E+00	.00E+00
xe136	.00E+00	.00E+00	.00E+00	.00E+00
cs136	.00E+00	.00E+00	.00E+00	.00E+00
ba136	.00E+00	.00E+00	.00E+00	.00E+00
ba136m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

fission products

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	initial	300000. yr	500000. yr	999999. yr
sb137	.00E+00	.00E+00	.00E+00	.00E+00
te137	.00E+00	.00E+00	.00E+00	.00E+00
i137	.00E+00	.00E+00	.00E+00	.00E+00
xe137	.00E+00	.00E+00	.00E+00	.00E+00
cs137	.00E+00	.00E+00	.00E+00	.00E+00
ba137	.00E+00	.00E+00	.00E+00	.00E+00
ba137m	.00E+00	.00E+00	.00E+00	.00E+00
sb138	.00E+00	.00E+00	.00E+00	.00E+00

te138	.00E+00	.00E+00	.00E+00	.00E+00
i138	.00E+00	.00E+00	.00E+00	.00E+00
xe138	.00E+00	.00E+00	.00E+00	.00E+00
cs138	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	.00E+00	.00E+00	.00E+00	.00E+00
ba138	.00E+00	.00E+00	.00E+00	.00E+00
la138	7.84E-11	7.84E-11	7.84E-11	7.84E-11
sb139	.00E+00	.00E+00	.00E+00	.00E+00
te139	.00E+00	.00E+00	.00E+00	.00E+00
i139	.00E+00	.00E+00	.00E+00	.00E+00
xe139	.00E+00	.00E+00	.00E+00	.00E+00
cs139	.00E+00	.00E+00	.00E+00	.00E+00
ba139	.00E+00	.00E+00	.00E+00	.00E+00
la139	.00E+00	.00E+00	.00E+00	.00E+00
ce139	.00E+00	.00E+00	.00E+00	.00E+00
pr139	.00E+00	.00E+00	.00E+00	.00E+00
te140	.00E+00	.00E+00	.00E+00	.00E+00
i140	.00E+00	.00E+00	.00E+00	.00E+00
xe140	.00E+00	.00E+00	.00E+00	.00E+00
cs140	.00E+00	.00E+00	.00E+00	.00E+00
ba140	.00E+00	.00E+00	.00E+00	.00E+00
la140	.00E+00	.00E+00	.00E+00	.00E+00
ce140	.00E+00	.00E+00	.00E+00	.00E+00
pr140	.00E+00	.00E+00	.00E+00	.00E+00
te141	.00E+00	.00E+00	.00E+00	.00E+00
i141	.00E+00	.00E+00	.00E+00	.00E+00
xe141	.00E+00	.00E+00	.00E+00	.00E+00
cs141	.00E+00	.00E+00	.00E+00	.00E+00
ba141	.00E+00	.00E+00	.00E+00	.00E+00
la141	.00E+00	.00E+00	.00E+00	.00E+00
ce141	.00E+00	.00E+00	.00E+00	.00E+00
pr141	.00E+00	.00E+00	.00E+00	.00E+00
nd141	.00E+00	.00E+00	.00E+00	.00E+00
te142	.00E+00	.00E+00	.00E+00	.00E+00
i142	.00E+00	.00E+00	.00E+00	.00E+00
xe142	.00E+00	.00E+00	.00E+00	.00E+00
cs142	.00E+00	.00E+00	.00E+00	.00E+00
ba142	.00E+00	.00E+00	.00E+00	.00E+00
la142	.00E+00	.00E+00	.00E+00	.00E+00
ce142	1.29E-05	1.29E-05	1.29E-05	1.29E-05
pr142	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00
nd142	.00E+00	.00E+00	.00E+00	.00E+00
i143	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

fission products

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nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
xe143	.00E+00	.00E+00	.00E+00	.00E+00
cs143	.00E+00	.00E+00	.00E+00	.00E+00
ba143	.00E+00	.00E+00	.00E+00	.00E+00
la143	.00E+00	.00E+00	.00E+00	.00E+00
ce143	.00E+00	.00E+00	.00E+00	.00E+00
pr143	.00E+00	.00E+00	.00E+00	.00E+00
nd143	.00E+00	.00E+00	.00E+00	.00E+00
i144	.00E+00	.00E+00	.00E+00	.00E+00
xe144	.00E+00	.00E+00	.00E+00	.00E+00
cs144	.00E+00	.00E+00	.00E+00	.00E+00
ba144	.00E+00	.00E+00	.00E+00	.00E+00

la144	.00E+00	.00E+00	.00E+00	.00E+00
ce144	.00E+00	.00E+00	.00E+00	.00E+00
pr144	.00E+00	.00E+00	.00E+00	.00E+00
pr144m	.00E+00	.00E+00	.00E+00	.00E+00
nd144	6.13E-10	6.13E-10	6.13E-10	6.13E-10
i145	.00E+00	.00E+00	.00E+00	.00E+00
xe145	.00E+00	.00E+00	.00E+00	.00E+00
cs145	.00E+00	.00E+00	.00E+00	.00E+00
ba145	.00E+00	.00E+00	.00E+00	.00E+00
la145	.00E+00	.00E+00	.00E+00	.00E+00
ce145	.00E+00	.00E+00	.00E+00	.00E+00
pr145	.00E+00	.00E+00	.00E+00	.00E+00
nd145	.00E+00	.00E+00	.00E+00	.00E+00
pm145	.00E+00	.00E+00	.00E+00	.00E+00
sm145	.00E+00	.00E+00	.00E+00	.00E+00
xe146	.00E+00	.00E+00	.00E+00	.00E+00
cs146	.00E+00	.00E+00	.00E+00	.00E+00
ba146	.00E+00	.00E+00	.00E+00	.00E+00
la146	.00E+00	.00E+00	.00E+00	.00E+00
ce146	.00E+00	.00E+00	.00E+00	.00E+00
pr146	.00E+00	.00E+00	.00E+00	.00E+00
nd146	.00E+00	.00E+00	.00E+00	.00E+00
pm146	.00E+00	.00E+00	.00E+00	.00E+00
sm146	6.06E-09	6.06E-09	6.05E-09	6.03E-09
xe147	.00E+00	.00E+00	.00E+00	.00E+00
cs147	.00E+00	.00E+00	.00E+00	.00E+00
ba147	.00E+00	.00E+00	.00E+00	.00E+00
la147	.00E+00	.00E+00	.00E+00	.00E+00
ce147	.00E+00	.00E+00	.00E+00	.00E+00
pr147	.00E+00	.00E+00	.00E+00	.00E+00
nd147	.00E+00	.00E+00	.00E+00	.00E+00
pm147	.00E+00	.00E+00	.00E+00	.00E+00
sm147	4.91E-06	4.91E-06	4.91E-06	4.91E-06
cs148	.00E+00	.00E+00	.00E+00	.00E+00
ba148	.00E+00	.00E+00	.00E+00	.00E+00
la148	.00E+00	.00E+00	.00E+00	.00E+00
ce148	.00E+00	.00E+00	.00E+00	.00E+00
pr148	.00E+00	.00E+00	.00E+00	.00E+00
nd148	.00E+00	.00E+00	.00E+00	.00E+00
pm148	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

fission products

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	initial	300000. yr	500000. yr	999999. yr
sm148	7.86E-13	7.86E-13	7.86E-13	7.86E-13
cs149	.00E+00	.00E+00	.00E+00	.00E+00
ba149	.00E+00	.00E+00	.00E+00	.00E+00
la149	.00E+00	.00E+00	.00E+00	.00E+00
ce149	.00E+00	.00E+00	.00E+00	.00E+00
pr149	.00E+00	.00E+00	.00E+00	.00E+00
nd149	.00E+00	.00E+00	.00E+00	.00E+00
pm149	.00E+00	.00E+00	.00E+00	.00E+00
sm149	1.93E-12	1.93E-12	1.93E-12	1.93E-12
eu149	.00E+00	.00E+00	.00E+00	.00E+00
cs150	.00E+00	.00E+00	.00E+00	.00E+00
ba150	.00E+00	.00E+00	.00E+00	.00E+00
la150	.00E+00	.00E+00	.00E+00	.00E+00
ce150	.00E+00	.00E+00	.00E+00	.00E+00

pr150	.00E+00	.00E+00	.00E+00	.00E+00
nd150	.00E+00	.00E+00	.00E+00	.00E+00
pm150	.00E+00	.00E+00	.00E+00	.00E+00
sm150	.00E+00	.00E+00	.00E+00	.00E+00
eu150	.00E+00	.00E+00	.00E+00	.00E+00
ba151	.00E+00	.00E+00	.00E+00	.00E+00
la151	.00E+00	.00E+00	.00E+00	.00E+00
ce151	.00E+00	.00E+00	.00E+00	.00E+00
pr151	.00E+00	.00E+00	.00E+00	.00E+00
nd151	.00E+00	.00E+00	.00E+00	.00E+00
pm151	.00E+00	.00E+00	.00E+00	.00E+00
sm151	.00E+00	.00E+00	.00E+00	.00E+00
eu151	.00E+00	.00E+00	.00E+00	.00E+00
ba152	.00E+00	.00E+00	.00E+00	.00E+00
la152	.00E+00	.00E+00	.00E+00	.00E+00
ce152	.00E+00	.00E+00	.00E+00	.00E+00
pr152	.00E+00	.00E+00	.00E+00	.00E+00
nd152	.00E+00	.00E+00	.00E+00	.00E+00
pm152	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	.00E+00	.00E+00	.00E+00	.00E+00
sm152	.00E+00	.00E+00	.00E+00	.00E+00
eu152	.00E+00	.00E+00	.00E+00	.00E+00
eu152m	.00E+00	.00E+00	.00E+00	.00E+00
gd152	1.55E-10	1.55E-10	1.55E-10	1.55E-10
la153	.00E+00	.00E+00	.00E+00	.00E+00
ce153	.00E+00	.00E+00	.00E+00	.00E+00
pr153	.00E+00	.00E+00	.00E+00	.00E+00
nd153	.00E+00	.00E+00	.00E+00	.00E+00
pm153	.00E+00	.00E+00	.00E+00	.00E+00
sm153	.00E+00	.00E+00	.00E+00	.00E+00
eu153	.00E+00	.00E+00	.00E+00	.00E+00
gd153	.00E+00	.00E+00	.00E+00	.00E+00
la154	.00E+00	.00E+00	.00E+00	.00E+00
ce154	.00E+00	.00E+00	.00E+00	.00E+00
pr154	.00E+00	.00E+00	.00E+00	.00E+00
nd154	.00E+00	.00E+00	.00E+00	.00E+00
pm154	.00E+00	.00E+00	.00E+00	.00E+00
pm154m	.00E+00	.00E+00	.00E+00	.00E+00

