rb100	7.44E-17	7.44E-17	7.44E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr100	1.63E-13	1.63E-13	1.63E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y100	1.54E-11	1.54E-11	1.54E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

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

0 fission products page 12

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
zr100	1.49E-09	1.49E-09	1.49E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100	3.28E-10	3.28E-10	3.28E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	2.58E-11	2.58E-11	2.58E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo100	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02
tc100	4.90E-11	4.90E-11	4.90E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00
rb101	5.12E-19	5.12E-19	5.12E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr101	3.01E-14	3.01E-14	3.01E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y101	7.42E-12	7.42E-12	7.42E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr101	2.29E-10	2.29E-10	2.29E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb101	1.31E-09	1.31E-09	1.31E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo101	1.67E-07	1.67E-07	1.67E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc101	1.62E-07	1.62E-07	1.62E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru101	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02
sr102	1.02E-14	1.02E-14	1.02E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y102	8.23E-12	8.23E-12	8.23E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr102	2.54E-10	2.54E-10	2.54E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb102	1.94E-10	1.94E-10	1.94E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo102	1.11E-07	1.11E-07	1.11E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102	8.65E-10	8.65E-10	8.65E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	2.40E-11	2.40E-11	2.40E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru102	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02
rh102	2.37E-09	2.37E-09	2.37E-09	2.37E-09	2.23E-09	1.86E-09	1.47E-09	7.17E-10	2.17E-10
pd102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr103	1.23E-17	1.23E-17	1.23E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y103	7.40E-13	7.40E-13	7.40E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr103	3.31E-11	3.31E-11	3.31E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb103	1.37E-10	1.37E-10	1.37E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo103	8.36E-09	8.36E-09	8.36E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc103	6.87E-09	6.87E-09	6.87E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru103	4.30E-04	4.30E-04	4.30E-04	4.23E-04	8.78E-05	6.81E-07	1.08E-09	4.27E-18	4.24E-32
rh103	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02
rh103m	4.26E-07	4.26E-07	4.26E-07	4.19E-07	8.70E-08	6.74E-10	1.07E-12	4.23E-21	4.20E-35
sr104	5.28E-18	5.28E-18	5.28E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y104	2.92E-15	2.92E-15	2.92E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr104	1.46E-11	1.46E-11	1.46E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb104	1.60E-10	1.60E-10	1.60E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo104	4.79E-09	4.79E-09	4.79E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc104	9.07E-08	9.07E-08	9.07E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru104	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02
rh104	4.14E-10	4.14E-10	4.14E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	1.86E-10	1.86E-10	1.86E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd104	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01
y105	3.18E-17	3.18E-17	3.18E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr105	1.67E-12	1.67E-12	1.67E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb105	3.61E-11	3.61E-11	3.61E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo105	1.67E-09	1.67E-09	1.67E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc105	2.31E-08	2.31E-08	2.31E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru105	8.13E-07	8.13E-07	8.13E-07	1.98E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105	6.47E-06	6.47E-06	6.47E-06	4.62E-06	3.04E-24	.00E+00	.00E+00	.00E+00	.00E+00
rh105m	6.50E-10	6.50E-10	6.50E-10	1.58E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd105	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 13

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
y106	3.27E-19	3.27E-19	3.27E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr106	3.54E-14	3.54E-14	3.54E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb106	1.19E-12	1.19E-12	1.19E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo106	1.72E-10	1.72E-10	1.72E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc106	9.17E-10	9.17E-10	9.17E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru106	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	8.06E-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	3.10E-15	.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
ag106	1.37E-17	1.37E-17	1.37E-17	1.19E-35	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y107	3.07E-21	3.07E-21	3.07E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr107	9.08E-17	9.08E-17	9.08E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb107	1.45E-13	1.45E-13	1.45E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo107	2.30E-11	2.30E-11	2.30E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc107	2.54E-10	2.54E-10	2.54E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru107	3.23E-09	3.23E-09	3.23E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh107	1.88E-08	1.88E-08	1.88E-08	2.43E-28	.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
pd107m	8.34E-14	8.34E-14	8.34E-14	.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
zr108	5.56E-18	5.56E-18	5.56E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb108	1.17E-15	1.17E-15	1.17E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo108	9.35E-13	9.35E-13	9.35E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc108	1.81E-11	1.81E-11	1.81E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru108	2.18E-09	2.18E-09	2.18E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108	1.37E-10	1.37E-10	1.37E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108m	4.59E-11	4.59E-11	4.59E-11	.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
ag108	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	2.74E-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
zr109	1.54E-21	1.54E-21	1.54E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb109	6.57E-17	6.57E-17	6.57E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo109	8.92E-14	8.92E-14	8.92E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc109	1.53E-12	1.53E-12	1.53E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru109	1.80E-10	1.80E-10	1.80E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109	4.81E-10	4.81E-10	4.81E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	1.50E-10	1.50E-10	1.50E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109	3.02E-07	3.02E-07	3.02E-07	9.00E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	4.96E-12	4.96E-12	4.96E-12	.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
ag109m	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	2.35E-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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo110	2.39E-14	2.39E-14	2.39E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc110	1.72E-13	1.72E-13	1.72E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru110	3.03E-11	3.03E-11	3.03E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110	1.02E-12	1.02E-12	1.02E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110m	6.68E-11	6.68E-11	6.68E-11	.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
ag110	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	3.26E-07	2.54E-07	1.19E-07	4.30E-08	2.06E-09	1.29E-11

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 14

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
cd110	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01
nb111	1.52E-20	1.52E-20	1.52E-20	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo111	4.40E-16	4.40E-16	4.40E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc111	1.01E-13	1.01E-13	1.01E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru111	1.29E-12	1.29E-12	1.29E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh111	1.63E-11	1.63E-11	1.63E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd111	2.19E-09	2.19E-09	2.19E-09	3.26E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd111m	1.20E-09	1.20E-09	1.20E-09	5.85E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag111	1.01E-06	1.01E-06	1.01E-06	9.20E-07	2.33E-10	1.76E-21	3.08E-36	.00E+00	.00E+00
ag111m	1.01E-10	1.01E-10	1.01E-10	1.87E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd111	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00
cd111m	5.58E-14	5.58E-14	5.58E-14	6.71E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb112	2.88E-22	2.88E-22	2.88E-22	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo112	1.47E-16	1.47E-16	1.47E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc112	4.95E-15	4.95E-15	4.95E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru112	1.41E-12	1.41E-12	1.41E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh112	1.27E-12	1.27E-12	1.27E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd112	7.60E-08	7.60E-08	7.60E-08	3.45E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag112	1.14E-08	1.14E-08	1.14E-08	6.04E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd112	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00
mo113	6.85E-19	6.85E-19	6.85E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc113	2.07E-15	2.07E-15	2.07E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru113	5.10E-13	5.10E-13	5.10E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh113	5.37E-13	5.37E-13	5.37E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd113	7.77E-11	7.77E-11	7.77E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag113	1.56E-08	1.56E-08	1.56E-08	7.10E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag113m	1.10E-11	1.10E-11	1.10E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd113	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01
cd113m	6.24E-06	6.24E-06	6.24E-06	6.24E-06	6.16E-06	5.94E-06	5.65E-06	4.88E-06	3.81E-06
in113	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
in113m	1.80E-18	1.80E-18	1.80E-18	7.91E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo114	5.84E-19	5.84E-19	5.84E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc114	1.02E-16	1.02E-16	1.02E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru114	5.49E-13	5.49E-13	5.49E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh114	5.82E-13	5.82E-13	5.82E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd114	1.05E-10	1.05E-10	1.05E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag114	3.38E-12	3.38E-12	3.38E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd114	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00
in114	5.07E-15	5.07E-15	5.07E-15	3.60E-15	1.04E-15	2.20E-17	1.32E-19	2.88E-26	2.27E-37
in114m	2.27E-10	2.27E-10	2.27E-10	2.24E-10	6.45E-11	1.37E-12	8.23E-15	1.79E-21	1.41E-32
sn114	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04
mo115	8.47E-22	8.47E-22	8.47E-22	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc115	4.33E-18	4.33E-18	4.33E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru115	1.30E-14	1.30E-14	1.30E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh115	1.35E-12	1.35E-12	1.35E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd115	1.98E-11	1.98E-11	1.98E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag115	4.81E-10	4.81E-10	4.81E-10	1.05E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag115m	2.91E-12	2.91E-12	2.91E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd115	1.04E-07	1.04E-07	1.04E-07	7.66E-08	7.23E-20	.00E+00	.00E+00	.00E+00	.00E+00
cd115m	9.03E-08	9.03E-08	9.03E-08	8.89E-08	2.23E-08	3.09E-10	1.06E-12	4.24E-20	2.00E-32
in115	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00
in115m	8.73E-09	8.73E-09	8.73E-09	6.99E-09	1.03E-14	1.43E-16	4.90E-19	1.97E-26	7.54E-39

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 15

0

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
sn115	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02

tc116	8.14E-19	8.14E-19	8.14E-19	.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
rh116	9.09E-14	9.09E-14	9.09E-14	.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
ag116	1.22E-10	1.22E-10	1.22E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116m	6.82E-13	6.82E-13	6.82E-13	.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
in116	1.39E-13	1.39E-13	1.39E-13	.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
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
tc117	1.21E-20	1.21E-20	1.21E-20	.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
rh117	3.90E-14	3.90E-14	3.90E-14	.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
ag117	2.13E-11	2.13E-11	2.13E-11	.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
cd117	4.55E-09	4.55E-09	4.55E-09	5.73E-12	.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
in117	9.67E-10	9.67E-10	9.67E-10	6.17E-12	.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
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
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
tc118	1.94E-22	1.94E-22	1.94E-22	.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
rh118	2.04E-15	2.04E-15	2.04E-15	.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
ag118	1.31E-12	1.31E-12	1.31E-12	.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
cd118	1.74E-09	1.74E-09	1.74E-09	4.19E-18	.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
in118m	9.20E-14	9.20E-14	9.20E-14	.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
ru119	2.58E-18	2.58E-18	2.58E-18	.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
pd119	2.37E-13	2.37E-13	2.37E-13	.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
cd119	7.13E-11	7.13E-11	7.13E-11	.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
in119	3.49E-11	3.49E-11	3.49E-11	.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
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
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
ru120	5.60E-19	5.60E-19	5.60E-19	.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
pd120	2.48E-13	2.48E-13	2.48E-13	.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
cd120	3.12E-11	3.12E-11	3.12E-11	.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
in120m	2.88E-13	2.88E-13	2.88E-13	.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
rh121	3.13E-17	3.13E-17	3.13E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 16

0

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

in121m	1.51E-10	1.51E-10	1.51E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121	6.63E-08	6.63E-08	6.63E-08	3.61E-08	3.87E-10	3.83E-10	3.78E-10	3.64E-10	3.42E-10
sn121m	8.91E-06	8.91E-06	8.91E-06	8.91E-06	8.88E-06	8.80E-06	8.69E-06	8.36E-06	7.85E-06
sb121	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00
rh122	1.47E-18	1.47E-18	1.47E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd122	1.06E-14	1.06E-14	1.06E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag122	5.68E-14	5.68E-14	5.68E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd122	3.67E-12	3.67E-12	3.67E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122	1.13E-12	1.13E-12	1.13E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122m	5.28E-13	5.28E-13	5.28E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn122	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00
sb122	5.35E-10	5.35E-10	5.35E-10	4.14E-10	4.95E-20	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	5.84E-14	5.84E-14	5.84E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te122	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03
rh123	1.47E-19	1.47E-19	1.47E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd123	3.40E-16	3.40E-16	3.40E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag123	1.68E-14	1.68E-14	1.68E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd123	4.06E-12	4.06E-12	4.06E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123	3.08E-12	3.08E-12	3.08E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123m	6.85E-12	6.85E-12	6.85E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123	9.04E-07	9.04E-07	9.04E-07	9.00E-07	5.58E-07	1.27E-07	1.79E-08	5.01E-11	2.78E-15
sn123m	1.78E-09	1.78E-09	1.78E-09	2.75E-20	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb123	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00
te123	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06
te123m	5.66E-12	5.66E-12	5.66E-12	5.62E-12	3.36E-12	6.82E-13	8.23E-14	1.44E-16	3.67E-21
pd124	3.53E-16	3.53E-16	3.53E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag124	1.00E-14	1.00E-14	1.00E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd124	7.31E-13	7.31E-13	7.31E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in124	4.09E-12	4.09E-12	4.09E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn124	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00
sb124	1.33E-08	1.33E-08	1.33E-08	1.31E-08	4.70E-09	1.98E-10	2.95E-12	9.76E-18	7.19E-27
sb124m	2.39E-14	2.39E-14	2.39E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te124	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03
pd125	2.42E-17	2.42E-17	2.42E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag125	5.36E-15	5.36E-15	5.36E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd125	7.55E-13	7.55E-13	7.55E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125	1.58E-12	1.58E-12	1.58E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125m	5.87E-12	5.87E-12	5.87E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125	3.84E-07	3.84E-07	3.84E-07	3.58E-07	5.95E-10	1.51E-18	5.93E-30	.00E+00	.00E+00
sn125m	6.50E-10	6.50E-10	6.50E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb125	1.38E-04	1.38E-04	1.38E-04	1.38E-04	1.30E-04	1.07E-04	8.33E-05	3.89E-05	1.09E-05
te125	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00
te125m	1.85E-06	1.85E-06	1.85E-06	1.85E-06	1.80E-06	1.52E-06	1.18E-06	5.52E-07	1.55E-07
pd126	8.23E-18	8.23E-18	8.23E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag126	9.88E-16	9.88E-16	9.88E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd126	3.05E-13	3.05E-13	3.05E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in126	2.15E-12	2.15E-12	2.15E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn126	6.08E+00	6.08E+00	6.08E+00	6.08E+00	6.08E+00	6.08E+00	6.08E+00	6.08E+00	6.08E+00

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 17

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
sb126	3.00E-07	3.00E-07	3.00E-07	2.99E-07	2.89E-07	2.89E-07	2.89E-07	2.89E-07	2.89E-07
sb126m	2.21E-09	2.21E-09	2.21E-09	2.20E-09	2.20E-09	2.20E-09	2.20E-09	2.20E-09	2.20E-09
te126	2.20E+00	2.20E+00	2.20E+00	2.20E+00	2.20E+00	2.20E+00	2.20E+00	2.20E+00	2.20E+00
xe126	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10
ag127	5.83E-16	5.83E-16	5.83E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd127	2.64E-13	2.64E-13	2.64E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in127	1.85E-12	1.85E-12	1.85E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

in127m	6.06E-12	6.06E-12	6.06E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn127	1.92E-08	1.92E-08	1.92E-08	6.97E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn127m	9.72E-10	9.72E-10	9.72E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb127	2.26E-06	2.26E-06	2.26E-06	1.91E-06	2.09E-13	6.26E-35	.00E+00	.00E+00	.00E+00
te127	2.28E-07	2.28E-07	2.28E-07	2.12E-07	2.30E-08	3.99E-09	3.91E-10	3.69E-13	3.33E-18
te127m	1.12E-05	1.12E-05	1.12E-05	1.12E-05	6.57E-06	1.14E-06	1.12E-07	1.05E-10	9.53E-16
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
xe127	4.57E-15	4.57E-15	4.57E-15	4.49E-15	8.24E-16	4.36E-18	4.16E-21	3.61E-30	.00E+00
ag128	1.30E-16	1.30E-16	1.30E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd128	4.47E-13	4.47E-13	4.47E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in128	3.96E-12	3.96E-12	3.96E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn128	5.90E-08	5.90E-08	5.90E-08	2.73E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb128	4.11E-08	4.11E-08	4.11E-08	6.93E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb128m	1.07E-08	1.07E-08	1.07E-08	5.83E-16	.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
i128	3.20E-11	3.20E-11	3.20E-11	1.43E-28	.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
cd129	5.39E-14	5.39E-14	5.39E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in129	2.87E-12	2.87E-12	2.87E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn129	1.82E-09	1.82E-09	1.82E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn129m	7.33E-09	7.33E-09	7.33E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb129	5.95E-07	5.95E-07	5.95E-07	1.38E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te129	1.48E-07	1.48E-07	1.48E-07	2.25E-08	2.94E-09	1.01E-11	5.37E-15	8.18E-25	.00E+00
te129m	2.03E-05	2.03E-05	2.03E-05	2.00E-05	3.19E-06	1.09E-08	5.82E-12	8.87E-22	3.85E-38
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
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
xe129m	4.03E-12	4.03E-12	4.03E-12	3.73E-12	3.61E-15	1.73E-24	7.41E-37	.00E+00	.00E+00
cd130	3.46E-14	3.46E-14	3.46E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in130	1.48E-12	1.48E-12	1.48E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn130	1.20E-08	1.20E-08	1.20E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb130	2.86E-08	2.86E-08	2.86E-08	3.03E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb130m	2.64E-08	2.64E-08	2.64E-08	.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
i130	1.30E-08	1.30E-08	1.30E-08	3.41E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i130m	8.18E-11	8.18E-11	8.18E-11	.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
cd131	9.42E-16	9.42E-16	9.42E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in131	4.35E-13	4.35E-13	4.35E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn131	1.71E-09	1.71E-09	1.71E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb131	1.71E-07	1.71E-07	1.71E-07	2.46E-26	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te131	1.88E-07	1.88E-07	1.88E-07	3.91E-09	1.44E-30	.00E+00	.00E+00	.00E+00	.00E+00
te131m	2.17E-06	2.17E-06	2.17E-06	1.25E-06	4.61E-28	.00E+00	.00E+00	.00E+00	.00E+00
i131	9.82E-05	9.82E-05	9.82E-05	9.13E-05	4.32E-08	2.14E-18	4.52E-32	.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
xe131m	1.60E-06	1.60E-06	1.60E-06	1.59E-06	2.49E-08	2.86E-15	1.64E-24	.00E+00	.00E+00

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 18

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
cd132	1.36E-16	1.36E-16	1.36E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in132	7.49E-14	7.49E-14	7.49E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn132	1.24E-09	1.24E-09	1.24E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb132	1.65E-08	1.65E-08	1.65E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb132m	1.22E-08	1.22E-08	1.22E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te132	5.93E-05	5.93E-05	5.93E-05	4.79E-05	2.87E-13	.00E+00	.00E+00	.00E+00	.00E+00
i132	1.74E-06	1.74E-06	1.74E-06	1.44E-06	8.63E-15	.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
cs132	8.68E-11	8.68E-11	8.68E-11	7.80E-11	5.71E-15	9.30E-28	.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

in133	7.68E-16	7.68E-16	7.68E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn133	1.23E-11	1.23E-11	1.23E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb133	1.73E-08	1.73E-08	1.73E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133	1.39E-07	1.39E-07	1.39E-07	3.97E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133m	5.17E-07	5.17E-07	5.17E-07	7.79E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133	2.44E-05	2.44E-05	2.44E-05	1.13E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133m	1.81E-10	1.81E-10	1.81E-10	2.16E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133	1.48E-04	1.48E-04	1.48E-04	1.43E-04	1.24E-09	1.94E-25	.00E+00	.00E+00	.00E+00
xe133m	1.82E-06	1.82E-06	1.82E-06	1.66E-06	1.28E-18	.00E+00	.00E+00	.00E+00	.00E+00
cs133	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03
ba133	2.55E-12	2.55E-12	2.55E-12	2.55E-12	2.51E-12	2.39E-12	2.24E-12	1.84E-12	1.32E-12
in134	8.63E-17	8.63E-17	8.63E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn134	1.04E-12	1.04E-12	1.04E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134	1.88E-11	1.88E-11	1.88E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	1.42E-10	1.42E-10	1.42E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te134	8.34E-07	8.34E-07	8.34E-07	3.55E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134	1.19E-06	1.19E-06	1.19E-06	3.00E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134m	4.22E-09	4.22E-09	4.22E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03
xe134m	1.07E-12	1.07E-12	1.07E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	4.28E-04	4.28E-04	4.28E-04	4.27E-04	3.94E-04	3.06E-04	2.18E-04	7.97E-05	1.48E-05
cs134m	5.23E-09	5.23E-09	5.23E-09	1.73E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba134	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01
sn135	3.14E-14	3.14E-14	3.14E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb135	1.38E-11	1.38E-11	1.38E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te135	3.07E-09	3.07E-09	3.07E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i135	7.36E-06	7.36E-06	7.36E-06	5.86E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135	1.07E-05	1.07E-05	1.07E-05	3.91E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	5.40E-08	5.40E-08	5.40E-08	3.71E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs135	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
cs135m	1.08E-10	1.08E-10	1.08E-10	7.17E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135	1.46E+01	1.46E+01	1.46E+01	1.46E+01	1.46E+01	1.46E+01	1.46E+01	1.46E+01	1.47E+01
ba135m	4.48E-11	4.48E-11	4.48E-11	2.51E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn136	4.11E-15	4.11E-15	4.11E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb136	8.53E-13	8.53E-13	8.53E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te136	1.37E-09	1.37E-09	1.37E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136	1.33E-08	1.33E-08	1.33E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136m	3.48E-09	3.48E-09	3.48E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe136	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03
cs136	2.28E-06	2.28E-06	2.28E-06	2.16E-06	1.99E-08	1.01E-14	4.44E-23	.00E+00	.00E+00
ba136	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00
ba136m	6.92E-14	6.92E-14	6.92E-14	6.56E-14	6.04E-16	3.05E-22	1.35E-30	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 19