1  
0

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

fission products

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	initial	300000.	yr500000.	yr999999.	yr
sm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

eu156	.00E+00	.00E+00	.00E+00	.00E+00
gd156	.00E+00	.00E+00	.00E+00	.00E+00
ce157	.00E+00	.00E+00	.00E+00	.00E+00
pr157	.00E+00	.00E+00	.00E+00	.00E+00
nd157	.00E+00	.00E+00	.00E+00	.00E+00
pm157	.00E+00	.00E+00	.00E+00	.00E+00
sm157	.00E+00	.00E+00	.00E+00	.00E+00
eu157	.00E+00	.00E+00	.00E+00	.00E+00
gd157	.00E+00	.00E+00	.00E+00	.00E+00
pr158	.00E+00	.00E+00	.00E+00	.00E+00
nd158	.00E+00	.00E+00	.00E+00	.00E+00
pm158	.00E+00	.00E+00	.00E+00	.00E+00
sm158	.00E+00	.00E+00	.00E+00	.00E+00
eu158	.00E+00	.00E+00	.00E+00	.00E+00
gd158	.00E+00	.00E+00	.00E+00	.00E+00
pr159	.00E+00	.00E+00	.00E+00	.00E+00
nd159	.00E+00	.00E+00	.00E+00	.00E+00
pm159	.00E+00	.00E+00	.00E+00	.00E+00
sm159	.00E+00	.00E+00	.00E+00	.00E+00
eu159	.00E+00	.00E+00	.00E+00	.00E+00
gd159	.00E+00	.00E+00	.00E+00	.00E+00
tb159	.00E+00	.00E+00	.00E+00	.00E+00
nd160	.00E+00	.00E+00	.00E+00	.00E+00
pm160	.00E+00	.00E+00	.00E+00	.00E+00
sm160	.00E+00	.00E+00	.00E+00	.00E+00
eu160	.00E+00	.00E+00	.00E+00	.00E+00
gd160	.00E+00	.00E+00	.00E+00	.00E+00
tb160	.00E+00	.00E+00	.00E+00	.00E+00
dy160	.00E+00	.00E+00	.00E+00	.00E+00
nd161	.00E+00	.00E+00	.00E+00	.00E+00
pm161	.00E+00	.00E+00	.00E+00	.00E+00
sm161	.00E+00	.00E+00	.00E+00	.00E+00
eu161	.00E+00	.00E+00	.00E+00	.00E+00
gd161	.00E+00	.00E+00	.00E+00	.00E+00
tb161	.00E+00	.00E+00	.00E+00	.00E+00

1  
0

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel

nuclide radioactivity, curies  
basis =per critical mass 10.1 MT UO2

fission products

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	initial	300000. yr	500000. yr	999999. yr
dy161	.00E+00	.00E+00	.00E+00	.00E+00
pm162	.00E+00	.00E+00	.00E+00	.00E+00
sm162	.00E+00	.00E+00	.00E+00	.00E+00
eu162	.00E+00	.00E+00	.00E+00	.00E+00
gd162	.00E+00	.00E+00	.00E+00	.00E+00
tb162	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	.00E+00	.00E+00	.00E+00	.00E+00
dy162	.00E+00	.00E+00	.00E+00	.00E+00
sm163	.00E+00	.00E+00	.00E+00	.00E+00
eu163	.00E+00	.00E+00	.00E+00	.00E+00
gd163	.00E+00	.00E+00	.00E+00	.00E+00
tb163	.00E+00	.00E+00	.00E+00	.00E+00
tb163m	.00E+00	.00E+00	.00E+00	.00E+00
dy163	.00E+00	.00E+00	.00E+00	.00E+00
sm164	.00E+00	.00E+00	.00E+00	.00E+00
eu164	.00E+00	.00E+00	.00E+00	.00E+00
gd164	.00E+00	.00E+00	.00E+00	.00E+00
tb164	.00E+00	.00E+00	.00E+00	.00E+00
dy164	.00E+00	.00E+00	.00E+00	.00E+00
sm165	.00E+00	.00E+00	.00E+00	.00E+00

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0  
5

```

0 57* array      5 entries read
0 5t
  190 102444
  116 66199
  132 33663 nudata (library) storage size
  144 33734
  103 81099
  61** f1-20
0 60* array      10 entries read
0 65$ array      63 entries read
0 6t
  1140 71957
  used 107068 in size 150000
0jopt
  0 12
  0 0 0 0 0 0 0 0 0 0
Otherm
  5.272101E-01 3.663942E-01 2.909018E+00 1.000000E-25
0non
  7935 5 20 6 18 1697
0mmn
  0 19 10 0 0 1 1 0 0 0 10
  21 100 0 5 0 0 4 0 0
0tconst
  3.156000E+07 4.000000E+02 2.800000E+01 .000000E+00 5.000000E-02
0mzero
  21 4 689 129 879
0pow
  .000000E+00 .000000E+00 .000000E+00
0 linp
  6 9 0 51 26 2 3000 1000 1697 5
0 case or subcase 3 Part B 8% U02 in Tuff (47% H2O) DBF Fuel
0 56$ array      20 entries read
0 57* array      5 entries read
0 5t
  190 102444
  116 66199
  132 33663 nudata (library) storage size
  144 33734
  103 81099
  61** f1-20
0 60* array      10 entries read
0 65$ array      63 entries read
0 6t
  1140 71957
  used 107068 in size 150000
0jopt
  0 12
  0 0 0 0 0 0 0 0 0 0
Otherm
  5.272101E-01 3.663942E-01 2.909018E+00 1.000000E-25
0non
  7935 5 20 6 18 1697
0mmn
  0 19 10 0 0 1 1 0 0 0 10
  21 100 0 5 0 0 4 0 0
0tconst
  3.156000E+07 1.600000E+04 2.500000E+01 .000000E+00 5.000000E-02
0mzero
  21 4 689 129 879

```

```

Opow      3
.000000E+00 .000000E+00 .000000E+00
0 linp      6      0      51      26      2      3000      1000      1697      5
0 case or subcase 4 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel
0 56$ array 20 entries read
0 57* array 5 entries read
0 5t
  l90 102444
  l116 66199
  l32 33663 nudata (library) storage size
  l44 33734
  l103 81099
  61** f1-20
0 60* array 10 entries read
0 65$ array 63 entries read
0 6t
  l140 71957
  used. 107068 in size 150000
Ojopt      12      0      0      0      0      0      0      0      0
  0      0
Otherm      4
5.272101E-01 3.663942E-01 2.909018E+00 1.000000E-25
Onon      5
  7935      20      6      18      1697
Ommn      19      10      0      0      1      1      0      0      0      10
  0      21      100      0      5      0
Otconst      5
3.156000E+07 3.800000E+04 2.500000E+01 .000000E+00 5.000000E-02
Omzero      4
  21      689      129      879
Opow      3
.000000E+00 .000000E+00 .000000E+00
0 linp      6      0      51      26      2      3000      1000      1697      5
0 case or subcase 5 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel
0 56$ array 20 entries read
0 57* array 5 entries read
0 5t
  l90 90544
  l116 53571
  l32 33663 nudata (library) storage size
  l44 33734
  l103 69017
  61** f1-20
0 60* array 3 entries read
0 65$ array 63 entries read
0 6t
  l140 60057
  used. 92263 in size 150000
Ojopt      12      0      0      0      0      0      0      0      0
  0      0
Otherm      4
5.272101E-01 3.663942E-01 2.909018E+00 1.000000E-25
Onon      5
  7935      20      6      18      1697
Ommn      19

```





***DESIGN ANALYSIS***

---

Title: **Probabilistic Criticality Consequence Evaluation  
(SCPB: N/A)**

Document Identifier: BBA000000-01717-0200-00021 REV 00

Originators: J.W.Davis/P.Gottlieb/J.R. Massari

Checkers: D.A.Thomas/J.R.Massari/Z.Ceylan

Lead Design Engineer: P. Gottlieb

Department Manager: Hugh A. Benton

**Attachments Volume IV**

1 primary module access and input record ( scale driver - 95/03/29 - 09:06:37 )  
 - module origins will be called

```

0$$ a8 26 a11 71 e
1$$ 1 1t
DBF Fuel 8% UO2 in Tuff (47% water) 100k year cycle
3$$ 21 0 1 e
' 3$$ 21 0 1 a33 -88
2t
35$$ 0 t
' 54$$ a8 1 e
' 56$$ 0 7 a5 1 a13 -1 a15 3 0 4 e 5t
56$$ 0 7 a13 -1 a15 3 0 4 e 5t
Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle
per critical mass 10.1 MT UO2
60** 0 1 90 365.25 730.5 1826.25 3652.5
' 61** f1-20
' 65$$ a4 1 2z 1 2z 1 5z 1 2z 1
' a25 1 2z 1 2z 1 5z 1 2z 1
' a46 1 2z 1 2z 1 5z 1 2z 1 e
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
' 56$$ 0 -6 a10 1 e t
56$$ 0 10 a10 7 a14 5 a17 4 e 57** 10 e 5t
60** 15 20 30 50 100 150 200 250 300 400
' 61** f1-20
' 65$$ a4 1 2z 1 2z 1 5z 1 2z 1
' a25 1 2z 1 2z 1 5z 1 2z 1
' a46 1 2z 1 2z 1 5z 1 2z 1 e
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
56$$ 0 10 a10 10 a14 5 a17 4 e 57** 400 e 5t
60** 500 1+3 2+3 4+3 6+3 8+3 1+4 1.2+4 1.4+4 1.6+4
' 61** f1-20
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
56$$ 0 10 a10 10 a14 5 a17 4 e 57** 1.6+4 e 5t
60** 1.8+4 2.0+4 2.2+4 2.4+4 2.6+4 2.8+4 3+4 3.2+4 3.6+4 3.8+4
' 61** f1-20
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
56$$ 0 10 a10 10 a14 5 a17 4 e 57** 3.8+4 e 5t
60** 4+4 4.5+4 5+4 5.5+4 6+4 6.5+4 7+4 1+5 2+5 2.5+5
' 61** f1-20
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
56$$ 0 3 a10 10 a14 5 a17 4 e 57** 2.5+5 e 5t
60** 3+5 5+5 999999
' 61** f1-20
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
' 56$$ 0 -10 a10 1 e t
56$$ f0 t
    
```

0	module origins	is finished.	completion code	0.	cpu time used	7.00 (seconds).			
1	oooooooooooo	rrrrrrrrrrrr	iiiiiiiiiiii	gggggggggggg	eeeeeeeeeeee	nn	nn	ssssssssss	
	oooooooooooo	rrrrrrrrrrrr	iiiiiiiiiiii	gggggggggggg	eeeeeeeeeeee	nnn	nn	ssssssssssss	
oo	oo	rr	rr	ii	gg	ee	nnnn	nn	ss ss
oo	oo	rr	rr	ii	gg	ee	nn nn	nn	ss
oo	oo	rr	rr	ii	gg	ee	nn nn	nn	ss
oo	oo	rrrrrrrrrrrr	ii	gg	gggggggg	eeeeeeee	nn nn	nn	ssssssssss
oo	oo	rrrrrrrrrrrr	ii	gg	gggggggg	eeeeeeee	nn nn	nn	ssssssssss





```

' .a46 1 2z 1 2z 1 5z 1 2z 1 e
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
' 56$$ 0 -6 a10 1 e t
56$$ 0 10 a10 7 a14 5 a17 4 e 57** 10 e 5t
60** 15 20 30 50 100 150 200 250 300 400
' 61** f1-20
' 65$$ a4 1 2z 1 2z 1 5z 1 2z 1
' a25 1 2z 1 2z 1 5z 1 2z 1
' a46 1 2z 1 2z 1 5z 1 2z 1 e
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
56$$ 0 10 a10 10 a14 5 a17 4 e 57** 400 e 5t
60** 500 1+3 2+3 4+3 6+3 8+3 1+4 1.2+4 1.4+4 1.6+4
' 61** f1-20
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
56$$ 0 10 a10 10 a14 5 a17 4 e 57** 1.6+4 e 5t
60** 1.8+4 2.0+4 2.2+4 2.4+4 2.6+4 2.8+4 3+4 3.2+4 3.6+4 3.8+4
' 61** f1-20
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
56$$ 0 10 a10 10 a14 5 a17 4 e 57** 3.8+4 e 5t
60** 4+4 4.5+4 5+4 5.5+4 6+4 6.5+4 7+4 1+5 2+5 2.5+5
' 61** f1-20
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
56$$ 0 3 a10 10 a14 5 a17 4 e 57** 2.5+5 e 5t
60** 3+5 5+5 999999
' 61** f1-20
65$$ a25 1 0 0 1 0 0 0 a46 1 0 0 1 0 0 0 e
6t
' 56$$ 0 -10 a10 1 e t
56$$ f0 t

```

0when job "fails", make sure no fido input.....is out here!

```

0 0$ array 12 entries read
0 1$ array 1 entries read
0 1t
0 dbl. prec. machine word applied has, at least, a 16 significant figure accuracy.
0 short-lived split test fraction, qxn = 9.1188E-04
0 half-norm of matrix used, axn = 7.0000E+00
0 4-place-accuracy-retention ratio, ratio4 = 6.4516E-13
0 3$$ 21 0 1 a33 -88
0 3$ array 33 entries read
0 2t
1library information...