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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
sb137	1.17E-12	1.17E-12	1.17E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te137	8.21E-11	8.21E-11	8.21E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i137	3.98E-09	3.98E-09	3.98E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe137	7.02E-08	7.02E-08	7.02E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs137	2.99E-01	2.99E-01	2.99E-01	2.99E-01	2.97E-01	2.92E-01	2.85E-01	2.66E-01	2.37E-01
ba137	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03
ba137m	4.56E-08	4.56E-08	4.56E-08	4.56E-08	4.54E-08	4.46E-08	4.36E-08	4.07E-08	3.62E-08
sb138	1.62E-15	1.62E-15	1.62E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te138	6.25E-12	6.25E-12	6.25E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i138	5.28E-10	5.28E-10	5.28E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe138	2.67E-07	2.67E-07	2.67E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138	6.41E-07	6.41E-07	6.41E-07	3.86E-20	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	1.52E-09	1.52E-09	1.52E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ba138	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03
la138	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03
sb139	1.38E-16	1.38E-16	1.38E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te139	3.39E-13	3.39E-13	3.39E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i139	1.13E-10	1.13E-10	1.13E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe139	1.01E-08	1.01E-08	1.01E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs139	1.76E-07	1.76E-07	1.76E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba139	1.62E-06	1.62E-06	1.62E-06	1.38E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la139	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
ce139	4.73E-11	4.73E-11	4.73E-11	4.71E-11	3.01E-11	7.52E-12	1.19E-12	4.79E-15	4.85E-19
pr139	5.68E-16	5.68E-16	5.68E-16	1.31E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te140	8.42E-14	8.42E-14	8.42E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i140	9.66E-12	9.66E-12	9.66E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe140	2.56E-09	2.56E-09	2.56E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs140	1.85E-08	1.85E-08	1.85E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba140	3.52E-04	3.52E-04	3.52E-04	3.33E-04	2.65E-06	8.44E-13	2.02E-21	.00E+00	.00E+00
la140	4.65E-05	4.65E-05	4.65E-05	4.60E-05	4.01E-07	1.28E-13	3.06E-22	.00E+00	.00E+00
ce140	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
pr140	2.29E-14	2.29E-14	2.29E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te141	1.93E-16	1.93E-16	1.93E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i141	4.56E-13	4.56E-13	4.56E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe141	1.18E-10	1.18E-10	1.18E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs141	5.62E-09	5.62E-09	5.62E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba141	3.24E-07	3.24E-07	3.24E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la141	4.18E-06	4.18E-06	4.18E-06	6.51E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce141	8.33E-04	8.33E-04	8.33E-04	8.19E-04	1.23E-04	3.46E-07	1.43E-10	1.02E-20	1.23E-37
pr141	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02
nd141	1.22E-15	1.22E-15	1.22E-15	1.53E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te142	1.96E-16	1.96E-16	1.96E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i142	6.66E-14	6.66E-14	6.66E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe142	2.99E-11	2.99E-11	2.99E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs142	2.33E-10	2.33E-10	2.33E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba142	1.87E-07	1.87E-07	1.87E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la142	1.64E-06	1.64E-06	1.64E-06	3.24E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce142	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02
pr142	8.15E-08	8.15E-08	8.15E-08	3.42E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd142	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00
i143	8.36E-16	8.36E-16	8.36E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 20

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
xe143	3.08E-12	3.08E-12	3.08E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	1.35E-10	1.35E-10	1.35E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	3.90E-09	3.90E-09	3.90E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	2.56E-07	2.56E-07	2.56E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	3.61E-05	3.61E-05	3.61E-05	2.19E-05	7.18E-25	.00E+00	.00E+00	.00E+00	.00E+00
pr143	3.56E-04	3.56E-04	3.56E-04	3.52E-04	3.99E-06	3.11E-12	2.43E-20	.00E+00	.00E+00
nd143	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02
i144	1.05E-17	1.05E-17	1.05E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	5.61E-13	5.61E-13	5.61E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	1.97E-11	1.97E-11	1.97E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	2.58E-09	2.58E-09	2.58E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la144	1.13E-08	1.13E-08	1.13E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	6.92E-03	6.92E-03	6.92E-03	6.90E-03	5.56E-03	2.85E-03	1.17E-03	8.14E-05	9.58E-07
pr144	2.91E-07	2.91E-07	2.91E-07	2.91E-07	2.34E-07	1.20E-07	4.93E-08	3.43E-09	4.04E-11
pr144m	1.70E-09	1.70E-09	1.70E-09	1.70E-09	1.37E-09	6.99E-10	2.88E-10	2.00E-11	2.35E-13
nd144	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02

i145	4.18E-19	4.18E-19	4.18E-19	.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
cs145	2.18E-12	2.18E-12	2.18E-12	.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
la145	4.66E-09	4.66E-09	4.66E-09	.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
pr145	4.40E-06	4.40E-06	4.40E-06	2.76E-07	.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
pm145	1.39E-10	1.39E-10	1.39E-10	1.39E-10	1.39E-10	1.37E-10	1.34E-10	1.20E-10	9.89E-11
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
cs146	3.45E-13	3.45E-13	3.45E-13	.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
la146	8.01E-10	8.01E-10	8.01E-10	.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
pr146	2.29E-07	2.29E-07	2.29E-07	5.84E-25	.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
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
xe147	1.69E-18	1.69E-18	1.69E-18	.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
ba147	4.15E-12	4.15E-12	4.15E-12	.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
ce147	6.58E-09	6.58E-09	6.58E-09	.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
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
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
cs148	3.65E-16	3.65E-16	3.65E-16	.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
la148	1.53E-11	1.53E-11	1.53E-11	.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
pr148	1.23E-08	1.23E-08	1.23E-08	.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
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
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

1

0 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
cs149	3.14E-18	3.14E-18	3.14E-18	.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
la149	8.77E-12	8.77E-12	8.77E-12	.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
pr149	7.87E-09	7.87E-09	7.87E-09	.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
pm149	1.14E-05	1.14E-05	1.14E-05	8.62E-06	6.64E-18	.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
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
ba150	5.92E-15	5.92E-15	5.92E-15	.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
ce150	6.50E-11	6.50E-11	6.50E-11	.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
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
pm150	5.23E-11	5.23E-11	5.23E-11	1.05E-13	.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
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

ba151	1.87E-17	1.87E-17	1.87E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la151	4.46E-14	4.46E-14	4.46E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce151	3.96E-12	3.96E-12	3.96E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr151	3.03E-10	3.03E-10	3.03E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd151	1.85E-08	1.85E-08	1.85E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm151	2.55E-06	2.55E-06	2.55E-06	1.43E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm151	7.69E-02	7.69E-02	7.69E-02	7.69E-02	7.67E-02	7.63E-02	7.57E-02	7.40E-02	7.12E-02
eu151	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01
ba152	1.87E-19	1.87E-19	1.87E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la152	3.59E-16	3.59E-16	3.59E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce152	4.16E-12	4.16E-12	4.16E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr152	3.57E-11	3.57E-11	3.57E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd152	1.07E-08	1.07E-08	1.07E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152	3.94E-09	3.94E-09	3.94E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	1.54E-10	1.54E-10	1.54E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm152	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01
eu152	6.36E-03	6.36E-03	6.36E-03	6.36E-03	6.28E-03	6.04E-03	5.73E-03	4.91E-03	3.78E-03
eu152m	2.76E-07	2.76E-07	2.76E-07	4.62E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd152	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01
la153	1.26E-16	1.26E-16	1.26E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce153	1.75E-13	1.75E-13	1.75E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr153	8.37E-12	8.37E-12	8.37E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd153	5.93E-10	5.93E-10	5.93E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm153	3.27E-09	3.27E-09	3.27E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm153	2.26E-06	2.26E-06	2.26E-06	1.58E-06	2.01E-20	.00E+00	.00E+00	.00E+00	.00E+00
eu153	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01
gd153	6.47E-06	6.47E-06	6.47E-06	6.45E-06	5.00E-06	2.27E-06	7.95E-07	3.43E-08	1.81E-10
la154	1.46E-18	1.46E-18	1.46E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce154	2.11E-14	2.11E-14	2.11E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr154	2.99E-13	2.99E-13	2.99E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd154	1.41E-10	1.41E-10	1.41E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154	4.34E-10	4.34E-10	4.34E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154m	1.10E-10	1.10E-10	1.10E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 22

0

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
sm154	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01
eu154	3.83E-04	3.83E-04	3.83E-04	3.83E-04	3.76E-04	3.54E-04	3.26E-04	2.56E-04	1.71E-04
gd154	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00
la155	7.38E-21	7.38E-21	7.38E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	4.42E-16	4.42E-16	4.42E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	5.75E-14	5.75E-14	5.75E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	1.92E-11	1.92E-11	1.92E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	1.04E-10	1.04E-10	1.04E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	3.28E-09	3.28E-09	3.28E-09	1.24E-28	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	3.62E-04	3.62E-04	3.62E-04	3.62E-04	3.49E-04	3.12E-04	2.69E-04	1.73E-04	8.24E-05
gd155m	1.64E-18	1.64E-18	1.64E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01
ce156	3.75E-17	3.75E-17	3.75E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	2.27E-15	2.27E-15	2.27E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	5.67E-12	5.67E-12	5.67E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	1.10E-11	1.10E-11	1.10E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	4.05E-08	4.05E-08	4.05E-08	6.91E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu156	1.58E-06	1.58E-06	1.58E-06	1.54E-06	2.67E-08	9.33E-14	5.36E-21	.00E+00	.00E+00
gd156	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01
ce157	6.40E-19	6.40E-19	6.40E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr157	3.21E-16	3.21E-16	3.21E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd157	1.46E-13	1.46E-13	1.46E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pm157	1.90E-11	1.90E-11	1.90E-11	.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
eu157	3.52E-08	3.52E-08	3.52E-08	1.19E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd157	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02
pr158	7.36E-18	7.36E-18	7.36E-18	.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
pm158	2.76E-13	2.76E-13	2.76E-13	.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
eu158	8.91E-10	8.91E-10	8.91E-10	3.60E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd158	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
pr159	3.32E-19	3.32E-19	3.32E-19	.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
pm159	4.12E-14	4.12E-14	4.12E-14	.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
eu159	1.48E-10	1.48E-10	1.48E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd159	9.36E-09	9.36E-09	9.36E-09	3.89E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb159	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01
nd160	3.95E-17	3.95E-17	3.95E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm160	1.06E-15	1.06E-15	1.06E-15	.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
eu160	2.23E-12	2.23E-12	2.23E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd160	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01
tb160	9.55E-09	9.55E-09	9.55E-09	9.45E-09	4.03E-09	2.88E-10	8.68E-12	2.38E-16	5.93E-24
dy160	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	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
pm161	1.34E-16	1.34E-16	1.34E-16	.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
eu161	7.12E-13	7.12E-13	7.12E-13	.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
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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 23

0

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
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	8.78E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy162	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02
sm163	8.65E-17	8.65E-17	8.65E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02
sm164	7.45E-18	7.45E-18	7.45E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	1.39E-32	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb164	2.66E-13	2.66E-13	2.66E-13	2.23E-33	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy164	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03
sm165	1.35E-19	1.35E-19	1.35E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	9.23E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165m	7.88E-14	7.88E-14	7.88E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ho165	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03
dy166	2.63E-11	2.63E-11	2.63E-11	2.14E-11	2.83E-19	.00E+00	.00E+00	.00E+00	.00E+00
ho166	1.08E-11	1.08E-11	1.08E-11	9.36E-12	1.38E-19	.00E+00	.00E+00	.00E+00	.00E+00
ho166m	6.21E-08	6.21E-08	6.21E-08	6.21E-08	6.21E-08	6.21E-08	6.21E-08	6.20E-08	6.18E-08
er166	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04
er167	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06
er167m	6.56E-21	6.56E-21	6.56E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07
yb168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er169	1.26E-13	1.26E-13	1.26E-13	1.17E-13	1.66E-16	2.54E-25	5.11E-37	.00E+00	.00E+00
tm169	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07
yb169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er170	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07
tm170	1.05E-14	1.05E-14	1.05E-14	1.04E-14	6.44E-15	1.46E-15	2.04E-16	5.55E-19	2.94E-23
tm170m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb170	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09
er171	6.03E-15	6.03E-15	6.03E-15	6.59E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm171	1.38E-11	1.38E-11	1.38E-11	1.38E-11	1.26E-11	9.60E-12	6.69E-12	2.27E-12	3.73E-13
yb171	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07
er172	2.49E-14	2.49E-14	2.49E-14	1.78E-14	1.62E-27	.00E+00	.00E+00	.00E+00	.00E+00
tm172	3.37E-14	3.37E-14	3.37E-14	3.22E-14	8.67E-24	.00E+00	.00E+00	.00E+00	.00E+00
yb172	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07
total	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 24

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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
h 3	4.60E-02	4.60E-02	4.60E-02	4.60E-02	4.54E-02	4.35E-02	4.11E-02	3.48E-02	2.62E-02
li 6	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 7	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
be 9	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
be 10	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06
c 14	5.62E-06	5.62E-06	5.62E-06	5.62E-06	5.62E-06	5.62E-06	5.62E-06	5.62E-06	5.61E-06
ni 66	1.60E-08	1.60E-08	1.60E-08	1.18E-08	1.98E-20	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	1.60E-08	1.60E-08	1.60E-08	1.18E-08	1.99E-20	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 67	2.59E-09	2.59E-09	2.59E-09	1.98E-09	7.90E-20	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 68	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69	4.96E-09	4.96E-09	4.96E-09	1.29E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	4.02E-09	4.02E-09	4.02E-09	1.20E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 70	1.33E-10	1.33E-10	1.33E-10	4.11E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71	2.78E-07	2.78E-07	2.78E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	1.19E-06	1.19E-06	1.19E-06	1.78E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71	1.55E-12	1.55E-12	1.55E-12	1.46E-12	6.61E-15	3.75E-22	9.13E-32	.00E+00	.00E+00
ge 71m	7.73E-13	7.73E-13	7.73E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 72	8.74E-07	8.74E-07	8.74E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	4.55E-05	4.55E-05	4.55E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	1.06E-04	1.06E-04	1.06E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	1.29E-04	1.29E-04	1.29E-04	9.02E-05	1.34E-18	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	1.29E-04	1.29E-04	1.29E-04	1.12E-04	1.92E-18	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 73	5.45E-07	5.45E-07	5.45E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 73	6.40E-05	6.40E-05	6.40E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 73	3.19E-04	3.19E-04	3.19E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

zn 73	5.03E-04	5.03E-04	5.03E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 73	5.09E-04	5.09E-04	5.09E-04	1.66E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 73m	5.02E-04	5.02E-04	5.02E-04	1.64E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 74	1.13E-07	1.13E-07	1.13E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 74	4.82E-05	4.82E-05	4.82E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 74	4.80E-04	4.80E-04	4.80E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 74	1.47E-03	1.47E-03	1.47E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 74	4.30E-04	4.30E-04	4.30E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 75	2.13E-08	2.13E-08	2.13E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 75	2.26E-05	2.26E-05	2.26E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 75	7.22E-04	7.22E-04	7.22E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 75	4.09E-03	4.09E-03	4.09E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 75	4.76E-03	4.76E-03	4.76E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75	4.78E-03	4.78E-03	4.78E-03	2.85E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75m	2.46E-04	2.46E-04	2.46E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 76	8.60E-06	8.60E-06	8.60E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 76	6.52E-04	6.52E-04	6.52E-04	.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 page 25

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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
zn 76	1.06E-02	1.06E-02	1.06E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	1.49E-02	1.49E-02	1.49E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 76	9.27E-06	9.27E-06	9.27E-06	4.93E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 77	1.38E-06	1.38E-06	1.38E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	3.38E-04	3.38E-04	3.38E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	1.25E-02	1.25E-02	1.25E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	2.89E-02	2.89E-02	2.89E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	1.05E-02	1.05E-02	1.05E-02	2.41E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	2.96E-02	2.96E-02	2.96E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 77	3.39E-02	3.39E-02	3.39E-02	2.39E-02	6.89E-19	.00E+00	.00E+00	.00E+00	.00E+00
se 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77m	1.09E-04	1.09E-04	1.09E-04	7.65E-05	2.21E-21	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	2.07E-07	2.07E-07	2.07E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	1.09E-04	1.09E-04	1.09E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	1.43E-02	1.43E-02	1.43E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	5.83E-02	5.83E-02	5.83E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	8.96E-02	8.96E-02	8.96E-02	1.06E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 78	9.04E-02	9.04E-02	9.04E-02	1.54E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 79	2.20E-05	2.20E-05	2.20E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	7.15E-03	7.15E-03	7.15E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	7.49E-02	7.49E-02	7.49E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	1.71E-01	1.71E-01	1.71E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 79	1.82E-01	1.82E-01	1.82E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 79	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02
se 79m	1.80E-01	1.80E-01	1.80E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79m	2.10E-08	2.10E-08	2.10E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	7.73E-13	7.73E-13	7.73E-13	4.81E-13	2.05E-31	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	1.84E-06	1.84E-06	1.84E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	1.90E-03	1.90E-03	1.90E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	4.61E-02	4.61E-02	4.61E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	4.79E-01	4.79E-01	4.79E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

as 80	5.27E-01	5.27E-01	5.27E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80	7.32E-05	7.32E-05	7.32E-05	4.60E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	1.85E-05	1.85E-05	1.85E-05	4.29E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 81	1.58E-07	1.58E-07	1.58E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	3.72E-04	3.72E-04	3.72E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	3.04E-02	3.04E-02	3.04E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	5.14E-01	5.14E-01	5.14E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 81	7.47E-01	7.47E-01	7.47E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81	7.80E-01	7.80E-01	7.80E-01	2.02E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	5.08E-02	5.08E-02	5.08E-02	1.37E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 81	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08
kr 81m	4.14E-08	4.14E-08	4.14E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	1.12E-04	1.12E-04	1.12E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	2.73E-02	2.73E-02	2.73E-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 fission products page 26

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
ge 82	5.35E-01	5.35E-01	5.35E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82	8.54E-01	8.54E-01	8.54E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	3.18E-01	3.18E-01	3.18E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82	2.00E-03	2.00E-03	2.00E-03	1.25E-03	7.67E-22	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	1.22E-03	1.22E-03	1.22E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 83	3.00E-06	3.00E-06	3.00E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	1.85E-03	1.85E-03	1.85E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	2.18E-01	2.18E-01	2.18E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 83	1.40E+00	1.40E+00	1.40E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83	9.65E-01	9.65E-01	9.65E-01	3.53E-20	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	1.11E+00	1.11E+00	1.11E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 83	2.15E+00	2.15E+00	2.15E+00	2.28E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83m	2.15E+00	2.15E+00	2.15E+00	9.83E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	3.46E-02	3.46E-02	3.46E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	1.29E-01	1.29E-01	1.29E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 84	9.97E-01	9.97E-01	9.97E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 84	4.05E+00	4.05E+00	4.05E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84	4.15E+00	4.15E+00	4.15E+00	1.08E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	9.86E-02	9.86E-02	9.86E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 85	2.10E-05	2.10E-05	2.10E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	2.06E-02	2.06E-02	2.06E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 85	6.26E-01	6.26E-01	6.26E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85	2.03E+00	2.03E+00	2.03E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	1.80E+00	1.80E+00	1.80E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 85	4.83E+00	4.83E+00	4.83E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.03E+00	9.80E-01	9.19E-01	7.57E-01	5.48E-01
kr 85m	4.83E+00	4.83E+00	4.83E+00	1.19E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 86	4.12E-03	4.12E-03	4.12E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 86	3.70E-01	3.70E-01	3.70E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 86	5.07E+00	5.07E+00	5.07E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86	6.11E+00	6.11E+00	6.11E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	1.04E+00	1.04E+00	1.04E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

rb 86	9.87E-04	9.87E-04	9.87E-04	9.51E-04	3.47E-05	1.24E-09	1.56E-15	.00E+00	.00E+00
rb 86m	7.52E-05	7.52E-05	7.52E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 87	7.40E-02	7.40E-02	7.40E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 87	2.55E-01	2.55E-01	2.55E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 87	2.99E+00	2.99E+00	2.99E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 87	7.91E+00	7.91E+00	7.91E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	9.87E+00	9.87E+00	9.87E+00	2.08E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05
sr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 87m	4.10E-06	4.10E-06	4.10E-06	1.10E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	9.75E-05	9.75E-05	9.75E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 88	1.23E-01	1.23E-01	1.23E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 88	1.47E+00	1.47E+00	1.47E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 27

0

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
br 88	7.98E+00	7.98E+00	7.98E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 88	1.40E+01	1.40E+01	1.40E+01	3.99E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 88	1.43E+01	1.43E+01	1.43E+01	4.45E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 89	8.82E-04	8.82E-04	8.82E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 89	5.03E-01	5.03E-01	5.03E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 89	5.27E+00	5.27E+00	5.27E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 89	1.80E+01	1.80E+01	1.80E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 89	1.90E+01	1.90E+01	1.90E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 89	1.91E+01	1.91E+01	1.91E+01	1.88E+01	5.56E+00	1.28E-01	8.54E-04	2.55E-10	3.41E-21
y 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89m	2.32E-03	2.32E-03	2.32E-03	1.75E-03	5.17E-04	1.19E-05	7.94E-08	2.37E-14	3.17E-25
as 90	6.19E-06	6.19E-06	6.19E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 90	1.03E-01	1.03E-01	1.03E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 90	2.73E+00	2.73E+00	2.73E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 90	1.96E+01	1.96E+01	1.96E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90	1.79E+01	1.79E+01	1.79E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90m	5.11E+00	5.11E+00	5.11E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 90	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.29E+01	2.25E+01	2.19E+01	2.04E+01	1.80E+01
y 90	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.29E+01	2.25E+01	2.20E+01	2.04E+01	1.80E+01
y 90m	7.68E-06	7.68E-06	7.68E-06	4.17E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 91	8.01E-03	8.01E-03	8.01E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 91	9.86E-01	9.86E-01	9.86E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 91	1.34E+01	1.34E+01	1.34E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 91	2.23E+01	2.23E+01	2.23E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 91	2.34E+01	2.34E+01	2.34E+01	4.08E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91	2.34E+01	2.34E+01	2.34E+01	2.33E+01	8.12E+00	3.11E-01	4.11E-03	9.46E-09	3.80E-18
y 91m	1.36E+01	1.36E+01	1.36E+01	2.59E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 91	4.25E-11	4.25E-11	4.25E-11	4.25E-11	4.25E-11	4.24E-11	4.24E-11	4.23E-11	4.20E-11
se 92	5.22E-04	5.22E-04	5.22E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 92	1.50E-01	1.50E-01	1.50E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 92	6.86E+00	6.86E+00	6.86E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 92	1.92E+01	1.92E+01	1.92E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 92	2.35E+01	2.35E+01	2.35E+01	5.07E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 92	2.37E+01	2.37E+01	2.37E+01	7.47E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 92	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11
se 93	2.31E-06	2.31E-06	2.31E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

br 93	1.70E-02	1.70E-02	1.70E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	2.17E+00	2.17E+00	2.17E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	1.45E+01	1.45E+01	1.45E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	2.50E+01	2.50E+01	2.50E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 93	1.69E+01	1.69E+01	1.69E+01	3.30E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 93	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
nb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 93m	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
br 94	1.07E-03	1.07E-03	1.07E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 94	9.34E-01	9.34E-01	9.34E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 94	7.24E+00	7.24E+00	7.24E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 28

0

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
sr 94	2.42E+01	2.42E+01	2.42E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 94	2.57E+01	2.57E+01	2.57E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 94	1.03E-04	1.03E-04	1.03E-04	1.03E-04	1.03E-04	1.03E-04	1.03E-04	1.03E-04	1.03E-04
nb 94m	1.51E-04	1.51E-04	1.51E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 95	8.76E-06	8.76E-06	8.76E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 95	4.49E-02	4.49E-02	4.49E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 95	3.37E+00	3.37E+00	3.37E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 95	2.16E+01	2.16E+01	2.16E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 95	2.59E+01	2.59E+01	2.59E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 95	2.62E+01	2.62E+01	2.62E+01	2.59E+01	9.90E+00	5.02E-01	9.63E-03	6.77E-08	1.75E-16
nb 95	2.62E+01	2.62E+01	2.62E+01	2.62E+01	1.65E+01	1.08E+00	2.19E-02	1.49E-07	3.86E-16
nb 95m	2.91E-01	2.91E-01	2.91E-01	2.91E-01	1.16E-01	5.91E-03	1.13E-04	7.97E-10	2.06E-18
mo 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 96	2.07E-06	2.07E-06	2.07E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 96	9.02E-03	9.02E-03	9.02E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 96	8.60E-01	8.60E-01	8.60E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 96	1.58E+01	1.58E+01	1.58E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 96	2.44E+01	2.44E+01	2.44E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 96	3.01E-03	3.01E-03	3.01E-03	1.48E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 96	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 97	8.22E-05	8.22E-05	8.22E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 97	3.05E-01	3.05E-01	3.05E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 97	8.23E+00	8.23E+00	8.23E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 97	1.99E+01	1.99E+01	1.99E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 97	2.30E+01	2.30E+01	2.30E+01	8.61E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97	2.31E+01	2.31E+01	2.31E+01	8.65E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97m	2.19E+01	2.19E+01	2.19E+01	8.17E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 97	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 98	2.62E-05	2.62E-05	2.62E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 98	1.39E-02	1.39E-02	1.39E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 98	2.94E+00	2.94E+00	2.94E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 98	1.47E+01	1.47E+01	1.47E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 98	2.37E+01	2.37E+01	2.37E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98	2.38E+01	2.38E+01	2.38E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98m	1.00E-01	1.00E-01	1.00E-01	3.55E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 98	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc 98	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07
rb 99	3.22E-04	3.22E-04	3.22E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 99	1.44E+00	1.44E+00	1.44E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 99	9.66E+00	9.66E+00	9.66E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 99	2.31E+01	2.31E+01	2.31E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99	1.49E+01	1.49E+01	1.49E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

nb 99m	9.94E+00	9.94E+00	9.94E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 99	2.52E+01	2.52E+01	2.52E+01	1.96E+01	3.47E-09	.00E+00	.00E+00	.00E+00	.00E+00
tc 99	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01
tc 99m	2.22E+01	2.22E+01	2.22E+01	1.88E+01	3.36E-09	.00E+00	.00E+00	.00E+00	.00E+00
ru 99	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb100	8.53E-05	8.53E-05	8.53E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr100	9.13E-02	9.13E-02	9.13E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y100	2.36E+00	2.36E+00	2.36E+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 page 29

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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
zr100	2.37E+01	2.37E+01	2.37E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100	2.47E+01	2.47E+01	2.47E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	9.76E-01	9.76E-01	9.76E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc100	3.50E-01	3.50E-01	3.50E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb101	6.09E-07	6.09E-07	6.09E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr101	1.73E-02	1.73E-02	1.73E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y101	1.66E+00	1.66E+00	1.66E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr101	1.28E+01	1.28E+01	1.28E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb101	2.06E+01	2.06E+01	2.06E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo101	2.13E+01	2.13E+01	2.13E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc101	2.13E+01	2.13E+01	2.13E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr102	3.92E-03	3.92E-03	3.92E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y102	1.01E+00	1.01E+00	1.01E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr102	9.70E+00	9.70E+00	9.70E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb102	1.65E+01	1.65E+01	1.65E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo102	1.81E+01	1.81E+01	1.81E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102	1.81E+01	1.81E+01	1.81E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	1.02E-02	1.02E-02	1.02E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh102	2.86E-06	2.86E-06	2.86E-06	2.86E-06	2.70E-06	2.25E-06	1.78E-06	8.67E-07	2.62E-07
pd102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr103	1.13E-05	1.13E-05	1.13E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y103	3.12E-01	3.12E-01	3.12E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr103	2.79E+00	2.79E+00	2.79E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb103	9.98E+00	9.98E+00	9.98E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo103	1.36E+01	1.36E+01	1.36E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc103	1.39E+01	1.39E+01	1.39E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru103	1.39E+01	1.39E+01	1.39E+01	1.37E+01	2.84E+00	2.20E-02	3.48E-05	1.38E-13	1.37E-27
rh103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103m	1.39E+01	1.39E+01	1.39E+01	1.36E+01	2.83E+00	2.19E-02	3.47E-05	1.38E-13	1.37E-27
sr104	3.52E-06	3.52E-06	3.52E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y104	2.47E-03	2.47E-03	2.47E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr104	6.15E-01	6.15E-01	6.15E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb104	3.61E+00	3.61E+00	3.61E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo104	8.66E+00	8.66E+00	8.66E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc104	8.96E+00	8.96E+00	8.96E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104	1.06E+00	1.06E+00	1.06E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	7.76E-02	7.76E-02	7.76E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y105	2.33E-05	2.33E-05	2.33E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr105	3.65E-01	3.65E-01	3.65E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb105	1.32E+00	1.32E+00	1.32E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo105	5.04E+00	5.04E+00	5.04E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

tc105	5.44E+00	5.44E+00	5.44E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru105	5.47E+00	5.47E+00	5.47E+00	1.33E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105	5.47E+00	5.47E+00	5.47E+00	3.90E+00	2.57E-18	.00E+00	.00E+00	.00E+00	.00E+00
rh105m	1.55E+00	1.55E+00	1.55E+00	3.79E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 30

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
y106	3.89E-07	3.89E-07	3.89E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr106	4.15E-03	4.15E-03	4.15E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb106	1.26E-01	1.26E-01	1.26E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo106	2.19E+00	2.19E+00	2.19E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc106	2.71E+00	2.71E+00	2.71E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru106	2.88E+00	2.88E+00	2.88E+00	2.88E+00	2.44E+00	1.46E+00	7.38E-01	9.57E-02	3.17E-03
rh106	2.88E+00	2.88E+00	2.88E+00	2.88E+00	2.44E+00	1.46E+00	7.38E-01	9.57E-02	3.17E-03
rh106m	9.14E-05	9.14E-05	9.14E-05	4.23E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag106	1.01E-09	1.01E-09	1.01E-09	8.78E-28	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y107	3.51E-09	3.51E-09	3.51E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr107	3.94E-05	3.94E-05	3.94E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb107	2.00E-02	2.00E-02	2.00E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo107	6.92E-01	6.92E-01	6.92E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc107	1.26E+00	1.26E+00	1.26E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru107	1.52E+00	1.52E+00	1.52E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh107	1.52E+00	1.52E+00	1.52E+00	1.97E-20	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd107	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02
pd107m	4.13E-04	4.13E-04	4.13E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr108	1.54E-06	1.54E-06	1.54E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb108	5.06E-04	5.06E-04	5.06E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo108	6.51E-02	6.51E-02	6.51E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc108	3.65E-01	3.65E-01	3.65E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru108	8.36E-01	8.36E-01	8.36E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108	8.50E-01	8.50E-01	8.50E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108m	1.33E-02	1.33E-02	1.33E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag108	7.62E-05	7.62E-05	7.62E-05	6.26E-09	6.25E-09	6.23E-09	6.19E-09	6.09E-09	5.93E-09
ag108m	7.20E-08	7.20E-08	7.20E-08	7.20E-08	7.19E-08	7.16E-08	7.12E-08	7.00E-08	6.81E-08
cd108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr109	1.23E-09	1.23E-09	1.23E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb109	2.16E-05	2.16E-05	2.16E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo109	6.56E-03	6.56E-03	6.56E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc109	1.13E-01	1.13E-01	1.13E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru109	5.34E-01	5.34E-01	5.34E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109	6.22E-01	6.22E-01	6.22E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	3.11E-01	3.11E-01	3.11E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109	6.35E-01	6.35E-01	6.35E-01	1.89E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	1.82E-03	1.82E-03	1.82E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag109m	6.34E-01	6.34E-01	6.34E-01	1.89E-01	5.34E-09	3.53E-09	2.04E-09	3.96E-10	2.56E-11
cd109	6.11E-09	6.11E-09	6.11E-09	6.10E-09	5.34E-09	3.53E-09	2.04E-09	3.96E-10	2.56E-11
nb110	1.02E-06	1.02E-06	1.02E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo110	8.84E-04	8.84E-04	8.84E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc110	2.12E-02	2.12E-02	2.12E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru110	2.08E-01	2.08E-01	2.08E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110	3.30E-02	3.30E-02	3.30E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110m	2.41E-01	2.41E-01	2.41E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd110	.00E+00	.00E+00	.00E+00	.00E+00	.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.

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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
nb111	8.98E-09	8.98E-09	8.98E-09	.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
tc111	5.19E-03	5.19E-03	5.19E-03	.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
rh111	1.50E-01	1.50E-01	1.50E-01	.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
pd111m	6.18E-03	6.18E-03	6.18E-03	3.00E-04	.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
ag111m	1.58E-01	1.58E-01	1.58E-01	2.93E-04	.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
cd111m	1.94E-06	1.94E-06	1.94E-06	2.34E-15	.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
mo112	1.52E-05	1.52E-05	1.52E-05	.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
ru112	3.95E-02	3.95E-02	3.95E-02	.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
pd112	1.01E-01	1.01E-01	1.01E-01	4.59E-02	.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
cd112	.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
tc113	3.17E-04	3.17E-04	3.17E-04	.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
rh113	5.96E-02	5.96E-02	5.96E-02	.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
ag113	8.09E-02	8.09E-02	8.09E-02	3.67E-03	.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
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
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
in113m	3.01E-11	3.01E-11	3.01E-11	1.32E-15	.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
tc114	5.01E-05	5.01E-05	5.01E-05	.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
rh114	3.39E-02	3.39E-02	3.39E-02	.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
ag114	7.27E-02	7.27E-02	7.27E-02	.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
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
mo115	6.60E-10	6.60E-10	6.60E-10	.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
ru115	1.46E-03	1.46E-03	1.46E-03	.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
pd115	5.10E-02	5.10E-02	5.10E-02	.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
ag115m	1.59E-02	1.59E-02	1.59E-02	.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
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
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

1

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
tc116	6.86E-07	6.86E-07	6.86E-07	.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
rh116	9.32E-03	9.32E-03	9.32E-03	.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
ag116	7.41E-02	7.41E-02	7.41E-02	.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
cd116	.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
in116m	3.61E-03	3.61E-03	3.61E-03	3.56E-11	.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
tc117	7.68E-09	7.68E-09	7.68E-09	.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
rh117	3.09E-03	3.09E-03	3.09E-03	.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
ag117	2.82E-02	2.82E-02	2.82E-02	.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
cd117	4.90E-02	4.90E-02	4.90E-02	6.17E-05	.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
in117	3.55E-02	3.55E-02	3.55E-02	2.27E-04	.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
sn117	.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
tc118	2.27E-10	2.27E-10	2.27E-10	.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
rh118	6.18E-04	6.18E-04	6.18E-04	.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
ag118	3.34E-02	3.34E-02	3.34E-02	.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
cd118	5.50E-02	5.50E-02	5.50E-02	1.33E-10	.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
in118m	3.30E-05	3.30E-05	3.30E-05	.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
ru119	1.26E-06	1.26E-06	1.26E-06	.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
pd119	1.28E-02	1.28E-02	1.28E-02	.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
cd119	4.19E-02	4.19E-02	4.19E-02	.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
in119	2.30E-02	2.30E-02	2.30E-02	.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
sn119	.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
ru120	1.50E-07	1.50E-07	1.50E-07	.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
pd120	5.96E-03	5.96E-03	5.96E-03	.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
cd120	5.78E-02	5.78E-02	5.78E-02	.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
in120m	5.85E-04	5.85E-04	5.85E-04	.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
rh121	1.17E-05	1.17E-05	1.17E-05	.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

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 34

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
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

te126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag127	2.96E-04	2.96E-04	2.96E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd127	4.10E-02	4.10E-02	4.10E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in127	1.43E-01	1.43E-01	1.43E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in127m	1.43E-01	1.43E-01	1.43E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn127	2.26E-01	2.26E-01	2.26E-01	8.20E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn127m	3.49E-01	3.49E-01	3.49E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb127	6.05E-01	6.05E-01	6.05E-01	5.10E-01	5.59E-08	1.67E-29	.00E+00	.00E+00	.00E+00
te127	6.02E-01	6.02E-01	6.02E-01	5.61E-01	6.07E-02	1.05E-02	1.03E-03	9.73E-07	8.81E-12
te127m	1.06E-01	1.06E-01	1.06E-01	1.06E-01	6.20E-02	1.08E-02	1.06E-03	9.93E-07	8.99E-12
i127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe127	1.29E-10	1.29E-10	1.29E-10	1.27E-10	2.33E-11	1.23E-13	1.18E-16	1.02E-25	.00E+00
ag128	1.21E-04	1.21E-04	1.21E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd128	3.74E-02	3.74E-02	3.74E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in128	3.88E-01	3.88E-01	3.88E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn128	1.47E+00	1.47E+00	1.47E+00	6.79E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb128	1.12E-01	1.12E-01	1.12E-01	1.88E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb128m	1.51E+00	1.51E+00	1.51E+00	8.24E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i128	1.89E-03	1.89E-03	1.89E-03	8.40E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd129	1.58E-02	1.58E-02	1.58E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in129	4.26E-01	4.26E-01	4.26E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn129	1.23E+00	1.23E+00	1.23E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn129m	1.59E+00	1.59E+00	1.59E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb129	3.29E+00	3.29E+00	3.29E+00	7.62E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te129	3.10E+00	3.10E+00	3.10E+00	4.71E-01	6.16E-02	2.11E-04	1.12E-07	1.71E-17	.00E+00
te129m	6.12E-01	6.12E-01	6.12E-01	6.03E-01	9.61E-02	3.29E-04	1.76E-07	2.67E-17	.00E+00
i129	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02
xe129	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe129m	4.59E-07	4.59E-07	4.59E-07	4.25E-07	4.12E-10	1.97E-19	9.13E-32	.00E+00	.00E+00
cd130	6.30E-03	6.30E-03	6.30E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in130	4.02E-01	4.02E-01	4.02E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn130	4.65E+00	4.65E+00	4.65E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb130	1.05E+00	1.05E+00	1.05E+00	1.11E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb130m	6.06E+00	6.06E+00	6.06E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i130	2.54E-02	2.54E-02	2.54E-02	6.66E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i130m	1.32E-02	1.32E-02	1.32E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd131	7.64E-04	7.64E-04	7.64E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in131	1.39E-01	1.39E-01	1.39E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn131	3.78E+00	3.78E+00	3.78E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb131	1.07E+01	1.07E+01	1.07E+01	1.54E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te131	1.08E+01	1.08E+01	1.08E+01	2.25E-01	8.28E-23	.00E+00	.00E+00	.00E+00	.00E+00
te131m	1.73E+00	1.73E+00	1.73E+00	9.98E-01	3.68E-22	.00E+00	.00E+00	.00E+00	.00E+00
i131	1.22E+01	1.22E+01	1.22E+01	1.13E+01	5.35E-03	2.65E-13	5.61E-27	.00E+00	.00E+00
xe131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe131m	1.34E-01	1.34E-01	1.34E-01	1.33E-01	2.08E-03	2.39E-10	1.37E-19	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 35