```

cross-section data taken from position number 1 of library on unit 21.

```

pass 1
pass 0
*scale-system control module sas2 library*
used a time-dependent neutron spectrum, for each of the above passes
pass 0 applies start-up fuel densities
pass n applies mid time densities of nth library interval
first library updated was...
*****
*
*      prelim lwr origen-s binary working library--id = 1143
*

```





pu236	3.25E-08	3.25E-08	3.25E-08	3.25E-08	3.07E-08	2.59E-08	2.07E-08	1.08E-08	4.27E-09
pu237	6.91E-12	6.91E-12	6.91E-12	6.81E-12	1.74E-12	2.54E-14	9.37E-17	4.67E-24	3.16E-36
pu238	6.56E-01	6.56E-01	6.56E-01	6.56E-01	6.55E-01	6.51E-01	6.46E-01	6.31E-01	6.06E-01
pu239	5.81E+03	5.81E+03	5.81E+03	5.81E+03	5.81E+03	5.81E+03	5.81E+03	5.81E+03	5.81E+03
pu240	5.87E+01	5.87E+01	5.87E+01	5.87E+01	5.87E+01	5.87E+01	5.87E+01	5.87E+01	5.87E+01
pu241	2.95E-03	2.95E-03	2.95E-03	2.95E-03	2.95E-03	2.91E-03	2.81E-03	2.68E-03	2.32E-03
pu242	1.18E-02	1.18E-02	1.18E-02	1.18E-02	1.18E-02	1.18E-02	1.18E-02	1.18E-02	1.18E-02
pu243	3.06E-12	3.06E-12	3.06E-12	1.06E-13	8.11E-28	8.11E-28	8.11E-28	8.11E-28	8.11E-28
pu244	6.41E-21	6.41E-21	6.41E-21	6.41E-21	6.41E-21	6.41E-21	6.41E-21	6.41E-21	6.41E-21
pu245	3.30E-32	3.30E-32	3.30E-32	6.77E-33	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu246	.00E+00	.00E+00	.00E+00	1.38E-42	2.21E-41	.00E+00	.00E+00	.00E+00	.00E+00
am239	2.97E-18	2.97E-18	2.97E-18	7.34E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am240	1.37E-15	1.37E-15	1.37E-15	9.85E-16	2.28E-28	.00E+00	.00E+00	.00E+00	.00E+00
am241	8.84E-02	8.84E-02	8.84E-02	8.84E-02	8.84E-02	8.84E-02	8.83E-02	8.83E-02	8.81E-02
am242m	5.15E-06	5.15E-06	5.15E-06	5.15E-06	5.14E-06	5.13E-06	5.10E-06	5.03E-06	4.90E-06
am242	4.10E-10	4.10E-10	4.10E-10	1.88E-10	6.64E-11	6.61E-11	6.58E-11	6.48E-11	6.33E-11
am243	4.16E-05	4.16E-05	4.16E-05	4.16E-05	4.16E-05	4.16E-05	4.16E-05	4.16E-05	4.16E-05
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	3.89E-14	3.89E-14	3.89E-14	7.48E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am245	6.47E-33	6.47E-33	6.47E-33	1.66E-33	1.31E-35	7.20E-36	3.26E-36	3.03E-37	7.31E-39
am246	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm241	2.94E-21	2.94E-21	2.94E-21	2.87E-21	4.38E-22	1.30E-24	5.80E-28	5.10E-38	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle											actinides	page	3
	nuclide concentrations, grams												
	basis =per critical mass 10.1 MT UO2												
	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d				
cm242	8.27E-08	8.27E-08	8.27E-08	8.26E-08	6.08E-08	2.81E-08	1.64E-08	1.32E-08	1.28E-08				
cm243	2.36E-13	2.36E-13	2.36E-13	2.36E-13	2.34E-13	2.30E-13	2.24E-13	2.09E-13	1.85E-13				
cm244	6.10E-10	6.10E-10	6.10E-10	6.10E-10	6.05E-10	5.88E-10	5.65E-10	5.04E-10	4.16E-10				
cm245	1.37E-12	1.37E-12	1.37E-12	1.37E-12	1.37E-12	1.37E-12	1.37E-12	1.37E-12	1.37E-12				
cm246	9.24E-15	9.24E-15	9.24E-15	9.24E-15	9.24E-15	9.24E-15	9.24E-15	9.23E-15	9.23E-15				
cm247	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17				
cm248	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19				
cm249	5.80E-31	5.80E-31	5.80E-31	1.01E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
cm250	5.29E-35	5.29E-35	5.29E-35	5.29E-35	5.29E-35	5.29E-35	5.29E-35	5.29E-35	5.29E-35				
cm251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
bk249	4.17E-27	4.17E-27	4.17E-27	4.16E-27	3.43E-27	1.89E-27	8.57E-28	7.98E-29	1.53E-30				
bk250	6.22E-36	6.22E-36	6.22E-36	3.53E-38	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
bk251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
cf249	1.64E-24	1.64E-24	1.64E-24	1.64E-24	1.64E-24	1.64E-24	1.64E-24	1.63E-24	1.62E-24				
cf250	2.65E-29	2.65E-29	2.65E-29	2.65E-29	2.62E-29	2.52E-29	2.39E-29	2.04E-29	1.56E-29				
cf251	1.49E-31	1.49E-31	1.49E-31	1.49E-31	1.49E-31	1.49E-31	1.49E-31	1.48E-31	1.48E-31				
cf252	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
cf253	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
cf254	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
cf255	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
es253	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
es254m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
es254	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
es255	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
s250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
total	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06				

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle											actinides	page	4
	nuclide radioactivity, curies												
	basis =per critical mass 10.1 MT UO2												
	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d				
he 4	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00				
tl206	9.32E-06	9.32E-06	9.32E-06	9.32E-06	9.32E-06	9.32E-06	9.32E-06	9.32E-06	9.32E-06				



tl207	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01
tl208	2.40E-03	2.40E-03	2.40E-03	2.46E-03	2.42E-03	2.41E-03	2.40E-03	2.40E-03	2.35E-03	2.24E-03
tl209	3.29E-02	3.29E-02	3.29E-02	3.29E-02	3.29E-02	3.29E-02	3.29E-02	3.29E-02	3.29E-02	3.29E-02
pb206	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pb207	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pb208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pb209	1.56E+00	1.56E+00	1.56E+00	1.49E+00	1.56E+00	1.56E+00	1.56E+00	1.56E+00	1.56E+00	1.57E+00
pb210	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00
pb211	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.41E-01	3.41E-01	3.41E-01	3.41E-01
pb212	6.69E-03	6.69E-03	6.69E-03	6.69E-03	6.72E-03	6.71E-03	6.68E-03	6.53E-03	6.23E-03	6.23E-03
pb214	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00
bi208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bi209	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bi210m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bi210	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00
bi211	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.41E-01	3.41E-01	3.41E-01	3.41E-01	3.41E-01
bi212	6.69E-03	6.69E-03	6.69E-03	6.83E-03	6.72E-03	6.71E-03	6.68E-03	6.53E-03	6.23E-03	6.23E-03
bi213	1.56E+00	1.56E+00	1.56E+00	1.57E+00	1.56E+00	1.56E+00	1.56E+00	1.56E+00	1.56E+00	1.57E+00
bi214	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00
po210	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.02E+00	6.98E+00	6.98E+00	7.02E+00	7.06E+00	7.06E+00
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
po211	9.35E-04	9.35E-04	9.35E-04	9.35E-04	9.35E-04	9.37E-04	9.37E-04	9.37E-04	9.37E-04	9.37E-04
po212	4.29E-03	4.29E-03	4.29E-03	4.38E-03	4.31E-03	4.30E-03	4.28E-03	4.18E-03	3.99E-03	3.99E-03
po213	1.53E+00	1.53E+00	1.53E+00	1.53E+00	1.53E+00	1.53E+00	1.53E+00	1.53E+00	1.53E+00	1.53E+00
po214	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00
po215	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.41E-01	3.41E-01	3.41E-01	3.41E-01	3.41E-01
po216	6.69E-03	6.69E-03	6.69E-03	6.69E-03	6.72E-03	6.71E-03	6.68E-03	6.53E-03	6.23E-03	6.23E-03
po218	7.06E+00	7.06E+00	7.06E+00	7.07E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00
at217	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00
rn218	1.30E-14	1.30E-14	1.30E-14	1.26E-14	6.48E-16	6.73E-20	3.48E-25	.00E+00	.00E+00	.00E+00
rn219	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.41E-01	3.41E-01	3.41E-01	3.41E-01	3.41E-01
rn220	6.69E-03	6.69E-03	6.69E-03	6.69E-03	6.69E-03	6.72E-03	6.71E-03	6.68E-03	6.53E-03	6.23E-03
rn222	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00
fr221	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00
fr223	4.69E-03	4.69E-03	4.69E-03	4.69E-03	4.69E-03	4.69E-03	4.69E-03	4.69E-03	4.69E-03	4.69E-03
ra222	1.30E-14	1.30E-14	1.30E-14	1.26E-14	6.48E-16	6.73E-20	3.48E-25	.00E+00	.00E+00	.00E+00
ra223	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.41E-01	3.41E-01	3.41E-01	3.41E-01	3.41E-01
ra224	6.69E-03	6.69E-03	6.69E-03	6.69E-03	6.72E-03	6.71E-03	6.68E-03	6.53E-03	6.23E-03	6.23E-03
ra225	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00
ra226	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00
ra228	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05
ac225	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00
ac227	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01
ac228	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05
th226	1.30E-14	1.30E-14	1.30E-14	1.26E-14	6.48E-16	6.73E-20	3.48E-25	.00E+00	.00E+00	.00E+00
th227	3.35E-01	3.35E-01	3.35E-01	3.35E-01	3.35E-01	3.36E-01	3.36E-01	3.36E-01	3.36E-01	3.36E-01
th228	6.69E-03	6.69E-03	6.69E-03	6.69E-03	6.69E-03	6.68E-03	6.65E-03	6.52E-03	6.22E-03	6.22E-03
th229	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00	1.57E+00
th230	7.23E+00	7.23E+00	7.23E+00	7.23E+00	7.23E+00	7.23E+00	7.23E+00	7.23E+00	7.23E+00	7.23E+00
th231	4.37E-01	4.37E-01	4.37E-01	3.87E-01	3.32E-01	3.32E-01	3.32E-01	3.32E-01	3.32E-01	3.32E-01