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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
cd132	8.55E-05	8.55E-05	8.55E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in132	3.44E-02	3.44E-02	3.44E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn132	2.66E+00	2.66E+00	2.66E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb132	5.60E+00	5.60E+00	5.60E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb132m	6.19E+00	6.19E+00	6.19E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

te132	1.80E+01	1.80E+01	1.80E+01	1.46E+01	8.71E-08	.00E+00	.00E+00	.00E+00	.00E+00
i132	1.81E+01	1.81E+01	1.81E+01	1.50E+01	8.97E-08	.00E+00	.00E+00	.00E+00	.00E+00
xe132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs132	1.33E-05	1.33E-05	1.33E-05	1.19E-05	8.73E-10	1.42E-22	.00E+00	.00E+00	.00E+00
ba132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in133	5.84E-04	5.84E-04	5.84E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn133	7.25E-01	7.25E-01	7.25E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb133	9.79E+00	9.79E+00	9.79E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133	1.58E+01	1.58E+01	1.58E+01	4.49E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133m	1.32E+01	1.32E+01	1.32E+01	1.99E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133	2.77E+01	2.77E+01	2.77E+01	1.28E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133m	1.71E+00	1.71E+00	1.71E+00	2.03E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133	2.77E+01	2.77E+01	2.77E+01	2.67E+01	2.32E-04	3.64E-20	.00E+00	.00E+00	.00E+00
xe133m	8.15E-01	8.15E-01	8.15E-01	7.44E-01	5.74E-13	.00E+00	.00E+00	.00E+00	.00E+00
cs133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba133	6.53E-10	6.53E-10	6.53E-10	6.53E-10	6.42E-10	6.11E-10	5.72E-10	4.70E-10	3.38E-10
in134	9.02E-05	9.02E-05	9.02E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn134	8.40E-02	8.40E-02	8.40E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134	1.86E+00	1.86E+00	1.86E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	1.15E+00	1.15E+00	1.15E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te134	2.80E+01	2.80E+01	2.80E+01	1.19E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134	3.18E+01	3.18E+01	3.18E+01	8.00E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134m	1.61E+00	1.61E+00	1.61E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134m	3.11E-01	3.11E-01	3.11E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	5.54E-01	5.54E-01	5.54E-01	5.53E-01	5.10E-01	3.96E-01	2.83E-01	1.03E-01	1.92E-02
cs134m	4.21E-02	4.21E-02	4.21E-02	1.39E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn135	6.29E-03	6.29E-03	6.29E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb135	6.73E-01	6.73E-01	6.73E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te135	1.35E+01	1.35E+01	1.35E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i135	2.60E+01	2.60E+01	2.60E+01	2.07E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135	2.72E+01	2.72E+01	2.72E+01	9.93E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	4.92E+00	4.92E+00	4.92E+00	3.38E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs135	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00
cs135m	2.85E-03	2.85E-03	2.85E-03	1.88E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135m	3.63E-05	3.63E-05	3.63E-05	2.03E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn136	4.76E-04	4.76E-04	4.76E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb136	8.63E-02	8.63E-02	8.63E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te136	6.48E+00	6.48E+00	6.48E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136	1.32E+01	1.32E+01	1.32E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136m	6.16E+00	6.16E+00	6.16E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs136	1.66E-01	1.66E-01	1.66E-01	1.58E-01	1.45E-03	7.34E-10	3.24E-18	.00E+00	.00E+00
ba136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136m	1.86E-02	1.86E-02	1.86E-02	1.77E-02	1.63E-04	8.22E-11	3.63E-19	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 36

0

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
sb137	2.02E-01	2.02E-01	2.02E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te137	1.93E+00	1.93E+00	1.93E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i137	1.34E+01	1.34E+01	1.34E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe137	2.52E+01	2.52E+01	2.52E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs137	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.59E+01	2.54E+01	2.48E+01	2.32E+01	2.06E+01
ba137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137m	2.46E+01	2.46E+01	2.46E+01	2.46E+01	2.44E+01	2.40E+01	2.34E+01	2.19E+01	1.95E+01
sb138	7.66E-04	7.66E-04	7.66E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

te138	3.65E-01	3.65E-01	3.65E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i138	6.65E+00	6.65E+00	6.65E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe138	2.59E+01	2.59E+01	2.59E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138	2.71E+01	2.71E+01	2.71E+01	1.63E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	7.13E-01	7.13E-01	7.13E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la138	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10
sb139	5.16E-05	5.16E-05	5.16E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te139	4.75E-02	4.75E-02	4.75E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i139	3.99E+00	3.99E+00	3.99E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe139	2.07E+01	2.07E+01	2.07E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs139	2.56E+01	2.56E+01	2.56E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba139	2.60E+01	2.60E+01	2.60E+01	2.21E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce139	3.23E-07	3.23E-07	3.23E-07	3.22E-07	2.05E-07	5.14E-08	8.16E-09	3.27E-11	3.31E-15
pr139	2.90E-09	2.90E-09	2.90E-09	6.68E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te140	7.60E-03	7.60E-03	7.60E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i140	9.05E-01	9.05E-01	9.05E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe140	1.52E+01	1.52E+01	1.52E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs140	2.34E+01	2.34E+01	2.34E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba140	2.58E+01	2.58E+01	2.58E+01	2.44E+01	1.94E-01	6.17E-08	1.48E-16	.00E+00	.00E+00
la140	2.59E+01	2.59E+01	2.59E+01	2.56E+01	2.23E-01	7.11E-08	1.70E-16	.00E+00	.00E+00
ce140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr140	9.07E-06	9.07E-06	9.07E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te141	5.66E-05	5.66E-05	5.66E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i141	7.94E-02	7.94E-02	7.94E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe141	5.47E+00	5.47E+00	5.47E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs141	1.80E+01	1.80E+01	1.80E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba141	2.36E+01	2.36E+01	2.36E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la141	2.37E+01	2.37E+01	2.37E+01	3.69E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce141	2.37E+01	2.37E+01	2.37E+01	2.34E+01	3.50E+00	9.88E-03	4.09E-06	2.90E-16	.00E+00
pr141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd141	1.09E-08	1.09E-08	1.09E-08	1.37E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te142	2.64E-05	2.64E-05	2.64E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i142	2.65E-02	2.65E-02	2.65E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe142	1.95E+00	1.95E+00	1.95E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs142	1.09E+01	1.09E+01	1.09E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba142	2.34E+01	2.34E+01	2.34E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la142	2.39E+01	2.39E+01	2.39E+01	4.71E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce142	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05
pr142	9.42E-02	9.42E-02	9.42E-02	3.94E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i143	1.65E-04	1.65E-04	1.65E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 37

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
xe143	2.54E-01	2.54E-01	2.54E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	5.99E+00	5.99E+00	5.99E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	2.12E+01	2.12E+01	2.12E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	2.38E+01	2.38E+01	2.38E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	2.40E+01	2.40E+01	2.40E+01	1.46E+01	4.77E-19	.00E+00	.00E+00	.00E+00	.00E+00
pr143	2.40E+01	2.40E+01	2.40E+01	2.37E+01	2.68E-01	2.09E-07	1.64E-15	.00E+00	.00E+00
nd143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i144	5.64E-06	5.64E-06	5.64E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	3.99E-02	3.99E-02	3.99E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	1.51E+00	1.51E+00	1.51E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	1.78E+01	1.78E+01	1.78E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

la144	2.17E+01	2.17E+01	2.17E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	2.20E+01	2.20E+01	2.20E+01	2.20E+01	1.77E+01	9.06E+00	3.73E+00	2.59E-01	3.05E-03
pr144	2.20E+01	2.20E+01	2.20E+01	2.20E+01	1.77E+01	9.06E+00	3.73E+00	2.59E-01	3.05E-03
pr144m	3.09E-01	3.09E-01	3.09E-01	3.08E-01	2.48E-01	1.27E-01	5.22E-02	3.63E-03	4.27E-05
nd144	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09
i145	1.68E-07	1.68E-07	1.68E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe145	2.40E-03	2.40E-03	2.40E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs145	2.86E-01	2.86E-01	2.86E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba145	7.50E+00	7.50E+00	7.50E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la145	1.46E+01	1.46E+01	1.46E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce145	1.59E+01	1.59E+01	1.59E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr145	1.59E+01	1.59E+01	1.59E+01	9.96E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm145	1.94E-08	1.94E-08	1.94E-08	1.94E-08	1.94E-08	1.91E-08	1.86E-08	1.67E-08	1.38E-08
sm145	1.75E-08	1.75E-08	1.75E-08	1.75E-08	1.46E-08	8.33E-09	3.96E-09	4.24E-10	1.02E-11
xe146	2.30E-04	2.30E-04	2.30E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs146	7.78E-02	7.78E-02	7.78E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba146	4.10E+00	4.10E+00	4.10E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la146	9.88E+00	9.88E+00	9.88E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce146	1.21E+01	1.21E+01	1.21E+01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr146	1.22E+01	1.22E+01	1.22E+01	3.12E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm146	1.07E-08	1.07E-08	1.07E-08	1.07E-08	1.04E-08	9.44E-09	8.33E-09	5.72E-09	3.06E-09
sm146	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08
xe147	6.52E-07	6.52E-07	6.52E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs147	7.79E-04	7.79E-04	7.79E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba147	4.55E-01	4.55E-01	4.55E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la147	3.84E+00	3.84E+00	3.84E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce147	8.96E+00	8.96E+00	8.96E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr147	9.28E+00	9.28E+00	9.28E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd147	9.28E+00	9.28E+00	9.28E+00	8.72E+00	3.17E-02	9.01E-10	8.73E-20	.00E+00	.00E+00
pm147	9.28E+00	9.28E+00	9.28E+00	9.28E+00	8.80E+00	7.21E+00	5.54E+00	2.51E+00	6.69E-01
sm147	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06
cs148	1.35E-04	1.35E-04	1.35E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba148	6.84E-02	6.84E-02	6.84E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la148	1.11E+00	1.11E+00	1.11E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce148	6.28E+00	6.28E+00	6.28E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr148	6.90E+00	6.90E+00	6.90E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148	1.80E-05	1.80E-05	1.80E-05	1.60E-05	2.21E-07	2.18E-09	4.74E-12	4.88E-20	.00E+00
pm148m	1.90E-05	1.90E-05	1.90E-05	1.86E-05	4.18E-06	4.12E-08	8.97E-11	9.23E-19	4.56E-32

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 38

0 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
sm148	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12
cs149	9.75E-07	9.75E-07	9.75E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba149	6.12E-03	6.12E-03	6.12E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la149	2.76E-01	2.76E-01	2.76E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce149	3.17E+00	3.17E+00	3.17E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr149	4.39E+00	4.39E+00	4.39E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd149	4.52E+00	4.52E+00	4.52E+00	2.99E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm149	4.52E+00	4.52E+00	4.52E+00	3.42E+00	2.63E-12	.00E+00	.00E+00	.00E+00	.00E+00
sm149	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12
eu149	2.52E-10	2.52E-10	2.52E-10	2.50E-10	1.29E-10	1.66E-11	1.09E-12	3.12E-16	3.85E-22
cs150	1.25E-07	1.25E-07	1.25E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba150	4.63E-04	4.63E-04	4.63E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la150	3.56E-02	3.56E-02	3.56E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce150	1.22E+00	1.22E+00	1.22E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pr150	2.47E+00	2.47E+00	2.47E+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
pm150	4.08E-04	4.08E-04	4.08E-04	8.22E-07	.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
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

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 39

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
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

eu156	8.72E-02	8.72E-02	8.72E-02	8.52E-02	1.47E-03	5.14E-09	2.96E-16	.00E+00	.00E+00
gd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce157	2.14E-07	2.14E-07	2.14E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr157	6.07E-05	6.07E-05	6.07E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd157	4.24E-03	4.24E-03	4.24E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm157	2.23E-02	2.23E-02	2.23E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm157	4.48E-02	4.48E-02	4.48E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu157	4.63E-02	4.63E-02	4.63E-02	1.56E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr158	3.12E-06	3.12E-06	3.12E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd158	6.61E-04	6.61E-04	6.61E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm158	5.19E-03	5.19E-03	5.19E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm158	2.09E-02	2.09E-02	2.09E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu158	2.31E-02	2.31E-02	2.31E-02	9.34E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr159	1.30E-07	1.30E-07	1.30E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd159	5.57E-05	5.57E-05	5.57E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm159	9.74E-04	9.74E-04	9.74E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm159	7.05E-03	7.05E-03	7.05E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu159	9.67E-03	9.67E-03	9.67E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd159	9.95E-03	9.95E-03	9.95E-03	4.13E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd160	3.53E-06	3.53E-06	3.53E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm160	1.03E-04	1.03E-04	1.03E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm160	1.92E-03	1.92E-03	1.92E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu160	3.58E-03	3.58E-03	3.58E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb160	1.08E-04	1.08E-04	1.08E-04	1.07E-04	4.55E-05	3.25E-06	9.80E-08	2.69E-12	6.69E-20
dy160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd161	1.43E-07	1.43E-07	1.43E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm161	1.19E-05	1.19E-05	1.19E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm161	3.50E-04	3.50E-04	3.50E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu161	1.19E-03	1.19E-03	1.19E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd161	1.66E-03	1.66E-03	1.66E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb161	1.68E-03	1.68E-03	1.68E-03	1.52E-03	1.99E-07	1.95E-19	.00E+00	.00E+00	.00E+00

1

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

0 fission products page 40

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
dy161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm162	7.87E-07	7.87E-07	7.87E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm162	5.77E-05	5.77E-05	5.77E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu162	2.94E-04	2.94E-04	2.94E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd162	6.97E-04	6.97E-04	6.97E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162	7.11E-04	7.11E-04	7.11E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	1.32E-05	1.32E-05	1.32E-05	7.62E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm163	4.72E-06	4.72E-06	4.72E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu163	5.64E-05	5.64E-05	5.64E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd163	2.44E-04	2.44E-04	2.44E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb163	2.82E-04	2.82E-04	2.82E-04	.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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm164	3.70E-07	3.70E-07	3.70E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu164	6.67E-06	6.67E-06	6.67E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd164	7.20E-05	7.20E-05	7.20E-05	7.34E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb164	1.02E-04	1.02E-04	1.02E-04	8.52E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm165	2.03E-08	2.03E-08	2.03E-08	.00E+00	.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
gd165	1.66E-05	1.66E-05	1.66E-05	.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
dy165	9.24E-05	9.24E-05	9.24E-05	7.51E-08	.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
ho165	.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
ho166	7.59E-06	7.59E-06	7.59E-06	6.59E-06	9.76E-14	.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	1.11E-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
er167	.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
er168	.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
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
tm169	.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
er170	.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
yb170	.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
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
er172	9.22E-09	9.22E-09	9.22E-09	6.58E-09	5.98E-22	.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
yb172	.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

1

0 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	4.30E-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	5.70E-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	8.11E-08	8.12E-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

po215	1.16E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14
po216	1.73E-14	1.65E-14	1.57E-14	1.42E-14	1.16E-14	7.09E-15	4.33E-15	2.65E-15	1.62E-15	1.00E-15	3.91E-16
po218	2.54E-08	2.54E-08	2.54E-08	2.54E-08	2.54E-08	2.54E-08	2.54E-08	2.54E-08	2.54E-08	2.54E-08	2.55E-08
at217	9.72E-13	9.72E-13	9.72E-13	9.72E-13	9.73E-13	9.73E-13	9.74E-13	9.74E-13	9.75E-13	9.76E-13	9.77E-13
rn218	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rn219	2.62E-11	2.62E-11	2.62E-11	2.62E-11	2.61E-11	2.61E-11	2.61E-11	2.61E-11	2.61E-11	2.61E-11	2.61E-11
rn220	6.75E-12	6.43E-12	6.12E-12	5.54E-12	4.55E-12	2.77E-12	1.69E-12	1.03E-12	6.34E-13	3.91E-13	1.53E-13
rn222	4.59E-05	4.59E-05	4.59E-05	4.59E-05	4.59E-05	4.59E-05	4.60E-05	4.60E-05	4.60E-05	4.60E-05	4.61E-05
fr221	9.01E-09	9.01E-09	9.01E-09	9.01E-09	9.02E-09	9.02E-09	9.03E-09	9.03E-09	9.04E-09	9.05E-09	9.06E-09
fr223	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	6.65E-06	6.65E-06	6.65E-06	6.65E-06	6.64E-06	6.64E-06	6.64E-06	6.64E-06	6.63E-06	6.63E-06	6.63E-06
ra224	3.91E-08	3.72E-08	3.54E-08	3.21E-08	2.63E-08	1.60E-08	9.79E-09	5.99E-09	3.67E-09	2.26E-09	8.83E-10
ra225	3.99E-05	3.99E-05	3.99E-05	3.99E-05	3.99E-05	4.00E-05	4.00E-05	4.00E-05	4.00E-05	4.01E-05	4.01E-05
ra226	7.14E+00	7.14E+00	7.14E+00	7.14E+00	7.14E+00	7.15E+00	7.15E+00	7.15E+00	7.16E+00	7.16E+00	7.17E+00
ra228	3.88E-08	3.88E-08	3.88E-08	3.88E-08	3.88E-08	3.88E-08	3.89E-08	3.89E-08	3.89E-08	3.89E-08	3.90E-08
ac225	2.70E-05	2.70E-05	2.70E-05	2.70E-05	2.70E-05	2.70E-05	2.70E-05	2.70E-05	2.70E-05	2.71E-05	2.71E-05
ac227	4.70E-03	4.70E-03	4.70E-03	4.70E-03	4.70E-03	4.70E-03	4.69E-03	4.69E-03	4.69E-03	4.69E-03	4.69E-03
ac228	4.73E-12	4.73E-12	4.73E-12	4.73E-12	4.74E-12	4.74E-12	4.74E-12	4.75E-12	4.75E-12	4.75E-12	4.76E-12
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05
th228	7.59E-06	7.23E-06	6.88E-06	6.23E-06	5.12E-06	3.12E-06	1.90E-06	1.16E-06	7.13E-07	4.40E-07	1.72E-07
th229	7.90E+00	7.90E+00	7.90E+00	7.90E+00	7.90E+00	7.91E+00	7.91E+00	7.92E+00	7.92E+00	7.93E+00	7.94E+00
th230	3.50E+02	3.50E+02	3.50E+02	3.50E+02	3.50E+02	3.51E+02	3.51E+02	3.51E+02	3.51E+02	3.51E+02	3.52E+02
th231	6.24E-07	6.24E-07	6.24E-07	6.24E-07	6.24E-07	6.24E-07	6.24E-07	6.24E-07	6.24E-07	6.24E-07	6.25E-07

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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 42

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
th232	9.65E+01	9.65E+01	9.65E+01	9.65E+01	9.65E+01	9.66E+01	9.66E+01	9.67E+01	9.68E+01	9.68E+01	9.70E+01
th233	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th234	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04
pa231	7.19E+00	7.19E+00	7.19E+00	7.19E+00	7.19E+00	7.19E+00	7.19E+00	7.19E+00	7.19E+00	7.19E+00	7.19E+00
pa232	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pa233	3.24E-04	3.24E-04	3.24E-04	3.24E-04	3.24E-04	3.24E-04	3.24E-04	3.24E-04	3.24E-04	3.24E-04	3.24E-04
pa234m	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	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	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u231	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u232	2.74E-04	2.61E-04	2.48E-04	2.25E-04	1.84E-04	1.12E-04	6.82E-05	4.15E-05	2.53E-05	1.54E-05	5.73E-06
u233	1.87E+02	1.87E+02	1.87E+02	1.87E+02	1.87E+02	1.87E+02	1.87E+02	1.87E+02	1.87E+02	1.87E+02	1.88E+02
u234	2.38E+03	2.38E+03	2.38E+03	2.38E+03	2.38E+03	2.38E+03	2.38E+03	2.38E+03	2.38E+03	2.38E+03	2.38E+03
u235	1.54E+05	1.54E+05	1.54E+05	1.54E+05	1.54E+05	1.54E+05	1.54E+05	1.54E+05	1.54E+05	1.54E+05	1.54E+05
u236	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04
u237	5.51E-11	4.33E-11	3.40E-11	2.10E-11	7.98E-12	7.13E-13	6.37E-14	5.69E-15	5.08E-16	4.54E-17	3.62E-19
u238	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	1.27E-31	1.27E-31	1.27E-31	1.27E-31	1.27E-31	1.27E-31	1.27E-31	1.28E-31	1.28E-31	1.28E-31	1.29E-31
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	4.03E-13	1.65E-14	6.75E-16	1.13E-18	3.18E-24	4.22E-38	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236	6.33E-04	6.33E-04	6.33E-04	6.33E-04	6.33E-04	6.33E-04	6.33E-04	6.32E-04	6.32E-04	6.32E-04	6.32E-04
np237	9.53E+03	9.53E+03	9.53E+03	9.53E+03	9.53E+03	9.53E+03	9.53E+03	9.53E+03	9.53E+03	9.53E+03	9.53E+03
np238	8.92E-13	8.70E-13	8.49E-13	8.08E-13	7.33E-13	5.73E-13	4.48E-13	3.51E-13	2.74E-13	2.14E-13	1.31E-13
np239	3.58E-11	3.57E-11	3.57E-11	3.57E-11	3.56E-11	3.55E-11	3.53E-11	3.51E-11	3.50E-11	3.48E-11	3.45E-11
np240m	1.08E-33	1.08E-33	1.08E-33	1.08E-33	1.08E-33	1.08E-33	1.09E-33	1.09E-33	1.09E-33	1.09E-33	1.10E-33
np240	1.11E-35	1.11E-35	1.11E-35	1.11E-35	1.11E-35	1.12E-35	1.12E-35	1.12E-35	1.12E-35	1.12E-35	1.13E-35
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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
pu237	3.16E-36	.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
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	5.74E+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
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
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
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
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
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	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
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
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
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
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	7.31E-39	.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

1
0 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

1
0 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

tl207	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01
tl208	2.24E-03	2.13E-03	2.03E-03	1.84E-03	1.51E-03	9.18E-04	5.61E-04	3.43E-04	2.10E-04	1.30E-04	5.06E-05
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	3.30E-02	3.30E-02	3.30E-02
pb206	.00E+00	.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	.00E+00
pb208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pb209	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	1.57E+00
pb210	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.07E+00	7.07E+00	7.07E+00	7.08E+00	7.08E+00
pb211	3.41E-01	3.41E-01	3.41E-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
pb212	6.23E-03	5.93E-03	5.65E-03	5.11E-03	4.20E-03	2.56E-03	1.56E-03	9.54E-04	5.85E-04	3.61E-04	1.41E-04
pb214	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.07E+00	7.07E+00	7.08E+00	7.08E+00	7.08E+00	7.09E+00
bi208	.00E+00	.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	.00E+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	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.07E+00	7.07E+00	7.07E+00	7.08E+00	7.09E+00
bi211	3.41E-01	3.41E-01	3.41E-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
bi212	6.23E-03	5.93E-03	5.65E-03	5.11E-03	4.20E-03	2.56E-03	1.56E-03	9.54E-04	5.85E-04	3.61E-04	1.41E-04
bi213	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	1.57E+00
bi214	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.07E+00	7.07E+00	7.08E+00	7.08E+00	7.08E+00	7.09E+00
po210	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.07E+00	7.07E+00	7.07E+00	7.08E+00	7.09E+00
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
po211	9.37E-04	9.37E-04	9.37E-04	9.36E-04	9.36E-04	9.35E-04	9.35E-04	9.35E-04	9.35E-04	9.35E-04	9.34E-04
po212	3.99E-03	3.80E-03	3.62E-03	3.27E-03	2.69E-03	1.64E-03	9.99E-04	6.11E-04	3.75E-04	2.31E-04	9.02E-05
po213	1.53E+00	1.53E+00	1.53E+00	1.53E+00	1.53E+00	1.53E+00	1.54E+00	1.54E+00	1.54E+00	1.54E+00	1.54E+00
po214	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.07E+00	7.07E+00	7.07E+00	7.08E+00	7.08E+00	7.09E+00
po215	3.41E-01	3.41E-01	3.41E-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
po216	6.23E-03	5.93E-03	5.65E-03	5.11E-03	4.20E-03	2.56E-03	1.56E-03	9.54E-04	5.85E-04	3.61E-04	1.41E-04
po218	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.07E+00	7.07E+00	7.07E+00	7.08E+00	7.08E+00	7.08E+00	7.09E+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	1.57E+00
rn218	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rn219	3.41E-01	3.41E-01	3.41E-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
rn220	6.23E-03	5.93E-03	5.65E-03	5.11E-03	4.20E-03	2.56E-03	1.56E-03	9.54E-04	5.85E-04	3.61E-04	1.41E-04
rn222	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.07E+00	7.07E+00	7.07E+00	7.08E+00	7.08E+00	7.08E+00	7.09E+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	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	4.69E-03
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	3.41E-01	3.41E-01	3.41E-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
ra224	6.23E-03	5.93E-03	5.65E-03	5.11E-03	4.20E-03	2.56E-03	1.56E-03	9.54E-04	5.85E-04	3.61E-04	1.41E-04
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	1.57E+00
ra226	7.06E+00	7.06E+00	7.06E+00	7.06E+00	7.07E+00	7.07E+00	7.07E+00	7.08E+00	7.08E+00	7.08E+00	7.09E+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	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	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	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	1.06E-05
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	3.36E-01	3.36E-01	3.36E-01	3.36E-01	3.36E-01	3.35E-01	3.35E-01	3.35E-01	3.35E-01	3.35E-01	3.35E-01
th228	6.22E-03	5.93E-03	5.64E-03	5.11E-03	4.20E-03	2.56E-03	1.56E-03	9.54E-04	5.85E-04	3.61E-04	1.41E-04
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	1.57E+00
th230	7.23E+00	7.23E+00	7.23E+00	7.23E+00	7.23E+00	7.23E+00	7.24E+00	7.24E+00	7.25E+00	7.25E+00	7.25E+00
th231	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	3.32E-01

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 45

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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
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	1.06E-05
th233	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	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	3.40E-01
pa232	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	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	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	3.77E-03
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u231	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u232	6.05E-03	5.76E-03	5.48E-03	4.96E-03	4.07E-03	2.48E-03	1.51E-03	9.17E-04	5.59E-04	3.40E-04	1.27E-04
u233	1.80E+00	1.80E+00	1.80E+00	1.80E+00	1.80E+00	1.80E+00	1.80E+00	1.81E+00	1.81E+00	1.81E+00	1.81E+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	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	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	2.99E+00
u237	4.50E-06	3.54E-06	2.78E-06	1.71E-06	6.52E-07	5.82E-08	5.20E-09	4.64E-10	4.15E-11	3.71E-12	2.96E-14
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	2.90E+00
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	1.18E-25	1.18E-25	1.18E-25	1.18E-25	1.19E-25	1.19E-25
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	5.65E-10	2.31E-11	9.47E-13	1.59E-15	4.47E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	8.33E-06	8.33E-06	8.33E-06	8.32E-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	6.72E+00
np238	2.31E-07	2.26E-07	2.20E-07	2.10E-07	1.90E-07	1.49E-07	1.16E-07	9.09E-08	7.11E-08	5.56E-08	3.40E-08
np239	8.30E-06	8.29E-06	8.29E-06	8.28E-06	8.27E-06	8.23E-06	8.19E-06	8.15E-06	8.11E-06	8.07E-06	8.00E-06
np240m	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.18E-25	1.18E-25	1.18E-25	1.18E-25	1.19E-25	1.19E-25
np240	1.41E-28	1.41E-28	1.41E-28	1.41E-28	1.41E-28	1.41E-28	1.42E-28	1.42E-28	1.42E-28	1.42E-28	1.43E-28
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	2.23E-06	1.19E-06	8.79E-07	7.55E-07	7.43E-07	7.42E-07	7.42E-07	7.42E-07	7.42E-07	7.41E-07	7.41E-07
pu237	4.56E-32	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu238	1.04E+01	9.98E+00	9.60E+00	8.87E+00	7.57E+00	5.10E+00	3.43E+00	2.31E+00	1.56E+00	1.05E+00	4.76E-01
pu239	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.59E+02	3.59E+02	3.58E+02	3.58E+02	3.57E+02	3.56E+02
pu240	1.33E+01	1.33E+01	1.33E+01	1.33E+01	1.33E+01	1.32E+01	1.31E+01	1.31E+01	1.30E+01	1.29E+01	1.28E+01
pu241	1.88E-01	1.48E-01	1.16E-01	7.16E-02	2.72E-02	2.43E-03	2.17E-04	1.94E-05	1.73E-06	1.55E-07	1.24E-09
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	4.65E-05
pu243	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	2.11E-21	2.11E-21
pu244	1.17E-25	1.17E-25	1.17E-25	1.17E-25	1.18E-25	1.18E-25	1.18E-25	1.18E-25	1.19E-25	1.19E-25	1.19E-25
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	3.02E-01	3.01E-01	3.00E-01	2.96E-01	2.89E-01	2.67E-01	2.47E-01	2.28E-01	2.10E-01	1.94E-01	1.65E-01
am242m	5.14E-05	5.01E-05	4.89E-05	4.66E-05	4.22E-05	3.30E-05	2.58E-05	2.02E-05	1.58E-05	1.24E-05	7.56E-06
am242	5.12E-05	4.99E-05	4.87E-05	4.64E-05	4.20E-05	3.29E-05	2.57E-05	2.01E-05	1.57E-05	1.23E-05	7.52E-06
am243	8.30E-06	8.29E-06	8.29E-06	8.28E-06	8.27E-06	8.23E-06	8.19E-06	8.15E-06	8.11E-06	8.07E-06	8.00E-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	4.56E-32	.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

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 46

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
cm242	4.23E-05	4.13E-05	4.03E-05	3.83E-05	3.48E-05	2.72E-05	2.13E-05	1.66E-05	1.30E-05	1.02E-05	6.22E-06
cm243	9.54E-12	8.45E-12	7.48E-12	5.86E-12	3.61E-12	1.07E-12	3.17E-13	9.39E-14	2.78E-14	8.24E-15	7.24E-16
cm244	3.37E-08	2.78E-08	2.30E-08	1.57E-08	7.28E-09	1.07E-09	1.58E-10	2.33E-11	3.43E-12	5.06E-13	1.10E-14
cm245	2.35E-13	2.35E-13	2.35E-13	2.34E-13	2.34E-13	2.33E-13	2.32E-13	2.31E-13	2.30E-13	2.29E-13	2.27E-13
cm246	2.84E-15	2.83E-15	2.83E-15	2.83E-15	2.82E-15	2.80E-15	2.78E-15	2.76E-15	2.74E-15	2.72E-15	2.68E-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	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	6.33E-22	6.33E-22	6.33E-22	6.33E-22	6.33E-22
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

cm250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bk249	2.51E-27	4.80E-29	9.13E-31	.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	6.62E-24	6.55E-24	6.49E-24	6.36E-24	6.12E-24	5.54E-24	5.02E-24	4.55E-24	4.12E-24	3.73E-24	3.06E-24
cf250	1.71E-27	1.31E-27	1.01E-27	5.92E-28	2.05E-28	1.45E-29	1.03E-30	6.85E-32	.00E+00	.00E+00	.00E+00
cf251	2.28E-31	2.28E-31	2.28E-31	2.28E-31	2.28E-31	2.28E-31	2.05E-31	2.05E-31	2.05E-31	1.83E-31	1.83E-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	5.13E+02	5.13E+02	5.12E+02	5.12E+02	5.10E+02	5.07E+02	5.05E+02	5.03E+02	5.02E+02	5.01E+02	4.99E+02

1

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

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
h 3	2.71E-06	2.05E-06	1.55E-06	8.82E-07	2.86E-07	1.72E-08	1.04E-09	6.23E-11	3.75E-12	2.25E-13	8.15E-16
li 6	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04
li 7	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06
be 9	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05
be 10	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04
c 14	1.26E-06	1.26E-06	1.26E-06	1.26E-06	1.25E-06	1.25E-06	1.24E-06	1.23E-06	1.22E-06	1.22E-06	1.20E-06
ni 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07
cu 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08
zn 68	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09
zn 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08
zn 70	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06
ga 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09
zn 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05
ge 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03
co 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 73	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02
ge 73m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ni 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 74	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03
co 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 75	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01
ni 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 48

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
zn 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01
as 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 76	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04
ni 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01
se 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 78	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	2.05E+00
cu 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 79	3.80E+00	3.80E+00	3.80E+00	3.80E+00	3.80E+00	3.80E+00	3.80E+00	3.80E+00	3.80E+00	3.80E+00	3.80E+00
se 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79	3.81E-01	3.81E-01	3.81E-01	3.81E-01	3.82E-01	3.82E-01	3.82E-01	3.83E-01	3.83E-01	3.84E-01	3.84E-01
br 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 80	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01
br 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04

cu 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 81	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
kr 81	8.03E-07	8.03E-07	8.03E-07	8.03E-07	8.03E-07	8.03E-07	8.03E-07	8.02E-07	8.02E-07	8.02E-07	8.02E-07
kr 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 49

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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
ge 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 82	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01
br 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02
zn 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01
kr 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02
ga 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	1.40E-03	1.01E-03	7.31E-04	3.83E-04	1.05E-04	4.14E-06	1.63E-07	6.44E-09	2.54E-10	1.00E-11	1.56E-14
kr 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02
ge 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02
rb 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02
ge 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

se 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02
sr 87	6.56E-04	6.56E-04	6.56E-04	6.56E-04	6.56E-04	6.56E-04	6.56E-04	6.57E-04	6.57E-04	6.57E-04	6.57E-04
sr 87m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 88	.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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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 50

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
br 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 88	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02
as 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 89	1.17E-25	1.56E-36	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02
y 89m	4.01E-35	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 90	1.28E-01	1.13E-01	9.98E-02	7.80E-02	4.77E-02	1.39E-02	4.06E-03	1.19E-03	3.46E-04	1.01E-04	8.61E-06
y 90	3.32E-05	2.93E-05	2.59E-05	2.03E-05	1.24E-05	3.62E-06	1.06E-06	3.08E-07	8.99E-08	2.63E-08	2.24E-09
y 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91	1.55E-22	6.20E-32	2.49E-41	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 91	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02
nb 91	7.28E-12	7.24E-12	7.20E-12	7.13E-12	6.98E-12	6.64E-12	6.31E-12	5.99E-12	5.70E-12	5.41E-12	4.89E-12
se 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 92	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02
nb 92	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07
se 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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
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
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
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 100k year cycle fission products page 51

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
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

rb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y100	.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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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 52

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
zr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo100	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02
tc100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00
rb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru101	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02
sr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru102	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02
rh102	2.17E-10	6.57E-11	1.99E-11	1.82E-12	1.53E-14	9.85E-20	6.36E-25	4.10E-30	2.64E-35	1.71E-40	.00E+00
pd102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru103	4.24E-32	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02
rh103m	4.20E-35	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru104	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02
rh104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd104	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01
y105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd105	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02

1
0 Part B 8% 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

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 54
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
cd110	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01
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	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+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	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+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	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01
cd113m	3.81E-06	2.98E-06	2.33E-06	1.43E-06	5.34E-07	4.57E-08	3.91E-09	3.35E-10	2.87E-11	2.46E-12	1.80E-14
in113	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
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	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00
in114	2.27E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114m	1.41E-32	1.60E-43	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn114	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04
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	2.00E-32	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in115	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00
in115m	7.54E-39	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 55

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
sn115	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02

tc116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.72E+00
in116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in116m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	7.57E-02
tc117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	1.99E+00
sn117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118m	.00E+00	.00E+00	.00E+00	.00E+00	.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	1.88E+00
ru119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.06E+00
sn119m	1.04E-11	1.38E-13	1.84E-15	3.25E-19	1.02E-26	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.05E+00
rh121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 56

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
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	3.42E-10	3.21E-10	3.01E-10	2.66E-10	2.07E-10	1.10E-10	5.86E-11	3.12E-11	1.66E-11	8.85E-12	2.51E-12
sn121m	7.85E-06	7.37E-06	6.92E-06	6.10E-06	4.74E-06	2.53E-06	1.35E-06	7.16E-07	3.82E-07	2.03E-07	5.76E-08
sb121	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+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	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03
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	2.78E-15	1.54E-19	8.53E-24	2.62E-32	.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	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00
te123	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06
te123m	3.67E-21	9.36E-26	2.38E-30	1.54E-39	.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	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00
sb124	7.19E-27	5.29E-36	.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	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03
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	1.09E-05	3.07E-06	8.62E-07	6.80E-08	4.24E-10	1.30E-15	3.97E-21	1.22E-26	3.73E-32	1.14E-37	.00E+00
te125	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00
te125m	1.55E-07	4.36E-08	1.22E-08	9.66E-10	6.02E-12	1.84E-17	5.64E-23	1.73E-28	5.30E-34	.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	6.08E+00	6.08E+00	6.08E+00	6.08E+00	6.08E+00	6.08E+00	6.07E+00	6.07E+00	6.07E+00	6.07E+00	6.06E+00

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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
sb126	2.89E-07	2.89E-07	2.89E-07	2.89E-07	2.89E-07	2.89E-07	2.89E-07	2.88E-07	2.88E-07	2.88E-07	2.88E-07
sb126m	2.20E-09	2.20E-09	2.20E-09	2.20E-09	2.20E-09	2.19E-09	2.19E-09	2.19E-09	2.19E-09	2.19E-09	2.19E-09
te126	2.20E+00	2.20E+00	2.20E+00	2.21E+00	2.21E+00	2.21E+00	2.21E+00	2.21E+00	2.21E+00	2.22E+00	2.22E+00
xe126	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-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

in127m	.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
sn127m	.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
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
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
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
xe127	.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
cd128	.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
sn128	.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
sb128m	.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
i128	.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
cd129	.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
sn129	.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
sb129	.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
te129m	3.85E-38	.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
xe129	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.49E-01	2.50E-01	2.50E-01	2.50E-01	2.51E-01
xe129m	.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
in130	.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
sb130	.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
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
i130	.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
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
cd131	.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
sn131	.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
te131	.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
i131	.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
xe131m	.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 fission products page 58

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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
in132	.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
sb132	.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
te132	.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
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
cs132	.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

in133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs133	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03
ba133	1.32E-12	9.51E-13	6.84E-13	3.54E-13	9.47E-14	3.51E-15	1.30E-16	4.83E-18	1.79E-19	6.65E-21	9.14E-24
in134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03
xe134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	1.48E-05	2.76E-06	5.14E-07	1.78E-08	2.14E-11	1.07E-18	5.38E-26	2.69E-33	1.35E-40	.00E+00	.00E+00
cs134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba134	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01
sn135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs135	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
cs135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135	1.47E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01	1.48E+01
ba135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe136	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00
ba136m	.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 fission products page 59

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
sb137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs137	2.37E-01	2.11E-01	1.88E-01	1.49E-01	9.41E-02	2.96E-02	9.34E-03	2.94E-03	9.26E-04	2.92E-04	2.89E-05
ba137	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03
ba137m	3.62E-08	3.23E-08	2.87E-08	2.28E-08	1.44E-08	4.53E-09	1.43E-09	4.49E-10	1.41E-10	4.45E-11	4.42E-12
sb138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ba138	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03
la138	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03
sb139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la139	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
ce139	4.85E-19	4.90E-23	4.96E-27	5.07E-35	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce140	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
pr140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce141	1.23E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr141	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02
nd141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce142	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02
pr142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd142	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00
i143	.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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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 60

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
xe143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd143	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02
i144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	9.58E-07	1.13E-08	1.33E-10	1.84E-14	3.52E-22	1.78E-41	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144	4.04E-11	4.75E-13	5.59E-15	7.73E-19	1.48E-26	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144m	2.35E-13	2.77E-15	3.26E-17	4.51E-21	8.64E-29	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd144	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02

i145	.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
cs145	.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
la145	.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
pr145	.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
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
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
xe146	.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
ba146	.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
ce146	.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
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
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
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
xe147	.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
ba147	.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
ce147	.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
nd147	.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
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
cs148	.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
la148	.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
pr148	.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
pm148	.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

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 61

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
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

ba151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm151	7.12E-02	6.85E-02	6.59E-02	6.10E-02	5.23E-02	3.56E-02	2.42E-02	1.65E-02	1.12E-02	7.63E-03	3.53E-03
eu151	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01
ba152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm152	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01
eu152	3.78E-03	2.92E-03	2.25E-03	1.34E-03	4.72E-04	3.51E-05	2.60E-06	1.93E-07	1.43E-08	1.06E-09	5.87E-12
eu152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd152	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01
la153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu153	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01
gd153	1.81E-10	9.61E-13	5.09E-15	1.43E-19	1.12E-28	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 62

0

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
sm154	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01
eu154	1.71E-04	1.14E-04	7.64E-05	3.41E-05	6.78E-06	1.20E-07	2.12E-09	3.76E-11	6.65E-13	1.18E-14	3.68E-18
gd154	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00
la155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	8.24E-05	3.93E-05	1.87E-05	4.26E-06	2.20E-07	1.34E-10	8.14E-14	4.95E-17	3.01E-20	1.83E-23	6.75E-30
gd155m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01
ce156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd156	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01
ce157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu157	.00E+00	.00E+00	.00E+00	.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	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02
pr158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu158	.00E+00	.00E+00	.00E+00	.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	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00
pr159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd159	.00E+00	.00E+00	.00E+00	.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	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01
nd160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu160	.00E+00	.00E+00	.00E+00	.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	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01
tb160	5.93E-24	1.47E-31	3.67E-39	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy160	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03
nd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 63