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	Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle										actinides	page	5
	nuclide radioactivity, curies												
	basis =per critical mass 10.1 MT UO2												
	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d				
th232	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05	1.06E-05			
th233	4.00E-03	4.00E-03	4.00E-03	1.46E-22	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
th234	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00			
pa231	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.40E-01			
pa232	6.66E-03	6.66E-03	6.66E-03	3.93E-03	1.40E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			

pa233	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00
pa234m	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00
pa234	3.77E-03	3.77E-03	3.77E-03	3.77E-03	3.77E-03	3.77E-03	3.77E-03	3.77E-03	3.77E-03	3.77E-03
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	1.30E-14	1.30E-14	1.30E-14	1.26E-14	6.47E-16	6.72E-20	3.47E-25	.00E+00	.00E+00	.00E+00
u231	2.31E-09	2.31E-09	2.31E-09	1.96E-09	8.22E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u232	6.68E-03	6.68E-03	6.68E-03	6.68E-03	6.66E-03	6.61E-03	6.55E-03	6.36E-03	6.05E-03	6.05E-03
u233	1.80E+00	1.80E+00	1.80E+00	1.80E+00	1.80E+00	1.80E+00	1.80E+00	1.80E+00	1.80E+00	1.80E+00
u234	1.48E+01	1.48E+01	1.48E+01	1.48E+01	1.48E+01	1.48E+01	1.48E+01	1.48E+01	1.48E+01	1.48E+01
u235	3.32E-01	3.32E-01	3.32E-01	3.32E-01	3.32E-01	3.32E-01	3.32E-01	3.32E-01	3.32E-01	3.32E-01
u236	2.99E+00	2.99E+00	2.99E+00	2.99E+00	2.99E+00	2.99E+00	2.99E+00	2.99E+00	2.99E+00	2.99E+00
u237	8.11E+00	8.11E+00	8.11E+00	7.32E+00	7.93E-04	6.96E-06	6.63E-06	5.73E-06	4.50E-06	4.50E-06
u238	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00	2.90E+00
u239	3.03E+02	3.03E+02	3.03E+02	1.02E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	3.37E-07	3.37E-07	3.37E-07	3.36E-07	2.88E-07	1.78E-07	9.38E-08	1.38E-08	5.65E-10	5.65E-10
np236m	3.38E-05	3.38E-05	3.38E-05	1.61E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236	8.34E-06	8.34E-06	8.34E-06	8.34E-06	8.34E-06	8.34E-06	8.34E-06	8.34E-06	8.34E-06	8.34E-06
np237	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00	6.72E+00
np238	1.12E+01	1.12E+01	1.12E+01	8.10E+00	2.42E-07	2.41E-07	2.41E-07	2.37E-07	2.31E-07	2.31E-07
np239	3.03E+02	3.03E+02	3.03E+02	2.27E+02	8.31E-06	8.30E-06	8.30E-06	8.30E-06	8.30E-06	8.30E-06
np240m	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25
np240	4.20E-07	4.20E-07	4.20E-07	4.17E-14	1.41E-28	1.41E-28	1.41E-28	1.41E-28	1.41E-28	1.41E-28
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	1.70E-05	1.70E-05	1.70E-05	1.70E-05	1.60E-05	1.35E-05	1.08E-05	5.66E-06	2.23E-06	2.23E-06
pu237	8.43E-08	8.43E-08	8.43E-08	8.30E-08	2.12E-08	3.10E-10	1.14E-12	5.70E-20	4.56E-32	4.56E-32
pu238	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.11E+01	1.08E+01	1.04E+01	1.04E+01
pu239	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02
pu240	1.33E+01	1.33E+01	1.33E+01	1.33E+01	1.33E+01	1.33E+01	1.33E+01	1.33E+01	1.33E+01	1.33E+01
pu241	3.05E-01	3.05E-01	3.05E-01	3.05E-01	3.01E-01	2.91E-01	2.77E-01	2.40E-01	1.88E-01	1.88E-01
pu242	4.65E-05	4.65E-05	4.65E-05	4.65E-05	4.65E-05	4.65E-05	4.65E-05	4.65E-05	4.65E-05	4.65E-05
pu243	7.96E-06	7.96E-06	7.96E-06	2.77E-07	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.11E-21
pu244	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25
pu245	4.03E-26	4.03E-26	4.03E-26	8.26E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu246	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am239	3.28E-12	3.28E-12	3.28E-12	8.10E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am240	3.51E-10	3.51E-10	3.51E-10	2.53E-10	5.85E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am241	3.03E-01	3.03E-01	3.03E-01	3.03E-01	3.03E-01	3.03E-01	3.03E-01	3.03E-01	3.03E-01	3.03E-01
am242m	5.40E-05	5.40E-05	5.40E-05	5.40E-05	5.39E-05	5.37E-05	5.35E-05	5.27E-05	5.14E-05	5.14E-05
am242	3.31E-04	3.31E-04	3.31E-04	1.52E-04	5.37E-05	5.35E-05	5.32E-05	5.24E-05	5.12E-05	5.12E-05
am243	8.31E-06	8.31E-06	8.31E-06	8.31E-06	8.31E-06	8.30E-06	8.30E-06	8.30E-06	8.30E-06	8.30E-06
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	4.94E-08	4.94E-08	4.94E-08	9.52E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am245	4.04E-26	4.04E-26	4.04E-26	1.04E-26	8.16E-29	4.50E-29	2.04E-29	1.89E-30	4.56E-32	4.56E-32
am246	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm241	4.85E-17	4.85E-17	4.85E-17	4.75E-17	7.24E-18	2.16E-20	9.59E-24	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle									actinides	page 6
	nuclide radioactivity, curies									
	basis =per critical mass 10.1 MT UO2									
	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d	
cm242	2.74E-04	2.74E-04	2.74E-04	2.74E-04	2.02E-04	9.30E-05	5.44E-05	4.36E-05	4.23E-05	
cm243	1.22E-11	1.22E-11	1.22E-11	1.22E-11	1.21E-11	1.19E-11	1.16E-11	1.08E-11	9.54E-12	
cm244	4.94E-08	4.94E-08	4.94E-08	4.94E-08	4.90E-08	4.76E-08	4.58E-08	4.08E-08	3.37E-08	
cm245	2.35E-13	2.35E-13	2.35E-13	2.35E-13	2.35E-13	2.35E-13	2.35E-13	2.35E-13	2.35E-13	
cm246	2.84E-15	2.84E-15	2.84E-15	2.84E-15	2.84E-15	2.84E-15	2.84E-15	2.84E-15	2.84E-15	
cm247	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.11E-21	
cm248	6.34E-22	6.34E-22	6.34E-22	6.34E-22	6.34E-22	6.34E-22	6.34E-22	6.34E-22	6.34E-22	
cm249	6.83E-24	6.83E-24	6.83E-24	1.19E-30	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	















Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle										fission products		page 13	
	charge			discharge			nuclide concentrations, grams						
	basis =per critical mass 10.1 MT UO2			1.0 d		90.0 d		365.3 d		730.5 d		1826.3 d	3652.5 d
y106	3.27E-19	3.27E-19	3.27E-19	3.27E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr106	3.54E-14	3.54E-14	3.54E-14	3.54E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb106	1.19E-12	1.19E-12	1.19E-12	1.19E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo106	1.72E-10	1.72E-10	1.72E-10	1.72E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc106	9.17E-10	9.17E-10	9.17E-10	9.17E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru106	8.70E-04	8.70E-04	8.70E-04	8.70E-04	8.68E-04	7.35E-04	4.40E-04	2.23E-04	2.88E-05	9.57E-07			
rh106	8.07E-10	8.07E-10	8.07E-10	8.07E-10	8.06E-10	6.82E-10	4.08E-10	2.07E-10	2.68E-11	8.88E-13			
rh106m	6.69E-12	6.69E-12	6.69E-12	6.69E-12	3.10E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd106	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01
ag106	1.37E-17	1.37E-17	1.37E-17	1.37E-17	1.19E-35	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y107	3.07E-21	3.07E-21	3.07E-21	3.07E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr107	9.08E-17	9.08E-17	9.08E-17	9.08E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb107	1.45E-13	1.45E-13	1.45E-13	1.45E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo107	2.30E-11	2.30E-11	2.30E-11	2.30E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc107	2.54E-10	2.54E-10	2.54E-10	2.54E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru107	3.23E-09	3.23E-09	3.23E-09	3.23E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh107	1.88E-08	1.88E-08	1.88E-08	1.88E-08	2.43E-28	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd107	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01
pd107m	8.34E-14	8.34E-14	8.34E-14	8.34E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag107	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.09E-01
zr108	5.56E-18	5.56E-18	5.56E-18	5.56E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb108	1.17E-15	1.17E-15	1.17E-15	1.17E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo108	9.35E-13	9.35E-13	9.35E-13	9.35E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc108	1.81E-11	1.81E-11	1.81E-11	1.81E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru108	2.18E-09	2.18E-09	2.18E-09	2.18E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108	1.37E-10	1.37E-10	1.37E-10	1.37E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108m	4.59E-11	4.59E-11	4.59E-11	4.59E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd108	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01
ag108	1.04E-13	1.04E-13	1.04E-13	1.04E-13	8.52E-18	8.51E-18	8.47E-18	8.43E-18	8.29E-18	8.07E-18			
ag108m	2.76E-09	2.76E-09	2.76E-09	2.76E-09	2.76E-09	2.76E-09	2.74E-09	2.73E-09	2.69E-09	2.61E-09			
cd108	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04
zr109	1.54E-21	1.54E-21	1.54E-21	1.54E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb109	6.57E-17	6.57E-17	6.57E-17	6.57E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo109	8.92E-14	8.92E-14	8.92E-14	8.92E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc109	1.53E-12	1.53E-12	1.53E-12	1.53E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru109	1.80E-10	1.80E-10	1.80E-10	1.80E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109	4.81E-10	4.81E-10	4.81E-10	4.81E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	1.50E-10	1.50E-10	1.50E-10	1.50E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109	3.02E-07	3.02E-07	3.02E-07	3.02E-07	9.00E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	4.96E-12	4.96E-12	4.96E-12	4.96E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag109	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01
ag109m	2.43E-10	2.43E-10	2.43E-10	2.43E-10	7.23E-11	2.04E-18	1.35E-18	7.82E-19	1.51E-19	9.81E-21			
cd109	2.36E-12	2.36E-12	2.36E-12	2.36E-12	2.35E-12	2.06E-12	1.36E-12	7.89E-13	1.53E-13	9.90E-15			
nb110	1.30E-18	1.30E-18	1.30E-18	1.30E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo110	2.39E-14	2.39E-14	2.39E-14	2.39E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc110	1.72E-13	1.72E-13	1.72E-13	1.72E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru110	3.03E-11	3.03E-11	3.03E-11	3.03E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110	1.02E-12	1.02E-12	1.02E-12	1.02E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110m	6.68E-11	6.68E-11	6.68E-11	6.68E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd110	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00
ag110	9.39E-12	9.39E-12	9.39E-12	9.39E-12	5.05E-15	3.94E-15	1.84E-15	6.67E-16	3.19E-17	2.01E-19			
ag110m	3.27E-07	3.27E-07	3.27E-07	3.27E-07	3.26E-07	2.54E-07	1.19E-07	4.30E-08	2.06E-09	1.29E-11			