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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
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	7.00E-02	7.00E-02
pm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy162	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02
sm163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
dy163	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02
sm164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy164	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03
sm165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu165	.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
tb165	.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
dy165m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ho165	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03
dy166	.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
ho166m	6.18E-08	6.16E-08	6.14E-08	6.11E-08	6.04E-08	5.87E-08	5.70E-08	5.54E-08	5.38E-08	5.23E-08	4.93E-08
er166	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04
er167	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07
yb168	.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
tm169	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07
yb169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er170	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07
tm170	2.94E-23	1.56E-27	8.27E-32	2.32E-40	.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
yb170	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09
er171	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm171	3.73E-13	6.13E-14	1.01E-14	2.73E-16	2.00E-19	2.90E-27	4.20E-35	7.19E-43	.00E+00	.00E+00	.00E+00
yb171	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07
er172	.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
yb172	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07
total	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 64

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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
h 3	2.62E-02	1.98E-02	1.50E-02	8.53E-03	2.77E-03	1.67E-04	1.00E-05	6.02E-07	3.62E-08	2.18E-09	7.88E-12
li 6	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 7	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
be 9	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
be 10	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.37E-06
c 14	5.61E-06	5.61E-06	5.61E-06	5.60E-06	5.59E-06	5.55E-06	5.52E-06	5.49E-06	5.45E-06	5.42E-06	5.36E-06
ni 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 68	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 65

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
zn 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 79	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02	5.22E-02
se 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

as 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 81	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08
kr 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	.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 fission products page 66

0

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
ge 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	5.48E-01	3.96E-01	2.87E-01	1.50E-01	4.12E-02	1.63E-03	6.41E-05	2.53E-06	9.97E-08	3.93E-09	6.11E-12
kr 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

rb 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05
sr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 87m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 67

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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
br 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 89	3.41E-21	4.56E-32	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89m	3.17E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 90	1.80E+01	1.59E+01	1.41E+01	1.10E+01	6.73E+00	1.96E+00	5.73E-01	1.67E-01	4.89E-02	1.43E-02	1.22E-03
y 90	1.80E+01	1.59E+01	1.41E+01	1.10E+01	6.73E+00	1.96E+00	5.74E-01	1.67E-01	4.89E-02	1.43E-02	1.22E-03
y 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91	3.80E-18	1.52E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 91	4.20E-11	4.18E-11	4.16E-11	4.12E-11	4.04E-11	3.84E-11	3.65E-11	3.46E-11	3.29E-11	3.13E-11	2.83E-11
se 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 92	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11
se 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

br 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 93	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
nb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 93m	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
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 100k year cycle fission products page 68

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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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 94	1.03E-04	1.03E-04	1.03E-04	1.03E-04	1.03E-04	1.02E-04	1.02E-04	1.02E-04	1.02E-04	1.02E-04	1.01E-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	1.75E-16	4.51E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95	3.86E-16	9.95E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95m	2.06E-18	5.31E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 95	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc 98	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07
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	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01	1.06E+01
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 69

0 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
zr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh102	2.62E-07	7.94E-08	2.40E-08	2.20E-09	1.85E-11	1.19E-16	7.69E-22	4.96E-27	2.28E-32	.00E+00	.00E+00
pd102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru103	1.37E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103m	1.37E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

tc105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd105	.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 fission products page 70

0

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
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	3.17E-03	1.05E-04	3.49E-06	3.84E-09	4.64E-15	7.46E-30	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh106	3.17E-03	1.05E-04	3.49E-06	3.84E-09	4.64E-15	7.46E-30	.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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02
pd107m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag108	5.93E-09	5.77E-09	5.61E-09	5.31E-09	4.77E-09	3.63E-09	2.76E-09	2.10E-09	1.60E-09	1.22E-09	7.05E-10
ag108m	6.81E-08	6.63E-08	6.45E-08	6.11E-08	5.48E-08	4.17E-08	3.17E-08	2.42E-08	1.84E-08	1.40E-08	8.11E-09
cd108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag109m	2.56E-11	1.66E-12	1.08E-13	4.52E-16	7.97E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd109	2.56E-11	1.66E-12	1.08E-13	4.52E-16	7.97E-21	.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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ag110	8.37E-10	5.26E-12	3.31E-14	1.31E-18	2.05E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag110m	6.15E-08	3.87E-10	2.43E-12	9.64E-17	1.51E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 71

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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	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	6.67E-14
cd113m	8.56E-04	6.70E-04	5.24E-04	3.20E-04	1.20E-04	1.03E-05	8.78E-07	7.52E-08	6.44E-09	5.51E-10	4.04E-12
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	3.13E-28	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114m	3.27E-28	.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	5.08E-28	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	1.18E-11
in115m	4.56E-32	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 72

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
sn115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
in116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in116m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
tc117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
sn117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
ru119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
sn119m	3.89E-08	5.17E-10	6.88E-12	1.22E-15	3.81E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
rh121	.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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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 73

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
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	3.27E-04	3.07E-04	2.89E-04	2.54E-04	1.98E-04	1.05E-04	5.61E-05	2.99E-05	1.59E-05	8.47E-06	2.40E-06
sn121m	4.22E-04	3.96E-04	3.72E-04	3.28E-04	2.55E-04	1.36E-04	7.23E-05	3.85E-05	2.05E-05	1.09E-05	3.10E-06
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	2.29E-11	1.27E-15	7.01E-20	2.15E-28	.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	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	3.96E-16	3.96E-16
te123m	3.26E-17	8.30E-22	2.11E-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	1.26E-22	9.13E-32	.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	1.14E-02	3.22E-03	9.03E-04	7.13E-05	4.44E-07	1.36E-12	4.16E-18	1.28E-23	3.91E-29	.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	2.80E-03	7.85E-04	2.21E-04	1.74E-05	1.08E-07	3.32E-13	1.02E-18	3.11E-24	9.54E-30	.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	1.73E-01	1.73E-01	1.73E-01	1.73E-01	1.72E-01	1.72E-01	1.72E-01	1.72E-01	1.72E-01	1.72E-01	1.72E-01

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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle 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	2.42E-02	2.42E-02	2.42E-02	2.42E-02	2.41E-02	2.41E-02	2.41E-02	2.41E-02	2.41E-02	2.41E-02	2.41E-02
sb126m	1.73E-01	1.73E-01	1.73E-01	1.73E-01	1.72E-01	1.72E-01	1.72E-01	1.72E-01	1.72E-01	1.72E-01	1.72E-01

te126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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
in127m	.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
sn127m	.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
te127	8.81E-12	7.96E-17	7.20E-22	6.85E-32	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te127m	8.99E-12	8.13E-17	7.35E-22	6.85E-32	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe127	.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
cd128	.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
sn128	.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
sb128m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd129	.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
sn129	.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
sb129	.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
te129m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i129	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02
xe129	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe129m	.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
in130	.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
sb130	.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
te130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i130	.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
xe130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd131	.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
sn131	.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
te131	.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
i131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe131m	.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

0 fission products page 75

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
cd132	.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
sn132	.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
sb132m	.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
i132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba133	3.38E-10	2.43E-10	1.75E-10	9.05E-11	2.42E-11	8.98E-13	3.33E-14	1.24E-15	4.58E-17	1.70E-18	2.34E-21
in134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	1.92E-02	3.58E-03	6.66E-04	2.31E-05	2.77E-08	1.39E-15	6.96E-23	3.49E-30	.00E+00	.00E+00	.00E+00
cs134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs135	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00
cs135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 76

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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
sb137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs137	2.06E+01	1.84E+01	1.64E+01	1.30E+01	8.19E+00	2.58E+00	8.12E-01	2.56E-01	8.06E-02	2.54E-02	2.52E-03
ba137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137m	1.95E+01	1.74E+01	1.55E+01	1.23E+01	7.73E+00	2.44E+00	7.67E-01	2.42E-01	7.61E-02	2.40E-02	2.38E-03
sb138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

te138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la138	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10
sb139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce139	3.31E-15	3.35E-19	3.38E-23	3.42E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce142	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05
pr142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i143	.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 fission products page 77

0 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
xe143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

la144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	3.05E-03	3.59E-05	4.22E-07	5.84E-11	1.12E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144	3.05E-03	3.59E-05	4.22E-07	5.84E-11	1.12E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144m	4.27E-05	5.02E-07	5.91E-09	8.18E-13	1.57E-20	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd144	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09
i145	.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
cs145	.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
la145	.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
pr145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm145	1.38E-08	1.13E-08	9.32E-09	6.30E-09	2.88E-09	4.06E-10	5.73E-11	8.09E-12	1.14E-12	1.61E-13	3.21E-15
sm145	1.02E-11	2.48E-13	5.98E-15	3.49E-18	1.19E-24	.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
cs146	.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
la146	.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
pr146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm146	3.06E-09	1.63E-09	8.72E-10	2.49E-10	2.03E-11	3.85E-14	7.29E-17	1.38E-19	2.62E-22	4.97E-25	1.78E-30
sm146	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08
xe147	.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
ba147	.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
ce147	.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
nd147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm147	6.69E-01	1.78E-01	4.76E-02	3.39E-03	1.72E-05	3.14E-11	5.75E-17	1.05E-22	1.92E-28	.00E+00	.00E+00
sm147	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06
cs148	.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
la148	.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
pr148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	4.56E-32	.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 fission products page 78

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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
sm148	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12
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	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12
eu149	3.85E-22	4.76E-28	.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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
eu150	2.54E-07	2.31E-07	2.10E-07	1.73E-07	1.17E-07	4.45E-08	1.69E-08	6.43E-09	2.44E-09	9.27E-10	1.34E-10
ba151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm151	1.87E+00	1.80E+00	1.73E+00	1.61E+00	1.38E+00	9.37E-01	6.37E-01	4.34E-01	2.95E-01	2.01E-01	9.29E-02
eu151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
eu152	6.68E-01	5.15E-01	3.97E-01	2.36E-01	8.34E-02	6.19E-03	4.59E-04	3.41E-05	2.53E-06	1.88E-07	1.04E-09
eu152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	4.39E-10	4.39E-10
la153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
gd153	6.41E-07	3.40E-09	1.80E-11	5.04E-16	3.96E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154m	.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 fission products page 79

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
sm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu154	4.63E-02	3.09E-02	2.06E-02	9.21E-03	1.83E-03	3.24E-05	5.74E-07	1.02E-08	1.80E-10	3.18E-12	9.95E-16
gd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	4.06E-02	1.94E-02	9.23E-03	2.10E-03	1.09E-04	6.60E-08	4.01E-11	2.44E-14	1.48E-17	9.01E-21	3.33E-27
gd155m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
ce156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

eu156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb160	6.69E-20	1.67E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

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

0 fission products page 80

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
dy161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
dy163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

eu165	.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
tb165	.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
dy165m	.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
dy166	.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
ho166m	1.11E-07	1.11E-07	1.10E-07	1.10E-07	1.08E-07	1.05E-07	1.02E-07	9.94E-08	9.66E-08	9.38E-08	8.86E-08
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	.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
yb168	.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
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	1.76E-19	9.32E-24	4.94E-28	.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
yb170	.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
tm171	4.06E-10	6.68E-11	1.10E-11	2.97E-13	2.18E-16	3.15E-24	4.56E-32	.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
er172	.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
yb172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
total	9.47E+01	8.51E+01	7.71E+01	6.39E+01	4.54E+01	2.44E+01	1.79E+01	1.58E+01	1.51E+01	1.48E+01	1.46E+01

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 81

0

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	2.72E+02	2.72E+02	2.74E+02	2.77E+02	2.84E+02	2.90E+02	2.96E+02	3.02E+02	3.07E+02	3.13E+02	3.18E+02
tl206	4.30E-14	4.31E-14	4.33E-14	4.37E-14	4.45E-14	4.54E-14	4.62E-14	4.69E-14	4.77E-14	4.84E-14	4.91E-14
tl207	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.77E-09	1.77E-09	1.77E-09	1.77E-09	1.77E-09
tl208	1.71E-13	7.20E-14	1.43E-14	1.41E-14	1.44E-14	1.48E-14	1.51E-14	1.55E-14	1.58E-14	1.62E-14	1.65E-14
tl209	8.08E-11	8.09E-11	8.14E-11	8.25E-11	8.46E-11	8.68E-11	8.89E-11	9.10E-11	9.32E-11	9.53E-11	9.74E-11
pb206	1.13E+02	1.14E+02	1.15E+02	1.18E+02	1.24E+02	1.30E+02	1.36E+02	1.42E+02	1.48E+02	1.55E+02	1.61E+02
pb207	6.42E+00	6.44E+00	6.50E+00	6.64E+00	6.91E+00	7.18E+00	7.46E+00	7.73E+00	8.00E+00	8.27E+00	8.54E+00
pb208	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01
pb209	3.41E-07	3.42E-07	3.44E-07	3.48E-07	3.57E-07	3.66E-07	3.76E-07	3.85E-07	3.94E-07	4.03E-07	4.11E-07
pb210	9.28E-02	9.29E-02	9.34E-02	9.43E-02	9.61E-02	9.78E-02	9.95E-02	1.01E-01	1.03E-01	1.04E-01	1.06E-01
pb211	1.38E-08	1.38E-08	1.38E-08	1.38E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08
pb212	1.01E-10	4.27E-11	8.49E-12	8.35E-12	8.56E-12	8.76E-12	8.97E-12	9.18E-12	9.38E-12	9.59E-12	9.80E-12
pb214	2.16E-07	2.16E-07	2.17E-07	2.20E-07	2.24E-07	2.28E-07	2.32E-07	2.36E-07	2.40E-07	2.43E-07	2.47E-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	2.24E+01	2.25E+01	2.28E+01	2.34E+01	2.47E+01	2.61E+01	2.75E+01	2.89E+01	3.04E+01	3.18E+01	3.34E+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	5.71E-05	5.72E-05	5.75E-05	5.80E-05	5.91E-05	6.02E-05	6.13E-05	6.23E-05	6.33E-05	6.43E-05	6.52E-05
bi211	8.16E-10	8.16E-10	8.16E-10	8.15E-10	8.15E-10	8.14E-10	8.14E-10	8.13E-10	8.13E-10	8.13E-10	8.13E-10
bi212	9.60E-12	4.05E-12	8.05E-13	7.92E-13	8.12E-13	8.31E-13	8.51E-13	8.70E-13	8.90E-13	9.10E-13	9.29E-13
bi213	8.12E-08	8.13E-08	8.18E-08	8.29E-08	8.51E-08	8.72E-08	8.94E-08	9.15E-08	9.37E-08	9.58E-08	9.79E-08
bi214	1.60E-07	1.61E-07	1.61E-07	1.63E-07	1.66E-07	1.69E-07	1.72E-07	1.75E-07	1.78E-07	1.81E-07	1.83E-07
po210	1.58E-03	1.58E-03	1.59E-03	1.60E-03	1.63E-03	1.66E-03	1.69E-03	1.72E-03	1.75E-03	1.77E-03	1.80E-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	9.01E-15	9.01E-15	9.02E-15	9.01E-15	9.00E-15	9.00E-15	8.99E-15	8.99E-15	8.99E-15	8.98E-15	8.98E-15
po212	5.05E-22	2.13E-22	4.23E-23	4.16E-23	4.27E-23	4.37E-23	4.47E-23	4.57E-23	4.68E-23	4.78E-23	4.88E-23
po213	1.22E-16	1.22E-16	1.23E-16	1.25E-16	1.28E-16	1.31E-16	1.34E-16	1.38E-16	1.41E-16	1.44E-16	1.47E-16
po214	2.21E-14	2.21E-14	2.22E-14	2.24E-14	2.29E-14	2.33E-14	2.37E-14	2.41E-14	2.45E-14	2.48E-14	2.52E-14

po215	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14
po216	3.91E-16	1.65E-16	3.27E-17	3.22E-17	3.30E-17	3.38E-17	3.46E-17	3.54E-17	3.62E-17	3.70E-17	3.78E-17
po218	2.55E-08	2.55E-08	2.56E-08	2.59E-08	2.64E-08	2.69E-08	2.73E-08	2.78E-08	2.82E-08	2.87E-08	2.91E-08
at217	9.77E-13	9.78E-13	9.85E-13	9.98E-13	1.02E-12	1.05E-12	1.08E-12	1.10E-12	1.13E-12	1.15E-12	1.18E-12
rn218	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rn219	2.61E-11	2.61E-11	2.61E-11	2.61E-11	2.61E-11	2.61E-11	2.60E-11	2.60E-11	2.60E-11	2.60E-11	2.60E-11
rn220	1.53E-13	6.43E-14	1.28E-14	1.26E-14	1.29E-14	1.32E-14	1.35E-14	1.38E-14	1.41E-14	1.44E-14	1.48E-14
rn222	4.61E-05	4.61E-05	4.64E-05	4.68E-05	4.77E-05	4.86E-05	4.94E-05	5.03E-05	5.11E-05	5.18E-05	5.26E-05
fr221	9.06E-09	9.07E-09	9.13E-09	9.25E-09	9.49E-09	9.73E-09	9.97E-09	1.02E-08	1.04E-08	1.07E-08	1.09E-08
fr223	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	6.63E-06	6.63E-06	6.63E-06	6.63E-06	6.63E-06	6.62E-06	6.62E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06
ra224	8.83E-10	3.72E-10	7.40E-11	7.29E-11	7.47E-11	7.65E-11	7.83E-11	8.01E-11	8.19E-11	8.37E-11	8.55E-11
ra225	4.01E-05	4.02E-05	4.04E-05	4.10E-05	4.20E-05	4.31E-05	4.42E-05	4.52E-05	4.63E-05	4.73E-05	4.84E-05
ra226	7.17E+00	7.18E+00	7.21E+00	7.28E+00	7.42E+00	7.56E+00	7.69E+00	7.82E+00	7.94E+00	8.07E+00	8.18E+00
ra228	3.90E-08	3.90E-08	3.93E-08	3.99E-08	4.09E-08	4.20E-08	4.31E-08	4.42E-08	4.53E-08	4.63E-08	4.74E-08
ac225	2.71E-05	2.71E-05	2.73E-05	2.77E-05	2.84E-05	2.91E-05	2.98E-05	3.06E-05	3.13E-05	3.20E-05	3.27E-05
ac227	4.69E-03	4.69E-03	4.70E-03	4.69E-03	4.69E-03	4.69E-03	4.68E-03	4.68E-03	4.68E-03	4.68E-03	4.68E-03
ac228	4.76E-12	4.77E-12	4.80E-12	4.86E-12	5.00E-12	5.13E-12	5.26E-12	5.39E-12	5.52E-12	5.66E-12	5.79E-12
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05
th228	1.72E-07	7.23E-08	1.44E-08	1.42E-08	1.45E-08	1.49E-08	1.52E-08	1.56E-08	1.59E-08	1.63E-08	1.66E-08
th229	7.94E+00	7.95E+00	8.00E+00	8.11E+00	8.32E+00	8.53E+00	8.74E+00	8.95E+00	9.16E+00	9.37E+00	9.58E+00
th230	3.52E+02	3.52E+02	3.54E+02	3.57E+02	3.63E+02	3.70E+02	3.76E+02	3.82E+02	3.88E+02	3.93E+02	3.99E+02
th231	6.25E-07	6.25E-07	6.25E-07	6.26E-07	6.27E-07	6.28E-07	6.29E-07	6.30E-07	6.31E-07	6.32E-07	6.33E-07