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle										fission products		page 14	
	charge			discharge			nuclide concentrations, grams						
	basis =per critical mass 10.1 MT UO2			1.0 d		90.0 d		365.3 d		730.5 d		1826.3 d	3652.5 d



tc116	8.14E-19	8.14E-19	8.14E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru116	8.47E-15	8.47E-15	8.47E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh116	9.09E-14	9.09E-14	9.09E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd116	8.83E-12	8.83E-12	8.83E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116	1.22E-10	1.22E-10	1.22E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in116m	6.82E-13	6.82E-13	6.82E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd116	2.72E+00	2.72E+00	2.72E+00	2.72E+00	2.72E+00	2.72E+00	2.72E+00	2.72E+00	2.72E+00	2.72E+00
in116	1.39E-13	1.39E-13	1.39E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in116m	1.20E-10	1.20E-10	1.20E-10	1.19E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn116	7.57E-02	7.57E-02	7.57E-02	7.57E-02	7.57E-02	7.57E-02	7.57E-02	7.57E-02	7.57E-02	7.57E-02
tc117	1.21E-20	1.21E-20	1.21E-20	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru117	2.35E-16	2.35E-16	2.35E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh117	3.90E-14	3.90E-14	3.90E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd117	2.04E-12	2.04E-12	2.04E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117	2.13E-11	2.13E-11	2.13E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117m	1.56E-12	1.56E-12	1.56E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117	4.55E-09	4.55E-09	4.55E-09	5.73E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117m	1.28E-09	1.28E-09	1.28E-09	9.06E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117	9.67E-10	9.67E-10	9.67E-10	6.17E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117m	3.24E-09	3.24E-09	3.24E-09	1.93E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn117	1.99E+00	1.99E+00	1.99E+00	1.99E+00	1.99E+00	1.99E+00	1.99E+00	1.99E+00	1.99E+00	1.99E+00
sn117m	1.39E-09	1.39E-09	1.39E-09	1.34E-09	1.43E-11	1.16E-17	9.52E-26	.00E+00	.00E+00	.00E+00
tc118	1.94E-22	1.94E-22	1.94E-22	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru118	6.56E-17	6.56E-17	6.56E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh118	2.04E-15	2.04E-15	2.04E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd118	5.97E-13	5.97E-13	5.97E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118	1.31E-12	1.31E-12	1.31E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118m	4.95E-13	4.95E-13	4.95E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd118	1.74E-09	1.74E-09	1.74E-09	4.19E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118	2.88E-12	2.88E-12	2.88E-12	6.95E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118m	9.20E-14	9.20E-14	9.20E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn118	1.88E+00	1.88E+00	1.88E+00	1.88E+00	1.88E+00	1.88E+00	1.88E+00	1.88E+00	1.88E+00	1.88E+00
ru119	2.58E-18	2.58E-18	2.58E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh119	1.21E-15	1.21E-15	1.21E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd119	2.37E-13	2.37E-13	2.37E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag119	9.61E-13	9.61E-13	9.61E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119	7.13E-11	7.13E-11	7.13E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	2.44E-11	2.44E-11	2.44E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119	3.49E-11	3.49E-11	3.49E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119m	4.30E-10	4.30E-10	4.30E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn119	2.06E+00	2.06E+00	2.06E+00	2.06E+00	2.06E+00	2.06E+00	2.06E+00	2.06E+00	2.06E+00	2.06E+00
sn119m	5.86E-08	5.86E-08	5.86E-08	5.85E-08	4.74E-08	2.47E-08	1.04E-08	7.80E-10	1.04E-11	1.04E-11
ru120	5.60E-19	5.60E-19	5.60E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh120	8.62E-17	8.62E-17	8.62E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd120	2.48E-13	2.48E-13	2.48E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag120	3.57E-13	3.57E-13	3.57E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd120	3.12E-11	3.12E-11	3.12E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120	1.91E-12	1.91E-12	1.91E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120m	2.88E-13	2.88E-13	2.88E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn120	2.05E+00	2.05E+00	2.05E+00	2.05E+00	2.05E+00	2.05E+00	2.05E+00	2.05E+00	2.05E+00	2.05E+00
rh121	3.13E-17	3.13E-17	3.13E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle				fission products					
				nuclide concentrations, grams					
				basis =per critical mass 10.1 MT UO2					
	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
pd121	1.52E-14	1.52E-14	1.52E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag121	1.78E-13	1.78E-13	1.78E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd121	8.64E-12	8.64E-12	8.64E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121	9.56E-13	9.56E-13	9.56E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00







i145	4.18E-19	4.18E-19	4.18E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe145	2.77E-14	2.77E-14	2.77E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs145	2.18E-12	2.18E-12	2.18E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba145	4.15E-10	4.15E-10	4.15E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la145	4.66E-09	4.66E-09	4.66E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce145	3.69E-08	3.69E-08	3.69E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr145	4.40E-06	4.40E-06	4.40E-06	2.76E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd145	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02
pm145	1.39E-10	1.39E-10	1.39E-10	1.39E-10	1.39E-10	1.39E-10	1.39E-10	1.39E-10	1.39E-10	1.39E-10
sm145	6.62E-12	6.62E-12	6.62E-12	6.61E-12	5.51E-12	3.15E-12	1.49E-12	1.60E-13	3.87E-15	
xe146	1.67E-15	1.67E-15	1.67E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs146	3.45E-13	3.45E-13	3.45E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba146	1.17E-10	1.17E-10	1.17E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la146	8.01E-10	8.01E-10	8.01E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce146	1.27E-07	1.27E-07	1.27E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr146	2.29E-07	2.29E-07	2.29E-07	5.84E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd146	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02
pm146	2.42E-11	2.42E-11	2.42E-11	2.42E-11	2.34E-11	2.13E-11	1.88E-11	1.29E-11	6.90E-12	
sm146	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04
xe147	1.69E-18	1.69E-18	1.69E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs147	5.53E-15	5.53E-15	5.53E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba147	4.15E-12	4.15E-12	4.15E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la147	2.20E-10	2.20E-10	2.20E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce147	6.58E-09	6.58E-09	6.58E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr147	9.86E-08	9.86E-08	9.86E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd147	1.15E-04	1.15E-04	1.15E-04	1.08E-04	3.91E-07	1.11E-14	1.08E-24	.00E+00	.00E+00	.00E+00
pm147	1.00E-02	1.00E-02	1.00E-02	1.00E-02	9.49E-03	7.77E-03	5.97E-03	2.70E-03	7.21E-04	
sm147	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02
cs148	3.65E-16	3.65E-16	3.65E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba148	5.44E-13	5.44E-13	5.44E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la148	1.53E-11	1.53E-11	1.53E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce148	4.61E-09	4.61E-09	4.61E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr148	1.23E-08	1.23E-08	1.23E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd148	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02
pm148	1.10E-10	1.10E-10	1.10E-10	9.72E-11	1.35E-12	1.33E-14	2.88E-17	2.97E-25	.00E+00	.00E+00
pm148m	8.87E-10	8.87E-10	8.87E-10	8.72E-10	1.96E-10	1.93E-12	4.19E-15	4.32E-23	2.10E-36	

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 21

	nuclide concentrations, grams									
	basis =per critical mass 10.1 MT UO2									
	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d	
sm148	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00
cs149	3.14E-18	3.14E-18	3.14E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba149	5.61E-14	5.61E-14	5.61E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la149	8.77E-12	8.77E-12	8.77E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce149	2.18E-10	2.18E-10	2.18E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr149	7.87E-09	7.87E-09	7.87E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd149	3.70E-07	3.70E-07	3.70E-07	2.45E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm149	1.14E-05	1.14E-05	1.14E-05	8.62E-06	6.64E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm149	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00
eu149	2.67E-14	2.67E-14	2.67E-14	2.65E-14	1.37E-14	1.76E-15	1.16E-16	3.31E-20	4.09E-26	
cs150	2.05E-19	2.05E-19	2.05E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba150	5.92E-15	5.92E-15	5.92E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la150	2.87E-13	2.87E-13	2.87E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce150	6.50E-11	6.50E-11	6.50E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr150	2.03E-10	2.03E-10	2.03E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd150	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02
pm150	5.23E-11	5.23E-11	5.23E-11	1.05E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm150	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02
eu150	4.64E-09	4.64E-09	4.64E-09	4.64E-09	4.61E-09	4.55E-09	4.46E-09	4.21E-09	3.82E-09	





pm157	1.90E-11	1.90E-11	1.90E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm157	3.02E-10	3.02E-10	3.02E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu157	3.52E-08	3.52E-08	3.52E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd157	5.42E-02	5.42E-02	5.42E-02	1.19E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr158	7.36E-18	7.36E-18	7.36E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd158	2.49E-14	2.49E-14	2.49E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm158	2.76E-13	2.76E-13	2.76E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm158	9.66E-11	9.66E-11	9.66E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu158	8.91E-10	8.91E-10	8.91E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd158	3.07E+00	3.07E+00	3.07E+00	3.60E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr159	3.32E-19	3.32E-19	3.32E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd159	5.04E-16	5.04E-16	5.04E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm159	4.12E-14	4.12E-14	4.12E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm159	1.61E-11	1.61E-11	1.61E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu159	1.48E-10	1.48E-10	1.48E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd159	9.36E-09	9.36E-09	9.36E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb159	4.41E-01	4.41E-01	4.41E-01	3.89E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd160	3.95E-17	3.95E-17	3.95E-17	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01
pm160	1.06E-15	1.06E-15	1.06E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm160	1.98E-12	1.98E-12	1.98E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu160	2.23E-12	2.23E-12	2.23E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd160	1.79E-01	1.79E-01	1.79E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb160	9.55E-09	9.55E-09	9.55E-09	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01
dy160	2.30E-03	2.30E-03	2.30E-03	9.45E-09	4.03E-09	2.88E-10	8.68E-12	2.38E-16	5.93E-24	2.30E-03	2.30E-03
nd161	6.36E-19	6.36E-19	6.36E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm161	1.34E-16	1.34E-16	1.34E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm161	2.39E-14	2.39E-14	2.39E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu161	7.12E-13	7.12E-13	7.12E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd161	5.22E-12	5.22E-12	5.22E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb161	1.43E-08	1.43E-08	1.43E-08	1.29E-08	1.69E-12	1.66E-24	1.93E-40	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle  
nuclide concentrations, grams  
basis = per critical mass 10.1 MT UO2  
fission products

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
dy161	7.00E-02	7.00E-02	7.00E-02	7.00E-02	7.00E-02	7.00E-02	7.00E-02	7.00E-02	7.00E-02
pm162	3.66E-18	3.66E-18	3.66E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm162	4.35E-15	4.35E-15	4.35E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu162	6.86E-13	6.86E-13	6.86E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd162	5.05E-12	5.05E-12	5.05E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162	4.75E-12	4.75E-12	4.75E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	1.52E-12	1.52E-12	1.52E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy162	3.62E-02	3.62E-02	3.62E-02	8.78E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm163	8.65E-17	8.65E-17	8.65E-17	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02
eu163	6.19E-15	6.19E-15	6.19E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd163	3.27E-13	3.27E-13	3.27E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb163	4.76E-12	4.76E-12	4.76E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb163m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy163	1.35E-02	1.35E-02	1.35E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm164	7.45E-18	7.45E-18	7.45E-18	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02
eu164	1.49E-16	1.49E-16	1.49E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd164	1.36E-12	1.36E-12	1.36E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb164	2.66E-13	2.66E-13	2.66E-13	1.39E-32	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy164	3.85E-03	3.85E-03	3.85E-03	2.23E-33	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm165	1.35E-19	1.35E-19	1.35E-19	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03
eu165	1.67E-17	1.67E-17	1.67E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd165	1.03E-14	1.03E-14	1.03E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb165	6.72E-14	6.72E-14	6.72E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165	1.13E-11	1.13E-11	1.13E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165m	7.88E-14	7.88E-14	7.88E-14	9.23E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

















ag110 3.92E-02 3.92E-02 3.92E-02 2.11E-05 1.65E-05 7.66E-06 2.78E-06 1.33E-07 8.37E-10  
 ag110m 1.55E-03 1.55E-03 1.55E-03 1.55E-03 1.21E-03 5.64E-04 2.05E-04 9.77E-06 6.15E-08

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 31

	nuclide radioactivity, curies									
	basis =per critical mass 10.1 MT UO2									
	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d	
cd110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb111	8.98E-09	8.98E-09	8.98E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo111	9.60E-05	9.60E-05	9.60E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc111	5.19E-03	5.19E-03	5.19E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru111	8.18E-02	8.18E-02	8.18E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh111	1.50E-01	1.50E-01	1.50E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd111	1.58E-01	1.58E-01	1.58E-01	2.36E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd111m	6.18E-03	6.18E-03	6.18E-03	3.00E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag111	1.59E-01	1.59E-01	1.59E-01	1.45E-01	3.68E-05	2.78E-16	4.79E-31	.00E+00	.00E+00	.00E+00
ag111m	1.58E-01	1.58E-01	1.58E-01	2.93E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd111	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd111m	1.94E-06	1.94E-06	1.94E-06	2.34E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb112	3.34E-10	3.34E-10	3.34E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo112	1.52E-05	1.52E-05	1.52E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc112	1.16E-03	1.16E-03	1.16E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru112	3.95E-02	3.95E-02	3.95E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh112	8.52E-02	8.52E-02	8.52E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd112	1.01E-01	1.01E-01	1.01E-01	4.59E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag112	1.01E-01	1.01E-01	1.01E-01	5.38E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd112	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo113	2.99E-07	2.99E-07	2.99E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc113	3.17E-04	3.17E-04	3.17E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru113	1.70E-02	1.70E-02	1.70E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh113	5.96E-02	5.96E-02	5.96E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd113	8.35E-02	8.35E-02	8.35E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag113	8.09E-02	8.09E-02	8.09E-02	3.67E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag113m	1.59E-02	1.59E-02	1.59E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd113	6.67E-14	6.67E-14	6.67E-14	6.67E-14	6.67E-14	6.67E-14	6.67E-14	6.67E-14	6.67E-14	6.67E-14
cd113m	1.40E-03	1.40E-03	1.40E-03	1.40E-03	1.38E-03	1.33E-03	1.27E-03	1.09E-03	8.56E-04	
in113	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in113m	3.01E-11	3.01E-11	3.01E-11	1.32E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo114	1.54E-07	1.54E-07	1.54E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc114	5.01E-05	5.01E-05	5.01E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru114	6.67E-03	6.67E-03	6.67E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh114	3.39E-02	3.39E-02	3.39E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd114	7.10E-02	7.10E-02	7.10E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag114	7.27E-02	7.27E-02	7.27E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114	6.98E-06	6.98E-06	6.98E-06	4.96E-06	1.43E-06	3.03E-08	1.82E-10	3.97E-17	3.13E-28	
in114m	5.26E-06	5.26E-06	5.26E-06	5.18E-06	1.49E-06	3.16E-08	1.90E-10	4.15E-17	3.27E-28	
sn114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo115	6.60E-10	6.60E-10	6.60E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc115	1.57E-06	1.57E-06	1.57E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru115	1.46E-03	1.46E-03	1.46E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh115	1.59E-02	1.59E-02	1.59E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd115	5.10E-02	5.10E-02	5.10E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag115	3.94E-02	3.94E-02	3.94E-02	8.61E-24	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag115m	1.59E-02	1.59E-02	1.59E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd115	5.30E-02	5.30E-02	5.30E-02	3.90E-02	3.69E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd115m	2.30E-03	2.30E-03	2.30E-03	2.26E-03	5.68E-04	7.87E-06	2.70E-08	1.08E-15	5.08E-28	
in115	1.18E-11	1.18E-11	1.18E-11	1.18E-11	1.18E-11	1.18E-11	1.18E-11	1.18E-11	1.18E-11	1.18E-11
in115m	5.30E-02	5.30E-02	5.30E-02	4.25E-02	6.27E-08	8.70E-10	2.98E-12	1.19E-19	4.56E-32	

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle										fission products	page 32
nuclide radioactivity, curies											
basis =per critical mass 10.1 MT UO2											
	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d		
sn115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tc116	6.86E-07	6.86E-07	6.86E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru116	4.85E-04	4.85E-04	4.85E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh116	9.32E-03	9.32E-03	9.32E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd116	6.76E-02	6.76E-02	6.76E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag116	7.41E-02	7.41E-02	7.41E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag116m	6.38E-03	6.38E-03	6.38E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in116	9.59E-04	9.59E-04	9.59E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in116m	3.61E-03	3.61E-03	3.61E-03	3.56E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sn116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tc117	7.68E-09	7.68E-09	7.68E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru117	6.62E-05	6.62E-05	6.62E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh117	3.09E-03	3.09E-03	3.09E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd117	3.94E-02	3.94E-02	3.94E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag117	2.82E-02	2.82E-02	2.82E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag117m	2.82E-02	2.82E-02	2.82E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd117	4.90E-02	4.90E-02	4.90E-02	6.17E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd117m	1.02E-02	1.02E-02	1.02E-02	7.23E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in117	3.55E-02	3.55E-02	3.55E-02	2.27E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in117m	4.47E-02	4.47E-02	4.47E-02	2.66E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sn117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sn117m	1.14E-04	1.14E-04	1.14E-04	1.10E-04	1.18E-06	9.50E-13	7.81E-21	.00E+00	.00E+00	.00E+00	
tc118	2.27E-10	2.27E-10	2.27E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru118	9.48E-06	9.48E-06	9.48E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh118	6.18E-04	6.18E-04	6.18E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd118	1.84E-02	1.84E-02	1.84E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag118	3.34E-02	3.34E-02	3.34E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag118m	2.37E-02	2.37E-02	2.37E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd118	5.50E-02	5.50E-02	5.50E-02	1.33E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in118	5.50E-02	5.50E-02	5.50E-02	1.33E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in118m	3.30E-05	3.30E-05	3.30E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sn118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru119	1.26E-06	1.26E-06	1.26E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh119	2.46E-04	2.46E-04	2.46E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd119	1.28E-02	1.28E-02	1.28E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag119	4.34E-02	4.34E-02	4.34E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd119	4.19E-02	4.19E-02	4.19E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd119m	1.76E-02	1.76E-02	1.76E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in119	2.30E-02	2.30E-02	2.30E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in119m	3.78E-02	3.78E-02	3.78E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sn119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sn119m	2.20E-04	2.20E-04	2.20E-04	2.19E-04	1.77E-04	9.26E-05	3.90E-05	2.92E-06	3.89E-08	.00E+00	
ru120	1.50E-07	1.50E-07	1.50E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh120	4.70E-05	4.70E-05	4.70E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd120	5.96E-03	5.96E-03	5.96E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag120	2.87E-02	2.87E-02	2.87E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd120	5.78E-02	5.78E-02	5.78E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in120	5.84E-02	5.84E-02	5.84E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in120m	5.85E-04	5.85E-04	5.85E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sn120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh121	1.17E-05	1.17E-05	1.17E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle										fission products	page 33
nuclide radioactivity, curies											
basis =per critical mass 10.1 MT UO2											

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
pd121	2.20E-03	2.20E-03	2.20E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag121	2.08E-02	2.08E-02	2.08E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd121	5.97E-02	5.97E-02	5.97E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121	3.86E-03	3.86E-03	3.86E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121m	6.04E-02	6.04E-02	6.04E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121	6.35E-02	6.35E-02	6.35E-02	3.46E-02	3.70E-04	3.67E-04	3.62E-04	3.49E-04	3.27E-04
sn121m	4.79E-04	4.79E-04	4.79E-04	4.79E-04	4.77E-04	4.73E-04	4.67E-04	4.49E-04	4.22E-04
sb121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh122	1.27E-06	1.27E-06	1.27E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd122	6.98E-04	6.98E-04	6.98E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag122	1.09E-02	1.09E-02	1.09E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd122	6.48E-02	6.48E-02	6.48E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122	6.96E-02	6.96E-02	6.96E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122m	4.74E-03	4.74E-03	4.74E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb122	2.12E-04	2.12E-04	2.12E-04	1.64E-04	1.96E-14	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	2.14E-05	2.14E-05	2.14E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh123	1.01E-07	1.01E-07	1.01E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd123	1.04E-04	1.04E-04	1.04E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag123	3.96E-03	3.96E-03	3.96E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd123	4.18E-02	4.18E-02	4.18E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123	4.73E-02	4.73E-02	4.73E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123m	1.32E-02	1.32E-02	1.32E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123	7.44E-03	7.44E-03	7.44E-03	7.40E-03	4.59E-03	1.05E-03	1.48E-04	4.12E-07	2.29E-11
sn123m	6.80E-02	6.80E-02	6.80E-02	1.05E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb123	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te123	3.96E-16	3.96E-16	3.96E-16	3.96E-16	3.96E-16	3.96E-16	3.96E-16	3.96E-16	3.96E-16
te123m	5.02E-08	5.02E-08	5.02E-08	4.99E-08	2.98E-08	6.05E-09	7.30E-10	1.28E-12	3.26E-17
pd124	6.26E-05	6.26E-05	6.26E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag124	3.65E-03	3.65E-03	3.65E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd124	7.40E-02	7.40E-02	7.40E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in124	1.17E-01	1.17E-01	1.17E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb124	2.32E-04	2.32E-04	2.32E-04	2.29E-04	8.23E-05	3.46E-06	5.16E-08	1.71E-13	1.26E-22
sb124m	2.34E-05	2.34E-05	2.34E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te124	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd125	1.31E-05	1.31E-05	1.31E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag125	1.45E-03	1.45E-03	1.45E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd125	4.40E-02	4.40E-02	4.40E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125	6.11E-02	6.11E-02	6.11E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125m	4.35E-02	4.35E-02	4.35E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125	4.17E-02	4.17E-02	4.17E-02	3.88E-02	6.45E-05	1.64E-13	6.43E-25	.00E+00	.00E+00
sn125m	1.03E-01	1.03E-01	1.03E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb125	1.45E-01	1.45E-01	1.45E-01	1.45E-01	1.36E-01	1.12E-01	8.73E-02	4.07E-02	1.14E-02
te125	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te125m	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.25E-02	2.74E-02	2.13E-02	9.95E-03	2.80E-03
pd126	2.93E-06	2.93E-06	2.93E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag126	6.33E-04	6.33E-04	6.33E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd126	5.40E-02	5.40E-02	5.40E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in126	1.33E-01	1.33E-01	1.33E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn126	1.73E-01	1.73E-01	1.73E-01	1.73E-01	1.73E-01	1.73E-01	1.73E-01	1.73E-01	1.73E-01

Part B 8X UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle nuclide radioactivity, curies fission products page 34