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 82

0

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
th232	9.70E+01	9.71E+01	9.78E+01	9.91E+01	1.02E+02	1.05E+02	1.07E+02	1.10E+02	1.13E+02	1.15E+02	1.18E+02
th233	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th234	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04
pa231	7.19E+00	7.19E+00	7.19E+00	7.18E+00	7.18E+00	7.17E+00	7.17E+00	7.17E+00	7.16E+00	7.16E+00	7.16E+00
pa232	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pa233	3.24E-04	3.24E-04	3.23E-04	3.23E-04	3.23E-04	3.23E-04	3.23E-04	3.23E-04	3.22E-04	3.22E-04	3.22E-04
pa234m	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	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	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u231	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u232	5.73E-06	2.14E-06	4.79E-08	3.32E-08	3.28E-08	3.24E-08	3.20E-08	3.17E-08	3.13E-08	3.09E-08	3.05E-08
u233	1.88E+02	1.88E+02	1.89E+02	1.91E+02	1.96E+02	2.00E+02	2.04E+02	2.08E+02	2.13E+02	2.17E+02	2.21E+02
u234	2.38E+03	2.38E+03	2.38E+03	2.37E+03	2.36E+03	2.35E+03	2.34E+03	2.33E+03	2.32E+03	2.31E+03	2.30E+03
u235	1.54E+05	1.54E+05	1.54E+05	1.54E+05	1.54E+05	1.54E+05	1.55E+05	1.55E+05	1.55E+05	1.55E+05	1.56E+05
u236	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04
u237	3.62E-19	2.95E-21	6.35E-23	5.85E-23	4.97E-23	4.22E-23	3.59E-23	3.05E-23	2.59E-23	2.20E-23	1.87E-23
u238	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	1.29E-31	1.29E-31	1.32E-31	1.37E-31	1.48E-31	1.59E-31	1.70E-31	1.80E-31	1.91E-31	2.01E-31	2.12E-31
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236	6.32E-04	6.31E-04	6.29E-04	6.26E-04	6.18E-04	6.11E-04	6.03E-04	5.96E-04	5.89E-04	5.82E-04	5.75E-04
np237	9.53E+03	9.53E+03	9.52E+03	9.52E+03	9.51E+03	9.51E+03	9.50E+03	9.50E+03	9.49E+03	9.48E+03	9.48E+03
np238	1.31E-13	8.02E-14	6.87E-15	5.03E-17	2.70E-21	1.45E-25	7.80E-30	4.19E-34	.00E+00	.00E+00	.00E+00
np239	3.45E-11	3.41E-11	3.26E-11	2.97E-11	2.46E-11	2.04E-11	1.69E-11	1.40E-11	1.16E-11	9.59E-12	7.95E-12
np240m	1.10E-33	1.10E-33	1.13E-33	1.17E-33	1.26E-33	1.36E-33	1.45E-33	1.54E-33	1.63E-33	1.72E-33	1.81E-33
np240	1.13E-35	1.13E-35	1.16E-35	1.21E-35	1.30E-35	1.39E-35	1.49E-35	1.58E-35	1.68E-35	1.77E-35	1.86E-35
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pu236	1.42E-09	1.42E-09	1.41E-09	1.40E-09	1.39E-09	1.37E-09	1.35E-09	1.34E-09	1.32E-09	1.31E-09	1.29E-09
pu237	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu238	2.78E-02	1.26E-02	2.43E-04	8.98E-08	3.22E-14	1.07E-18	5.76E-23	3.10E-27	1.66E-31	8.93E-36	4.80E-40
pu239	5.74E+03	5.72E+03	5.64E+03	5.48E+03	5.18E+03	4.89E+03	4.61E+03	4.36E+03	4.11E+03	3.88E+03	3.67E+03
pu240	5.63E+01	5.57E+01	5.29E+01	4.76E+01	3.85E+01	3.12E+01	2.52E+01	2.04E+01	1.65E+01	1.34E+01	1.08E+01
pu241	1.19E-11	9.74E-14	2.10E-15	1.93E-15	1.64E-15	1.39E-15	1.18E-15	1.01E-15	8.55E-16	7.26E-16	6.17E-16
pu242	1.17E-02	1.17E-02	1.17E-02	1.17E-02	1.17E-02	1.16E-02	1.16E-02	1.15E-02	1.15E-02	1.15E-02	1.14E-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
pu244	6.52E-21	6.54E-21	6.68E-21	6.95E-21	7.50E-21	8.04E-21	8.59E-21	9.13E-21	9.66E-21	1.02E-20	1.07E-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	4.81E-02	4.10E-02	1.84E-02	3.71E-03	1.50E-04	6.09E-06	2.47E-07	1.00E-08	4.06E-10	1.65E-11	6.87E-13
am242m	7.21E-07	4.41E-07	3.77E-08	2.77E-10	1.49E-14	7.98E-19	4.29E-23	2.30E-27	1.24E-31	6.65E-36	3.57E-40
am242	9.30E-12	5.69E-12	4.87E-13	3.57E-15	1.92E-19	1.03E-23	5.53E-28	2.97E-32	1.61E-36	.00E+00	.00E+00
am243	4.01E-05	3.97E-05	3.79E-05	3.45E-05	2.86E-05	2.37E-05	1.96E-05	1.62E-05	1.35E-05	1.11E-05	9.24E-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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 83

0 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	1.88E-09	1.15E-09	9.83E-11	7.21E-13	3.88E-17	2.09E-21	1.12E-25	6.02E-30	3.23E-34	1.74E-38	1.02E-42
cm243	1.40E-17	1.23E-18	6.44E-24	1.76E-34	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm244	1.36E-16	2.95E-18	1.42E-26	3.42E-43	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm245	1.32E-12	1.31E-12	1.26E-12	1.16E-12	9.87E-13	8.38E-13	7.12E-13	6.05E-13	5.14E-13	4.37E-13	3.71E-13
cm246	8.71E-15	8.59E-15	7.98E-15	6.89E-15	5.14E-15	3.84E-15	2.86E-15	2.13E-15	1.59E-15	1.19E-15	8.86E-16
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	1.48E-19	1.48E-19	1.47E-19	1.46E-19	1.46E-19	1.45E-19	1.45E-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	5.20E-35	5.18E-35	5.08E-35	4.88E-35	4.51E-35	4.16E-35	3.84E-35	3.55E-35	3.28E-35	3.03E-35	2.79E-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	7.47E-25	6.13E-25	2.28E-25	3.15E-26	6.04E-28	1.16E-29	2.21E-31	4.23E-33	8.11E-35	1.55E-36	2.97E-38
cf250	2.20E-38	5.54E-39	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf251	1.09E-31	1.01E-31	6.88E-32	3.18E-32	6.79E-33	1.45E-33	3.10E-34	6.61E-35	1.41E-35	3.02E-36	6.44E-37
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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 84

0 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	9.35E-06	9.36E-06	9.41E-06	9.50E-06	9.69E-06	9.86E-06	1.00E-05	1.02E-05	1.04E-05	1.05E-05	1.07E-05

tl207	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01
tl208	5.06E-05	2.13E-05	4.24E-06	4.17E-06	4.28E-06	4.38E-06	4.48E-06	4.58E-06	4.69E-06	4.79E-06	4.89E-06
tl209	3.30E-02	3.31E-02	3.33E-02	3.37E-02	3.46E-02	3.55E-02	3.64E-02	3.72E-02	3.81E-02	3.90E-02	3.98E-02
pb206	.00E+00	.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	.00E+00
pb208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pb209	1.57E+00	1.58E+00	1.59E+00	1.61E+00	1.65E+00	1.69E+00	1.73E+00	1.77E+00	1.82E+00	1.86E+00	1.90E+00
pb210	7.08E+00	7.09E+00	7.13E+00	7.20E+00	7.34E+00	7.47E+00	7.60E+00	7.73E+00	7.85E+00	7.97E+00	8.09E+00
pb211	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01
pb212	1.41E-04	5.93E-05	1.18E-05	1.16E-05	1.19E-05	1.22E-05	1.25E-05	1.28E-05	1.30E-05	1.33E-05	1.36E-05
pb214	7.09E+00	7.10E+00	7.13E+00	7.20E+00	7.34E+00	7.47E+00	7.60E+00	7.73E+00	7.86E+00	7.98E+00	8.09E+00
bi208	.00E+00	.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	.00E+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	7.09E+00	7.09E+00	7.13E+00	7.20E+00	7.34E+00	7.47E+00	7.60E+00	7.73E+00	7.85E+00	7.97E+00	8.09E+00
bi211	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01
bi212	1.41E-04	5.93E-05	1.18E-05	1.16E-05	1.19E-05	1.22E-05	1.25E-05	1.28E-05	1.30E-05	1.33E-05	1.36E-05
bi213	1.57E+00	1.58E+00	1.59E+00	1.61E+00	1.65E+00	1.69E+00	1.73E+00	1.77E+00	1.82E+00	1.86E+00	1.90E+00
bi214	7.09E+00	7.10E+00	7.13E+00	7.20E+00	7.34E+00	7.47E+00	7.60E+00	7.73E+00	7.86E+00	7.98E+00	8.09E+00
po210	7.09E+00	7.09E+00	7.13E+00	7.20E+00	7.34E+00	7.47E+00	7.60E+00	7.73E+00	7.85E+00	7.97E+00	8.09E+00
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
po211	9.34E-04	9.34E-04	9.35E-04	9.34E-04	9.33E-04	9.33E-04	9.32E-04	9.32E-04	9.31E-04	9.31E-04	9.31E-04
po212	9.02E-05	3.80E-05	7.56E-06	7.44E-06	7.62E-06	7.80E-06	7.99E-06	8.17E-06	8.36E-06	8.54E-06	8.72E-06
po213	1.54E+00	1.54E+00	1.55E+00	1.57E+00	1.61E+00	1.65E+00	1.70E+00	1.74E+00	1.78E+00	1.82E+00	1.86E+00
po214	7.09E+00	7.10E+00	7.13E+00	7.20E+00	7.34E+00	7.47E+00	7.60E+00	7.73E+00	7.85E+00	7.97E+00	8.09E+00
po215	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01
po216	1.41E-04	5.93E-05	1.18E-05	1.16E-05	1.19E-05	1.22E-05	1.25E-05	1.28E-05	1.30E-05	1.33E-05	1.36E-05
po218	7.09E+00	7.10E+00	7.13E+00	7.20E+00	7.34E+00	7.47E+00	7.61E+00	7.73E+00	7.86E+00	7.98E+00	8.09E+00
at217	1.57E+00	1.58E+00	1.59E+00	1.61E+00	1.65E+00	1.69E+00	1.73E+00	1.77E+00	1.82E+00	1.86E+00	1.90E+00
rn218	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rn219	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01
rn220	1.41E-04	5.93E-05	1.18E-05	1.16E-05	1.19E-05	1.22E-05	1.25E-05	1.28E-05	1.30E-05	1.33E-05	1.36E-05
rn222	7.09E+00	7.10E+00	7.13E+00	7.20E+00	7.34E+00	7.47E+00	7.61E+00	7.73E+00	7.86E+00	7.98E+00	8.09E+00
fr221	1.57E+00	1.58E+00	1.59E+00	1.61E+00	1.65E+00	1.69E+00	1.73E+00	1.77E+00	1.82E+00	1.86E+00	1.90E+00
fr223	4.69E-03	4.69E-03	4.69E-03	4.69E-03	4.68E-03	4.68E-03	4.68E-03	4.68E-03	4.67E-03	4.67E-03	4.67E-03
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01
ra224	1.41E-04	5.93E-05	1.18E-05	1.16E-05	1.19E-05	1.22E-05	1.25E-05	1.28E-05	1.30E-05	1.33E-05	1.36E-05
ra225	1.57E+00	1.58E+00	1.59E+00	1.61E+00	1.65E+00	1.69E+00	1.73E+00	1.77E+00	1.82E+00	1.86E+00	1.90E+00
ra226	7.09E+00	7.10E+00	7.13E+00	7.20E+00	7.34E+00	7.47E+00	7.61E+00	7.73E+00	7.86E+00	7.98E+00	8.09E+00
ra228	1.06E-05	1.07E-05	1.07E-05	1.09E-05	1.12E-05	1.15E-05	1.18E-05	1.21E-05	1.24E-05	1.26E-05	1.29E-05
ac225	1.57E+00	1.58E+00	1.59E+00	1.61E+00	1.65E+00	1.69E+00	1.73E+00	1.77E+00	1.82E+00	1.86E+00	1.90E+00
ac227	3.40E-01	3.40E-01	3.40E-01	3.40E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01
ac228	1.06E-05	1.07E-05	1.07E-05	1.09E-05	1.12E-05	1.15E-05	1.18E-05	1.21E-05	1.24E-05	1.26E-05	1.29E-05
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	3.35E-01	3.35E-01	3.35E-01	3.35E-01	3.35E-01	3.35E-01	3.34E-01	3.34E-01	3.34E-01	3.34E-01	3.34E-01
th228	1.41E-04	5.93E-05	1.18E-05	1.16E-05	1.19E-05	1.22E-05	1.25E-05	1.28E-05	1.30E-05	1.33E-05	1.36E-05
th229	1.57E+00	1.58E+00	1.59E+00	1.61E+00	1.65E+00	1.69E+00	1.73E+00	1.77E+00	1.82E+00	1.86E+00	1.90E+00
th230	7.25E+00	7.26E+00	7.29E+00	7.36E+00	7.50E+00	7.63E+00	7.75E+00	7.88E+00	8.00E+00	8.11E+00	8.23E+00
th231	3.32E-01	3.32E-01	3.32E-01	3.33E-01	3.33E-01	3.34E-01	3.35E-01	3.35E-01	3.36E-01	3.36E-01	3.37E-01

1

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

0 nuclide radioactivity, curies actinides page 85

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
th232	1.06E-05	1.07E-05	1.07E-05	1.09E-05	1.12E-05	1.15E-05	1.18E-05	1.21E-05	1.24E-05	1.26E-05	1.29E-05
th233	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.90E+00
pa231	3.40E-01	3.40E-01	3.40E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.38E-01	3.38E-01	3.38E-01
pa232	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pa233	6.72E+00	6.72E+00	6.72E+00	6.71E+00	6.71E+00	6.71E+00	6.70E+00	6.70E+00	6.69E+00	6.69E+00	6.68E+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	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	3.77E-03
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u231	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u232	1.27E-04	4.73E-05	1.06E-06	7.34E-07	7.25E-07	7.16E-07	7.08E-07	6.99E-07	6.91E-07	6.83E-07	6.74E-07
u233	1.81E+00	1.81E+00	1.82E+00	1.84E+00	1.89E+00	1.93E+00	1.97E+00	2.01E+00	2.05E+00	2.09E+00	2.13E+00
u234	1.48E+01	1.48E+01	1.48E+01	1.48E+01	1.47E+01	1.46E+01	1.46E+01	1.45E+01	1.44E+01	1.44E+01	1.43E+01
u235	3.32E-01	3.32E-01	3.32E-01	3.33E-01	3.33E-01	3.34E-01	3.35E-01	3.35E-01	3.36E-01	3.36E-01	3.37E-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	2.99E+00
u237	2.96E-14	2.41E-16	5.18E-18	4.78E-18	4.06E-18	3.45E-18	2.93E-18	2.49E-18	2.11E-18	1.80E-18	1.52E-18
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	2.90E+00
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	1.19E-25	1.20E-25	1.22E-25	1.27E-25	1.37E-25	1.47E-25	1.57E-25	1.67E-25	1.77E-25	1.87E-25	1.96E-25
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236	8.32E-06	8.32E-06	8.29E-06	8.24E-06	8.15E-06	8.05E-06	7.95E-06	7.86E-06	7.76E-06	7.67E-06	7.58E-06
np237	6.72E+00	6.72E+00	6.72E+00	6.71E+00	6.71E+00	6.71E+00	6.70E+00	6.70E+00	6.69E+00	6.69E+00	6.68E+00
np238	3.40E-08	2.08E-08	1.78E-09	1.30E-11	7.01E-16	3.76E-20	2.02E-24	1.09E-28	.00E+00	.00E+00	.00E+00
np239	8.00E-06	7.92E-06	7.56E-06	6.88E-06	5.70E-06	4.72E-06	3.91E-06	3.24E-06	2.69E-06	2.23E-06	1.84E-06
np240m	1.19E-25	1.20E-25	1.22E-25	1.27E-25	1.37E-25	1.47E-25	1.57E-25	1.67E-25	1.77E-25	1.87E-25	1.96E-25
np240	1.43E-28	1.44E-28	1.47E-28	1.53E-28	1.65E-28	1.77E-28	1.89E-28	2.00E-28	2.12E-28	2.24E-28	2.36E-28
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	7.41E-07	7.40E-07	7.38E-07	7.34E-07	7.25E-07	7.16E-07	7.08E-07	6.99E-07	6.91E-07	6.83E-07	6.74E-07
pu237	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu238	4.76E-01	2.16E-01	4.15E-03	1.54E-06	5.51E-13	1.84E-17	9.87E-22	5.30E-26	2.85E-30	.00E+00	.00E+00
pu239	3.56E+02	3.55E+02	3.50E+02	3.40E+02	3.21E+02	3.03E+02	2.86E+02	2.70E+02	2.55E+02	2.41E+02	2.28E+02
pu240	1.28E+01	1.27E+01	1.20E+01	1.08E+01	8.74E+00	7.08E+00	5.73E+00	4.64E+00	3.76E+00	3.04E+00	2.46E+00
pu241	1.24E-09	1.01E-11	2.17E-13	2.00E-13	1.70E-13	1.44E-13	1.23E-13	1.04E-13	8.84E-14	7.51E-14	6.38E-14
pu242	4.65E-05	4.65E-05	4.64E-05	4.63E-05	4.62E-05	4.60E-05	4.58E-05	4.56E-05	4.55E-05	4.53E-05	4.51E-05
pu243	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	2.11E-21	2.11E-21
pu244	1.19E-25	1.20E-25	1.22E-25	1.27E-25	1.37E-25	1.47E-25	1.57E-25	1.67E-25	1.77E-25	1.87E-25	1.97E-25
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	1.65E-01	1.41E-01	6.32E-02	1.27E-02	5.16E-04	2.09E-05	8.48E-07	3.44E-08	1.39E-09	5.66E-11	2.36E-12
am242m	7.56E-06	4.62E-06	3.96E-07	2.90E-09	1.56E-13	8.37E-18	4.49E-22	2.41E-26	1.30E-30	.00E+00	.00E+00
am242	7.52E-06	4.60E-06	3.94E-07	2.89E-09	1.55E-13	8.33E-18	4.47E-22	2.40E-26	1.30E-30	.00E+00	.00E+00
am243	8.00E-06	7.92E-06	7.56E-06	6.88E-06	5.70E-06	4.72E-06	3.91E-06	3.24E-06	2.69E-06	2.23E-06	1.84E-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

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 86

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
cm242	6.22E-06	3.80E-06	3.26E-07	2.39E-09	1.29E-13	6.91E-18	3.71E-22	1.99E-26	1.07E-30	.00E+00	.00E+00
cm243	7.24E-16	6.36E-17	3.33E-22	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm244	1.10E-14	2.39E-16	1.15E-24	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm245	2.27E-13	2.26E-13	2.17E-13	2.00E-13	1.70E-13	1.44E-13	1.22E-13	1.04E-13	8.83E-14	7.50E-14	6.37E-14
cm246	2.68E-15	2.64E-15	2.45E-15	2.12E-15	1.58E-15	1.18E-15	8.79E-16	6.56E-16	4.89E-16	3.65E-16	2.72E-16
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	2.11E-21	2.11E-21
cm248	6.33E-22	6.33E-22	6.32E-22	6.31E-22	6.29E-22	6.26E-22	6.23E-22	6.21E-22	6.18E-22	6.16E-22	6.13E-22
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

cm250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	3.06E-24	2.51E-24	9.34E-25	1.29E-25	2.47E-27	4.74E-29	9.13E-31	2.28E-32	.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	1.83E-31	1.60E-31	1.14E-31	4.56E-32	.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	4.99E+02	4.98E+02	4.92E+02	4.82E+02	4.62E+02	4.44E+02	4.28E+02	4.12E+02	3.98E+02	3.84E+02	3.71E+02

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 87

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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
h 3	8.15E-16	2.95E-18	1.82E-30	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 6	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04
li 7	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06
be 9	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05
be 10	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.05E-04	1.05E-04	1.05E-04
c 14	1.20E-06	1.19E-06	1.12E-06	9.90E-07	7.77E-07	6.10E-07	4.79E-07	3.76E-07	2.95E-07	2.32E-07	1.82E-07
ni 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07
cu 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08
zn 68	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09
zn 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08
zn 70	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06
ga 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09
zn 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05
ge 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03
co 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 73	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02
ge 73m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ni 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 74	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03
co 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 75	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01
ni 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 88

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
zn 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01
as 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 76	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04
ni 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01
se 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 78	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	2.05E+00
cu 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 79	3.80E+00	3.80E+00	3.80E+00	3.79E+00	3.77E+00	3.76E+00	3.74E+00	3.73E+00	3.71E+00	3.69E+00	3.68E+00
se 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79	3.84E-01	3.85E-01	3.89E-01	3.97E-01	4.13E-01	4.29E-01	4.45E-01	4.60E-01	4.76E-01	4.91E-01	5.07E-01
br 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 80	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01
br 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04

cu 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 81	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
kr 81	8.02E-07	8.02E-07	8.00E-07	7.98E-07	7.93E-07	7.87E-07	7.82E-07	7.77E-07	7.72E-07	7.67E-07	7.62E-07
kr 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 89

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
ge 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 82	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01
br 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02
zn 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01
kr 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02
ga 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	1.56E-14	2.42E-17	2.20E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02
ge 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02
rb 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02
ge 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

se 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02
sr 87	6.57E-04	6.58E-04	6.60E-04	6.63E-04	6.71E-04	6.78E-04	6.85E-04	6.93E-04	7.00E-04	7.07E-04	7.15E-04
sr 87m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 88	.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 fission products page 90