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
sb126	2.51E-02	2.51E-02	2.51E-02	2.50E-02	2.42E-02	2.42E-02	2.42E-02	2.42E-02	2.42E-02
sb126m	1.74E-01	1.74E-01	1.74E-01	1.73E-01	1.73E-01	1.73E-01	1.73E-01	1.73E-01	1.73E-01









pr150	2.47E+00	2.47E+00	2.47E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm150	4.08E-04	4.08E-04	4.08E-04	8.22E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu150	3.09E-07	3.09E-07	3.09E-07	3.09E-07	3.07E-07	3.03E-07	2.97E-07	2.80E-07	2.54E-07	
ba151	4.19E-06	4.19E-06	4.19E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
la151	4.64E-03	4.64E-03	4.64E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ce151	2.90E-01	2.90E-01	2.90E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pr151	1.20E+00	1.20E+00	1.20E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nd151	1.85E+00	1.85E+00	1.85E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pm151	1.86E+00	1.86E+00	1.86E+00	1.04E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sm151	2.02E+00	2.02E+00	2.02E+00	2.02E+00	2.02E+00	2.01E+00	1.99E+00	1.95E+00	1.87E+00	
eu151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ba152	3.30E-08	3.30E-08	3.30E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
la152	9.35E-05	9.35E-05	9.35E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ce152	4.03E-02	4.03E-02	4.03E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pr152	3.91E-01	3.91E-01	3.91E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nd152	1.16E+00	1.16E+00	1.16E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pm152	1.19E+00	1.19E+00	1.19E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pm152m	2.54E-02	2.54E-02	2.54E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sm152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
eu152	1.12E+00	1.12E+00	1.12E+00	1.12E+00	1.11E+00	1.07E+00	1.01E+00	8.66E-01	6.68E-01	
eu152m	6.10E-01	6.10E-01	6.10E-01	1.02E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
gd152	4.39E-10	4.39E-10	4.39E-10	4.39E-10	4.39E-10	4.39E-10	4.39E-10	4.39E-10	4.39E-10	
la153	2.85E-05	2.85E-05	2.85E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ce153	8.79E-03	8.79E-03	8.79E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pr153	1.37E-01	1.37E-01	1.37E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nd153	6.48E-01	6.48E-01	6.48E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pm153	7.44E-01	7.44E-01	7.44E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sm153	1.00E+00	1.00E+00	1.00E+00	6.99E-01	8.91E-15	.00E+00	.00E+00	.00E+00	.00E+00	
eu153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
gd153	2.29E-02	2.29E-02	2.29E-02	2.28E-02	1.77E-02	8.02E-03	2.81E-03	1.21E-04	6.41E-07	
la154	7.15E-07	7.15E-07	7.15E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ce154	7.67E-04	7.67E-04	7.67E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pr154	2.07E-02	2.07E-02	2.07E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nd154	2.59E-01	2.59E-01	2.59E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pm154	3.08E-01	3.08E-01	3.08E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pm154m	4.99E-02	4.99E-02	4.99E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle nuclide radioactivity, curies . fission products page 39

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
sm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu154	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.02E-01	9.56E-02	8.82E-02	6.92E-02	4.63E-02
gd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la155	3.49E-09	3.49E-09	3.49E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	6.10E-05	6.10E-05	6.10E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	3.73E-03	3.73E-03	3.73E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	7.67E-02	7.67E-02	7.67E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	1.58E-01	1.58E-01	1.58E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	1.78E-01	1.78E-01	1.78E-01	6.75E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	1.79E-01	1.79E-01	1.79E-01	1.78E-01	1.72E-01	1.54E-01	1.33E-01	8.51E-02	4.06E-02
gd155m	3.85E-06	3.85E-06	3.85E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce156	4.55E-06	4.55E-06	4.55E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	4.32E-04	4.32E-04	4.32E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	2.09E-02	2.09E-02	2.09E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	6.06E-02	6.06E-02	6.06E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	8.67E-02	8.67E-02	8.67E-02	1.48E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00





eu165	8.45E-07	8.45E-07	8.45E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd165	1.66E-05	1.66E-05	1.66E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb165	3.63E-05	3.63E-05	3.63E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165	9.24E-05	9.24E-05	9.24E-05	7.51E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165m	7.14E-05	7.14E-05	7.14E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy166	6.08E-06	6.08E-06	6.08E-06	4.96E-06	6.55E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho166	7.59E-06	7.59E-06	7.59E-06	6.59E-06	9.76E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho166m	1.12E-07	1.12E-07	1.12E-07	1.12E-07	1.12E-07	1.12E-07	1.12E-07	1.11E-07	1.11E-07	1.11E-07	1.11E-07
er166	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er167	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er167m	1.94E-10	1.94E-10	1.94E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er169	1.04E-08	1.04E-08	1.04E-08	9.64E-09	1.36E-11	2.09E-20	4.56E-32	.00E+00	.00E+00	.00E+00	.00E+00
tm169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm170	6.25E-11	6.25E-11	6.25E-11	6.21E-11	3.85E-11	8.72E-12	1.22E-12	3.31E-15	1.76E-19		
tm170m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb170	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er171	1.47E-08	1.47E-08	1.47E-08	1.61E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm171	1.50E-08	1.50E-08	1.50E-08	1.50E-08	1.37E-08	1.05E-08	7.29E-09	2.47E-09	4.06E-10		
yb171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er172	9.22E-09	9.22E-09	9.22E-09	6.58E-09	5.98E-22	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm172	9.66E-09	9.66E-09	9.66E-09	9.23E-09	2.48E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
total	2.54E+03	2.54E+03	2.54E+03	6.02E+02	2.16E+02	1.44E+02	1.26E+02	1.08E+02	9.47E+01		

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 41

	nuclide concentrations, grams											
	basis =per critical mass 10.1 MT UO2											
	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr	
he 4	2.70E+02	2.70E+02	2.70E+02	2.70E+02	2.71E+02	2.71E+02	2.71E+02	2.71E+02	2.71E+02	2.71E+02	2.72E+02	
tl206	4.29E-14	4.29E-14	4.29E-14	4.29E-14	4.29E-14	4.29E-14	4.29E-14	4.29E-14	4.29E-14	4.30E-14	4.30E-14	
tl207	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	
tl208	7.56E-12	7.20E-12	6.85E-12	6.20E-12	5.09E-12	3.10E-12	1.89E-12	1.16E-12	7.10E-13	4.37E-13	1.71E-13	
tl209	8.03E-11	8.03E-11	8.03E-11	8.04E-11	8.04E-11	8.04E-11	8.05E-11	8.05E-11	8.06E-11	8.06E-11	8.08E-11	
pb206	1.12E+02	1.12E+02	1.12E+02	1.12E+02	1.12E+02	1.13E+02	1.13E+02	1.13E+02	1.13E+02	1.13E+02	1.13E+02	
pb207	6.37E+00	6.37E+00	6.37E+00	6.37E+00	6.37E+00	6.38E+00	6.39E+00	6.39E+00	6.40E+00	6.41E+00	6.42E+00	
pb208	2.03E-01	2.03E-01	2.03E-01	2.03E-01	2.03E-01	2.03E-01	2.03E-01	2.03E-01	2.04E-01	2.04E-01	2.04E-01	
pb209	3.39E-07	3.39E-07	3.39E-07	3.39E-07	3.40E-07	3.40E-07	3.40E-07	3.40E-07	3.40E-07	3.41E-07	3.41E-07	
pb210	9.24E-02	9.24E-02	9.24E-02	9.24E-02	9.24E-02	9.25E-02	9.25E-02	9.26E-02	9.26E-02	9.27E-02	9.28E-02	
pb211	1.38E-08	1.38E-08	1.38E-08	1.38E-08	1.38E-08	1.38E-08	1.38E-08	1.38E-08	1.38E-08	1.38E-08	1.38E-08	
pb212	4.48E-09	4.27E-09	4.06E-09	3.68E-09	3.02E-09	1.84E-09	1.12E-09	6.86E-10	4.21E-10	2.59E-10	1.01E-10	
pb214	2.15E-07	2.15E-07	2.15E-07	2.15E-07	2.15E-07	2.16E-07	2.16E-07	2.16E-07	2.16E-07	2.16E-07	2.16E-07	
bi208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bi209	2.21E+01	2.21E+01	2.21E+01	2.22E+01	2.22E+01	2.22E+01	2.22E+01	2.23E+01	2.23E+01	2.23E+01	2.24E+01	
bi210m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bi210	5.69E-05	5.69E-05	5.69E-05	5.69E-05	5.69E-05	5.69E-05	5.70E-05	5.70E-05	5.70E-05	5.71E-05	5.71E-05	
bi211	8.18E-10	8.18E-10	8.18E-10	8.17E-10	8.17E-10	8.16E-10	8.16E-10	8.16E-10	8.16E-10	8.16E-10	8.16E-10	
bi212	4.25E-10	4.05E-10	3.85E-10	3.49E-10	2.86E-10	1.74E-10	1.06E-10	6.51E-11	3.99E-11	2.46E-11	9.60E-12	
bi213	8.08E-08	8.08E-08	8.08E-08	8.08E-08	8.08E-08	8.09E-08	8.09E-08	8.10E-08	8.10E-08	8.11E-08	8.12E-08	
bi214	1.60E-07	1.60E-07	1.60E-07	1.60E-07	1.60E-07	1.60E-07	1.60E-07	1.60E-07	1.60E-07	1.60E-07	1.60E-07	
po210	1.57E-03	1.57E-03	1.57E-03	1.57E-03	1.57E-03	1.57E-03	1.57E-03	1.57E-03	1.57E-03	1.58E-03	1.58E-03	
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
po211	9.04E-15	9.04E-15	9.04E-15	9.03E-15	9.03E-15	9.02E-15	9.02E-15	9.02E-15	9.02E-15	9.02E-15	9.01E-15	
po212	2.23E-20	2.13E-20	2.02E-20	1.83E-20	1.50E-20	9.16E-21	5.59E-21	3.42E-21	2.10E-21	1.29E-21	5.05E-22	
po213	1.21E-16	1.21E-16	1.21E-16	1.21E-16	1.22E-16	1.22E-16	1.22E-16	1.22E-16	1.22E-16	1.22E-16	1.22E-16	
po214	2.20E-14	2.20E-14	2.20E-14	2.20E-14	2.20E-14	2.20E-14	2.20E-14	2.20E-14	2.20E-14	2.21E-14	2.21E-14	



pu236	4.27E-09	2.28E-09	1.68E-09	1.44E-09	1.42E-09	1.42E-09	1.42E-09	1.42E-09	1.42E-09	1.42E-09	1.42E-09	1.42E-09
pu237	3.16E-36	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu238	6.06E-01	5.83E-01	5.60E-01	5.18E-01	4.42E-01	2.98E-01	2.00E-01	1.35E-01	9.10E-02	6.13E-02	2.78E-02	5.74E+03
pu239	5.81E+03	5.81E+03	5.80E+03	5.80E+03	5.80E+03	5.79E+03	5.78E+03	5.77E+03	5.77E+03	5.76E+03	5.76E+03	5.76E+03
pu240	5.87E+01	5.86E+01	5.86E+01	5.86E+01	5.84E+01	5.81E+01	5.78E+01	5.75E+01	5.72E+01	5.69E+01	5.63E+01	5.63E+01
pu241	1.82E-03	1.43E-03	1.12E-03	6.92E-04	2.63E-04	2.35E-05	2.10E-06	1.88E-07	1.68E-08	1.50E-09	1.19E-11	1.19E-11
pu242	1.18E-02	1.18E-02	1.18E-02	1.18E-02	1.18E-02	1.18E-02	1.18E-02	1.17E-02	1.17E-02	1.17E-02	1.17E-02	1.17E-02
pu243	8.11E-28	8.11E-28	8.11E-28	8.11E-28	8.11E-28	8.11E-28	8.11E-28	8.11E-28	8.11E-28	8.11E-28	8.11E-28	8.11E-28
pu244	6.41E-21	6.41E-21	6.41E-21	6.41E-21	6.42E-21	6.43E-21	6.45E-21	6.46E-21	6.47E-21	6.49E-21	6.52E-21	6.52E-21
pu245	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu246	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am240	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am241	8.81E-02	8.78E-02	8.74E-02	8.64E-02	8.41E-02	7.78E-02	7.19E-02	6.63E-02	6.12E-02	5.65E-02	4.81E-02	4.81E-02
am242m	4.90E-06	4.78E-06	4.67E-06	4.44E-06	4.03E-06	3.15E-06	2.46E-06	1.93E-06	1.51E-06	1.18E-06	7.21E-07	7.21E-07
am242	6.33E-11	6.17E-11	6.02E-11	5.73E-11	5.20E-11	4.06E-11	3.18E-11	2.49E-11	1.94E-11	1.52E-11	9.30E-12	9.30E-12
am243	4.16E-05	4.15E-05	4.15E-05	4.15E-05	4.14E-05	4.12E-05	4.10E-05	4.08E-05	4.06E-05	4.04E-05	4.01E-05	4.01E-05
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am245	7.31E-39	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am246	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 43

nuclide concentrations, grams												
basis =per critical mass 10.1 MT UO2												
	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr	
cm242	1.28E-08	1.25E-08	1.22E-08	1.16E-08	1.05E-08	8.21E-09	6.42E-09	5.02E-09	3.93E-09	3.07E-09	1.88E-09	
cm243	1.85E-13	1.64E-13	1.45E-13	1.14E-13	6.98E-14	2.07E-14	6.13E-15	1.82E-15	5.39E-16	1.60E-16	1.40E-17	
cm244	4.16E-10	3.44E-10	2.84E-10	1.94E-10	9.00E-11	1.33E-11	1.95E-12	2.88E-13	4.24E-14	6.25E-15	1.36E-16	
cm245	1.37E-12	1.37E-12	1.37E-12	1.36E-12	1.36E-12	1.36E-12	1.35E-12	1.35E-12	1.34E-12	1.33E-12	1.32E-12	
cm246	9.23E-15	9.22E-15	9.21E-15	9.20E-15	9.17E-15	9.11E-15	9.04E-15	8.97E-15	8.91E-15	8.84E-15	8.71E-15	
cm247	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17	2.33E-17	
cm248	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19	1.49E-19	
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cm250	5.29E-35	5.28E-35	5.28E-35	5.28E-35	5.28E-35	5.27E-35	5.26E-35	5.25E-35	5.23E-35	5.22E-35	5.20E-35	
cm251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bk249	1.53E-30	2.93E-32	5.60E-34	2.05E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bk250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
bk251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf249	1.62E-24	1.60E-24	1.58E-24	1.55E-24	1.49E-24	1.35E-24	1.22E-24	1.11E-24	1.00E-24	9.10E-25	7.47E-25	
cf250	1.56E-29	1.20E-29	9.20E-30	5.41E-30	1.88E-30	1.33E-31	9.37E-33	6.62E-34	4.68E-35	3.31E-36	2.20E-38	
cf251	1.48E-31	1.47E-31	1.47E-31	1.45E-31	1.43E-31	1.38E-31	1.33E-31	1.28E-31	1.23E-31	1.18E-31	1.09E-31	
cf252	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf253	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf254	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cf255	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es253	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es254m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es254	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
es255	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
s250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
total	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06	8.85E+06	

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 44

nuclide radioactivity, curies												
basis =per critical mass 10.1 MT UO2												
	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr	
he 4	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tl206	9.32E-06	9.32E-06	9.32E-06	9.32E-06	9.32E-06	9.33E-06	9.33E-06	9.33E-06	9.34E-06	9.34E-06	9.35E-06	















zr 93	4.49E+02	4.49E+02	4.49E+02	4.49E+02	4.49E+02	4.49E+02	4.49E+02	4.49E+02	4.49E+02	4.49E+02	4.49E+02	4.49E+02
nb 93	9.44E+00	9.44E+00	9.44E+00	9.45E+00	9.45E+00	9.46E+00	9.47E+00	9.48E+00	9.49E+00	9.50E+00	9.52E+00	9.52E+00
nb 93m	4.73E-03	4.73E-03	4.73E-03	4.73E-03	4.73E-03	4.73E-03	4.73E-03	4.73E-03	4.73E-03	4.73E-03	4.73E-03	4.73E-03
br 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle  
 nuclide concentrations, grams  
 basis =per critical mass 10.1 MT UO2  
 fission products page 51

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
sr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 94	7.10E+02	7.10E+02	7.10E+02	7.10E+02	7.10E+02	7.10E+02	7.10E+02	7.10E+02	7.10E+02	7.10E+02	7.10E+02
nb 94	5.48E-04	5.48E-04	5.48E-04	5.48E-04	5.48E-04	5.47E-04	5.46E-04	5.45E-04	5.44E-04	5.43E-04	5.41E-04
nb 94m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 95	8.15E-21	2.10E-29	5.42E-38	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95	9.81E-21	2.53E-29	7.25E-40	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95m	5.40E-24	1.39E-32	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 95	7.23E+02	7.23E+02	7.23E+02	7.23E+02	7.23E+02	7.23E+02	7.23E+02	7.23E+02	7.23E+02	7.23E+02	7.23E+02
br 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 96	7.13E+02	7.13E+02	7.13E+02	7.13E+02	7.13E+02	7.13E+02	7.13E+02	7.13E+02	7.13E+02	7.13E+02	7.13E+02
nb 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 96	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00
kr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 97	6.53E+02	6.53E+02	6.53E+02	6.53E+02	6.53E+02	6.53E+02	6.53E+02	6.53E+02	6.53E+02	6.53E+02	6.53E+02
kr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 98	6.81E+02	6.81E+02	6.81E+02	6.81E+02	6.81E+02	6.81E+02	6.81E+02	6.81E+02	6.81E+02	6.81E+02	6.81E+02
tc 98	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04
rb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc 99	6.21E+02	6.21E+02	6.21E+02	6.20E+02	6.20E+02	6.20E+02	6.20E+02	6.20E+02	6.20E+02	6.20E+02	6.20E+02
tc 99m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru 99	9.96E+01	9.96E+01	9.96E+01	9.97E+01	9.97E+01	9.98E+01	9.99E+01	1.00E+02	1.00E+02	1.00E+02	1.00E+02



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Part B 8X UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle										fission products				page 53
nuclide concentrations, grams														
basis =per critical mass 10.1 MT UO2														
	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr			
y106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
zr106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
nb106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
mo106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
tc106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
ru106	9.57E-07	3.17E-08	1.05E-09	1.16E-12	1.40E-18	2.25E-33	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
rh106	8.88E-13	2.94E-14	9.77E-16	1.07E-18	1.30E-24	2.09E-39	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
rh106m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
pd106	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01	8.76E+01			
ag106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
y107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
zr107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
nb107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
mo107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
tc107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
ru107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
rh107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
pd107	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01	4.54E+01			
pd107m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
ag107	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.09E-01	2.10E-01	2.10E-01	2.10E-01	2.10E-01	2.11E-01			
zr108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
nb108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
mo108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
tc108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
ru108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
rh108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
rh108m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
pd108	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01			
ag108	8.07E-18	7.85E-18	7.64E-18	7.23E-18	6.48E-18	4.94E-18	3.76E-18	2.86E-18	2.18E-18	1.66E-18	9.60E-19			
ag108m	2.61E-09	2.54E-09	2.47E-09	2.34E-09	2.10E-09	1.60E-09	1.22E-09	9.26E-10	7.05E-10	5.37E-10	3.11E-10			
cd108	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04	5.25E-04			
zr109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
nb109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
mo109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
tc109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
ru109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
rh109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
rh109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
pd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
pd109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
ag109	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01	1.84E+01			
ag109m	9.81E-21	6.36E-22	4.12E-23	1.73E-25	3.05E-30	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
cd109	9.90E-15	6.41E-16	4.16E-17	1.75E-19	3.08E-24	4.01E-36	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
nb110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
mo110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
tc110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
ru110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
rh110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
rh110m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
pd110	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00	8.63E+00			
ag110	2.01E-19	1.26E-21	7.94E-24	3.14E-28	4.92E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			
ag110m	1.29E-11	8.14E-14	5.12E-16	2.03E-20	3.18E-29	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00			

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Part B 8X UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle										fission products				page 54
nuclide concentrations, grams														









in127m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn127m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te127	3.33E-18	3.01E-23	2.73E-28	2.60E-38	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te127m	9.53E-16	8.61E-21	7.79E-26	6.36E-36	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i127	2.21E+01	2.21E+01	2.21E+01	2.21E+01	2.21E+01	2.21E+01	2.21E+01	2.21E+01	2.21E+01	2.21E+01	2.21E+01	2.21E+01
xe127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb128m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te128	5.81E+01	5.81E+01	5.81E+01	5.81E+01	5.81E+01	5.81E+01	5.81E+01	5.81E+01	5.81E+01	5.81E+01	5.81E+01	5.81E+01
i128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe128	3.17E-02	3.17E-02	3.17E-02	3.17E-02	3.17E-02	3.17E-02	3.17E-02	3.17E-02	3.17E-02	3.17E-02	3.17E-02	3.17E-02
cd129	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in129	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn129	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn129m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb129	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te129	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te129m	3.85E-38	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i129	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02
xe129	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.49E-01
xe129m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb130m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te130	2.79E+02	2.79E+02	2.79E+02	2.79E+02	2.79E+02	2.79E+02	2.79E+02	2.79E+02	2.79E+02	2.79E+02	2.79E+02	2.79E+02
i130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i130m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe130	5.45E-01	5.45E-01	5.45E-01	5.45E-01	5.45E-01	5.45E-01	5.45E-01	5.45E-01	5.45E-01	5.45E-01	5.45E-01	5.45E-01
cd131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te131m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe131	4.50E+02	4.50E+02	4.50E+02	4.50E+02	4.50E+02	4.50E+02	4.50E+02	4.50E+02	4.50E+02	4.50E+02	4.50E+02	4.50E+02
xe131m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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	Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle											
	nuclide concentrations, grams											
	basis =per critical mass 10.1 MT UO2											
	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr	
cd132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb132m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe132	7.09E+02	7.09E+02	7.09E+02	7.09E+02	7.09E+02	7.09E+02	7.09E+02	7.09E+02	7.09E+02	7.09E+02	7.09E+02	7.09E+02
cs132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba132	4.87E-06	4.87E-06	4.87E-06	4.87E-06	4.87E-06	4.87E-06	4.87E-06	4.87E-06	4.87E-06	4.87E-06	4.87E-06	4.87E-06





i145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd145	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02	6.66E+02
pm145	9.89E-11	8.13E-11	6.69E-11	4.52E-11	2.07E-11	2.91E-12	4.11E-13	5.80E-14	8.19E-15	1.16E-15	2.30E-17	2.30E-17
sm145	3.87E-15	9.35E-17	2.26E-18	1.32E-21	4.50E-28	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd146	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02	5.25E+02
pm146	6.90E-12	3.69E-12	1.97E-12	5.62E-13	4.58E-14	8.68E-17	1.65E-19	3.12E-22	5.92E-25	1.12E-27	4.03E-33	4.03E-33
sm146	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04	8.37E-04
xe147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm147	7.21E-04	1.92E-04	5.13E-05	3.65E-06	1.85E-08	3.39E-14	6.20E-20	1.13E-25	2.07E-31	3.79E-37	.00E+00	.00E+00
sm147	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02	3.89E+02
cs148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd148	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02	2.98E+02
pm148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	2.10E-36	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B 8% UO2 in Tuff (47% H2O). DBF Fuel 100k year cycle  
nuclide concentrations, grams  
basis =per critical mass 10.1 MT UO2  
fission products page 61

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
sm148	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00	8.64E+00
cs149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm149	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm149	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00	8.79E+00
eu149	4.09E-26	5.05E-32	6.24E-38	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd150	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02	1.23E+02
pm150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm150	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02	1.85E+02
eu150	3.82E-09	3.47E-09	3.15E-09	2.59E-09	1.76E-09	6.69E-10	2.54E-10	9.65E-11	3.67E-11	1.39E-11	2.01E-12