0

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
br 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 88	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02
as 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02
y 89m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 90	8.61E-06	7.33E-07	3.29E-12	6.65E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90	2.24E-09	1.91E-10	8.56E-16	1.73E-26	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 91	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02
nb 91	4.89E-12	4.41E-12	2.65E-12	9.57E-13	1.25E-13	1.62E-14	2.11E-15	2.75E-16	3.58E-17	4.66E-18	6.07E-19
se 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 92	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02
nb 92	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07
se 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

zr 93	4.49E+02	4.49E+02	4.49E+02	4.48E+02	4.48E+02	4.47E+02	4.47E+02	4.47E+02	4.46E+02	4.46E+02	4.45E+02
nb 93	9.52E+00	9.54E+00	9.64E+00	9.85E+00	1.03E+01	1.07E+01	1.11E+01	1.15E+01	1.19E+01	1.23E+01	1.27E+01
nb 93m	4.73E-03	4.73E-03	4.73E-03	4.73E-03	4.72E-03	4.72E-03	4.71E-03	4.71E-03	4.70E-03	4.70E-03	4.70E-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

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 91

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
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	5.41E-04	5.39E-04	5.30E-04	5.12E-04	4.78E-04	4.47E-04	4.17E-04	3.90E-04	3.64E-04	3.40E-04	3.18E-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	.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	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	6.20E+02	6.20E+02	6.19E+02	6.16E+02	6.12E+02	6.08E+02	6.04E+02	6.01E+02	5.97E+02	5.93E+02	5.89E+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	1.00E+02	1.01E+02	1.02E+02	1.04E+02	1.08E+02	1.12E+02	1.16E+02	1.20E+02	1.24E+02	1.27E+02	1.31E+02

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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 92

0

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
zr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo100	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02
tc100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00
rb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru101	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02
sr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru102	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02
rh102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02
rh103m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru104	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02
rh104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd104	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01
y105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd105	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02

1

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

0 nuclide concentrations, grams fission products page 93

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
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	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	4.53E+01	4.53E+01	4.53E+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	2.11E-01	2.11E-01	2.14E-01	2.18E-01	2.28E-01	2.38E-01	2.48E-01	2.57E-01	2.67E-01	2.77E-01	2.86E-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	9.60E-19	5.56E-19	3.63E-20	1.55E-22	2.81E-27	5.10E-32	9.27E-37	3.10E-41	.00E+00	.00E+00	.00E+00
ag108m	3.11E-10	1.80E-10	1.18E-11	5.01E-14	9.11E-19	1.65E-23	3.00E-28	5.46E-33	9.91E-38	1.82E-42	.00E+00
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	.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	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	.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

1

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

0 nuclide concentrations, grams fission products page 94

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
cd110	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01
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	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+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	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+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	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01
cd113m	1.80E-14	1.32E-16	2.79E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in113	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
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	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00
in114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn114	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in115	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00
in115m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

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

0 fission products page 95

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
sn115	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02

tc116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.72E+00
in116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in116m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	7.57E-02
tc117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	1.99E+00
sn117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118m	.00E+00	.00E+00	.00E+00	.00E+00	.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	1.88E+00
ru119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.06E+00
sn119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.05E+00
rh121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 96

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
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	2.51E-12	7.12E-13	1.31E-15	4.40E-21	4.99E-32	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121m	5.76E-08	1.63E-08	3.00E-11	1.01E-16	1.15E-27	1.30E-38	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb121	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+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	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03
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	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00
te123	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06
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	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+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	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03
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	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+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	6.06E+00	6.06E+00	6.04E+00	6.00E+00	5.91E+00	5.83E+00	5.75E+00	5.67E+00	5.59E+00	5.52E+00	5.44E+00

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle 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	2.88E-07	2.88E-07	2.87E-07	2.85E-07	2.81E-07	2.77E-07	2.73E-07	2.69E-07	2.66E-07	2.62E-07	2.59E-07
sb126m	2.19E-09	2.19E-09	2.18E-09	2.17E-09	2.14E-09	2.11E-09	2.08E-09	2.05E-09	2.02E-09	1.99E-09	1.97E-09
te126	2.22E+00	2.22E+00	2.25E+00	2.29E+00	2.37E+00	2.45E+00	2.53E+00	2.61E+00	2.69E+00	2.77E+00	2.84E+00
xe126	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-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

in127m	.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
sn127m	.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
te127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te127m	.00E+00	.00E+00	.00E+00	.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
xe127	.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
cd128	.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
sn128	.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
sb128m	.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
i128	.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
cd129	.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
sn129	.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
sb129	.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
te129m	.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
xe129	2.51E-01	2.51E-01	2.54E-01	2.59E-01	2.70E-01	2.81E-01	2.92E-01	3.03E-01	3.14E-01	3.25E-01	3.36E-01
xe129m	.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
in130	.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
sb130	.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
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
i130	.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
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
cd131	.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
sn131	.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
te131	.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
i131	.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
xe131m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 98

0 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
cd132	.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
sn132	.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
sb132m	.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
i132	.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
cs132	.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

in133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs133	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03
ba133	9.14E-24	1.26E-26	6.19E-41	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03
xe134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba134	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01
sn135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs135	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
cs135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135	1.48E+01	1.48E+01	1.50E+01	1.53E+01	1.59E+01	1.66E+01	1.72E+01	1.78E+01	1.84E+01	1.91E+01	1.97E+01
ba135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe136	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00
ba136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 99

0 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
sb137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs137	2.89E-05	2.87E-06	2.75E-11	2.54E-21	2.15E-41	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03
ba137m	4.42E-12	4.38E-13	4.21E-18	3.88E-28	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ba138	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03
la138	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03
sb139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la139	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
ce139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce140	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
pr140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr141	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02
nd141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce142	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02
pr142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd142	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00
i143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 100

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
xe143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd143	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02
i144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd144	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02

i145	.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
cs145	.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
la145	.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
pr145	.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
pm145	2.30E-17	4.59E-19	1.44E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm145	.00E+00	.00E+00	.00E+00	.00E+00	.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
cs146	.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
la146	.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
pr146	.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
pm146	4.03E-33	1.45E-38	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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
xe147	.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
ba147	.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
ce147	.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
nd147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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
cs148	.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
la148	.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
pr148	.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
pm148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 101

0

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
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	.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
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	2.01E-12	2.90E-13	1.81E-17	7.10E-26	1.05E-42	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ba151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm151	3.53E-03	1.63E-03	3.47E-05	1.57E-08	3.20E-15	6.52E-22	1.33E-28	2.71E-35	5.50E-42	.00E+00	.00E+00
eu151	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01
ba152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm152	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01
eu152	5.87E-12	3.23E-14	1.64E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd152	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01
la153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu153	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01
gd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 102

0 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
sm154	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01
eu154	3.68E-18	1.15E-21	3.46E-39	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd154	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00
la155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	6.75E-30	2.50E-36	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01
ce156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd156	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01
ce157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu157	.00E+00	.00E+00	.00E+00	.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	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02
pr158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu158	.00E+00	.00E+00	.00E+00	.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	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00
pr159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd159	.00E+00	.00E+00	.00E+00	.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	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01
nd160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu160	.00E+00	.00E+00	.00E+00	.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	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01
tb160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy160	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03
nd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb161	.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 fission products page 103

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
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	7.00E-02	7.00E-02
pm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy162	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02
sm163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
dy163	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02
sm164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy164	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03
sm165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu165	.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
tb165	.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
dy165m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ho165	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03
dy166	.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
ho166m	4.93E-08	4.66E-08	3.49E-08	1.96E-08	6.17E-09	1.94E-09	6.12E-10	1.93E-10	6.07E-11	1.91E-11	6.02E-12
er166	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04
er167	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07
yb168	.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
tm169	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07
yb169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er170	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07
tm170	.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
yb170	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09
er171	.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
yb171	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07
er172	.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
yb172	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07
total	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 104

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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
h 3	7.88E-12	2.85E-14	1.76E-26	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 6	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 7	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
be 9	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
be 10	2.37E-06	2.37E-06	2.37E-06	2.37E-06	2.36E-06	2.36E-06	2.36E-06	2.36E-06	2.36E-06	2.35E-06	2.35E-06
c 14	5.36E-06	5.29E-06	4.98E-06	4.41E-06	3.46E-06	2.72E-06	2.14E-06	1.68E-06	1.32E-06	1.03E-06	8.11E-07
ni 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 68	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

zn 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 73m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 76	.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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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 105

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
zn 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 79	5.22E-02	5.22E-02	5.21E-02	5.20E-02	5.18E-02	5.16E-02	5.13E-02	5.11E-02	5.09E-02	5.07E-02	5.05E-02
se 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

as 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 81	1.66E-08	1.66E-08	1.66E-08	1.65E-08	1.64E-08	1.63E-08	1.62E-08	1.61E-08	1.60E-08	1.59E-08	1.58E-08
kr 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	.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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0 Part.B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 106

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
ge 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	6.11E-12	9.50E-15	8.63E-29	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

rb 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05
sr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 87m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 88	.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

0 fission products page 107

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
br 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 90	1.22E-03	1.04E-04	4.65E-10	9.38E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90	1.22E-03	1.04E-04	4.65E-10	9.39E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 91	2.83E-11	2.55E-11	1.53E-11	5.53E-12	7.20E-13	9.37E-14	1.22E-14	1.59E-15	2.07E-16	2.69E-17	3.51E-18
se 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 92	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11
se 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

br 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 93	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.12E+00	1.12E+00	1.12E+00	1.12E+00	1.12E+00	1.12E+00
nb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 93m	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.12E+00	1.12E+00	1.12E+00	1.12E+00	1.12E+00	1.12E+00
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 100k year cycle fission products page 108

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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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 94	1.01E-04	1.01E-04	9.94E-05	9.60E-05	8.97E-05	8.38E-05	7.82E-05	7.31E-05	6.82E-05	6.37E-05	5.95E-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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc 98	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.74E-07	1.74E-07	1.74E-07	1.74E-07
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	1.06E+01	1.06E+01	1.06E+01	1.05E+01	1.05E+01	1.04E+01	1.03E+01	1.03E+01	1.02E+01	1.01E+01	1.01E+01
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y100	.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 fission products page 109

0 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
zr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 110

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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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02
pd107m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag108	7.05E-10	4.09E-10	2.67E-11	1.14E-13	2.07E-18	3.75E-23	6.81E-28	2.28E-32	.00E+00	.00E+00	.00E+00
ag108m	8.11E-09	4.70E-09	3.07E-10	1.31E-12	2.37E-17	4.31E-22	7.83E-27	1.37E-31	.00E+00	.00E+00	.00E+00
cd108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+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 100k year cycle fission products page 111

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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
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	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	6.67E-14
cd113m	4.04E-12	2.96E-14	6.26E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114m	.00E+00	.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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	1.18E-11
in115m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 112
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
sn115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
in116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in116m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
tc117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
sn117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
ru119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
sn119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
rh121	.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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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 113
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
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	2.40E-06	6.82E-07	1.25E-09	4.21E-15	4.78E-26	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121m	3.10E-06	8.78E-07	1.61E-09	5.43E-15	6.16E-26	.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	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	3.96E-16	3.96E-16
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	1.72E-01	1.72E-01	1.71E-01	1.70E-01	1.68E-01	1.66E-01	1.63E-01	1.61E-01	1.59E-01	1.57E-01	1.54E-01

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 114

0 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
sb126	2.41E-02	2.41E-02	2.40E-02	2.38E-02	2.35E-02	2.32E-02	2.29E-02	2.25E-02	2.22E-02	2.19E-02	2.16E-02
sb126m	1.72E-01	1.72E-01	1.71E-01	1.70E-01	1.68E-01	1.66E-01	1.63E-01	1.61E-01	1.59E-01	1.57E-01	1.54E-01

te126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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
in127m	.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
sn127m	.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
te127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te127m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe127	.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
cd128	.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
sn128	.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
sb128m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd129	.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
sn129	.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
sb129	.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
te129m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i129	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02
xe129	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe129m	.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
in130	.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
sb130	.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
te130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i130	.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
xe130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd131	.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
sn131	.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
te131	.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
i131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe131m	.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

0 fission products page 115

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
cd132	.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
sn132	.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
sb132m	.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
i132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba133	2.34E-21	3.21E-24	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs135	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.21E+00
cs135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136m	.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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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 116

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
sb137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs137	2.52E-03	2.50E-04	2.40E-09	2.21E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137m	2.38E-03	2.36E-04	2.26E-09	2.09E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

te138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la138	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10
sb139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce142	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05
pr142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i143	.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 fission products page 117

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
xe143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

la144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd144	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09
i145	.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
cs145	.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
la145	.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
pr145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm145	3.21E-15	6.39E-17	2.00E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm145	.00E+00	.00E+00	.00E+00	.00E+00	.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
cs146	.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
la146	.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
pr146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm146	1.78E-30	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm146	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08
xe147	.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
ba147	.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
ce147	.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
nd147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm147	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06
cs148	.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
la148	.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
pr148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 118

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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
sm148	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12
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	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12
eu149	.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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
eu150	1.34E-10	1.93E-11	1.21E-15	4.73E-24	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm151	9.29E-02	4.30E-02	9.14E-04	4.13E-07	8.42E-14	1.72E-20	3.50E-27	.00E+00	.00E+00	.00E+00	.00E+00
eu151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
eu152	1.04E-09	5.71E-12	2.90E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	4.39E-10	4.39E-10
la153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
gd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154m	.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 fission products page 119

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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
sm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu154	9.95E-16	3.11E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	3.33E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
ce156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 120

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
dy161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
dy163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

eu165	.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
tb165	.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
dy165m	.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
dy166	.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
ho166m	8.86E-08	8.36E-08	6.26E-08	3.51E-08	1.11E-08	3.49E-09	1.10E-09	3.46E-10	1.09E-10	3.43E-11	1.08E-11
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	.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
yb168	.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
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	.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
yb170	.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
tm171	.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
er172	.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
yb172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
total	1.46E+01	1.46E+01	1.45E+01	1.45E+01	1.44E+01	1.43E+01	1.42E+01	1.42E+01	1.41E+01	1.40E+01	1.39E+01

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 121

0 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
he 4	3.18E+02	3.23E+02	3.27E+02	3.32E+02	3.36E+02	3.40E+02	3.44E+02	3.48E+02	3.52E+02	3.59E+02	3.63E+02
tl206	4.91E-14	4.98E-14	5.05E-14	5.11E-14	5.18E-14	5.24E-14	5.30E-14	5.36E-14	5.41E-14	5.52E-14	5.57E-14
tl207	1.77E-09	1.77E-09	1.77E-09	1.77E-09	1.77E-09	1.77E-09	1.77E-09	1.77E-09	1.77E-09	1.77E-09	1.77E-09
tl208	1.65E-14	1.69E-14	1.72E-14	1.76E-14	1.79E-14	1.83E-14	1.86E-14	1.90E-14	1.93E-14	2.00E-14	2.04E-14
tl209	9.74E-11	9.95E-11	1.02E-10	1.04E-10	1.06E-10	1.08E-10	1.10E-10	1.12E-10	1.14E-10	1.18E-10	1.20E-10
pb206	1.61E+02	1.68E+02	1.74E+02	1.81E+02	1.88E+02	1.95E+02	2.02E+02	2.09E+02	2.16E+02	2.30E+02	2.38E+02
pb207	8.54E+00	8.81E+00	9.09E+00	9.36E+00	9.63E+00	9.90E+00	1.02E+01	1.04E+01	1.07E+01	1.13E+01	1.15E+01
pb208	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01
pb209	4.11E-07	4.20E-07	4.29E-07	4.38E-07	4.47E-07	4.55E-07	4.64E-07	4.72E-07	4.81E-07	4.97E-07	5.05E-07
pb210	1.06E-01	1.07E-01	1.09E-01	1.10E-01	1.12E-01	1.13E-01	1.14E-01	1.16E-01	1.17E-01	1.19E-01	1.20E-01
pb211	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08
pb212	9.80E-12	1.00E-11	1.02E-11	1.04E-11	1.06E-11	1.08E-11	1.10E-11	1.12E-11	1.14E-11	1.19E-11	1.21E-11
pb214	2.47E-07	2.50E-07	2.54E-07	2.57E-07	2.60E-07	2.63E-07	2.66E-07	2.69E-07	2.72E-07	2.77E-07	2.80E-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	3.34E+01	3.49E+01	3.65E+01	3.81E+01	3.98E+01	4.15E+01	4.32E+01	4.49E+01	4.67E+01	5.04E+01	5.22E+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	6.52E-05	6.61E-05	6.70E-05	6.79E-05	6.87E-05	6.95E-05	7.03E-05	7.11E-05	7.18E-05	7.33E-05	7.39E-05
bi211	8.13E-10	8.12E-10	8.12E-10	8.12E-10	8.12E-10	8.12E-10	8.12E-10	8.12E-10	8.12E-10	8.13E-10	8.13E-10
bi212	9.29E-13	9.49E-13	9.68E-13	9.88E-13	1.01E-12	1.03E-12	1.05E-12	1.07E-12	1.09E-12	1.13E-12	1.14E-12
bi213	9.79E-08	1.00E-07	1.02E-07	1.04E-07	1.06E-07	1.08E-07	1.10E-07	1.12E-07	1.14E-07	1.18E-07	1.20E-07
bi214	1.83E-07	1.86E-07	1.88E-07	1.91E-07	1.93E-07	1.95E-07	1.98E-07	2.00E-07	2.02E-07	2.06E-07	2.08E-07
po210	1.80E-03	1.83E-03	1.85E-03	1.87E-03	1.90E-03	1.92E-03	1.94E-03	1.96E-03	1.98E-03	2.02E-03	2.04E-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	8.98E-15	8.98E-15	8.98E-15	8.98E-15	8.98E-15	8.98E-15	8.98E-15	8.98E-15	8.98E-15	8.98E-15	8.98E-15
po212	4.88E-23	4.99E-23	5.09E-23	5.19E-23	5.29E-23	5.40E-23	5.50E-23	5.60E-23	5.71E-23	5.91E-23	6.02E-23
po213	1.47E-16	1.50E-16	1.54E-16	1.57E-16	1.60E-16	1.63E-16	1.66E-16	1.69E-16	1.72E-16	1.78E-16	1.81E-16
po214	2.52E-14	2.56E-14	2.59E-14	2.62E-14	2.66E-14	2.69E-14	2.72E-14	2.75E-14	2.78E-14	2.83E-14	2.86E-14

po215	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14
po216	3.78E-17	3.86E-17	3.94E-17	4.02E-17	4.10E-17	4.18E-17	4.26E-17	4.34E-17	4.42E-17	4.58E-17	4.66E-17
po218	2.91E-08	2.95E-08	2.99E-08	3.03E-08	3.06E-08	3.10E-08	3.14E-08	3.17E-08	3.20E-08	3.27E-08	3.30E-08
at217	1.18E-12	1.20E-12	1.23E-12	1.25E-12	1.28E-12	1.30E-12	1.33E-12	1.35E-12	1.38E-12	1.42E-12	1.45E-12
rn218	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rn219	2.60E-11	2.60E-11	2.60E-11	2.60E-11	2.60E-11	2.60E-11	2.60E-11	2.60E-11	2.60E-11	2.60E-11	2.60E-11
rn220	1.48E-14	1.51E-14	1.54E-14	1.57E-14	1.60E-14	1.63E-14	1.66E-14	1.69E-14	1.72E-14	1.79E-14	1.82E-14
rn222	5.26E-05	5.33E-05	5.41E-05	5.48E-05	5.54E-05	5.61E-05	5.67E-05	5.74E-05	5.80E-05	5.91E-05	5.97E-05
fr221	1.09E-08	1.12E-08	1.14E-08	1.16E-08	1.19E-08	1.21E-08	1.23E-08	1.25E-08	1.28E-08	1.32E-08	1.34E-08
fr223	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	6.61E-06	6.61E-06	6.61E-06	6.60E-06	6.60E-06	6.60E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06	6.61E-06
ra224	8.55E-11	8.73E-11	8.91E-11	9.09E-11	9.27E-11	9.45E-11	9.63E-11	9.81E-11	9.99E-11	1.03E-10	1.05E-10
ra225	4.84E-05	4.94E-05	5.05E-05	5.15E-05	5.25E-05	5.35E-05	5.45E-05	5.55E-05	5.65E-05	5.85E-05	5.94E-05
ra226	8.18E+00	8.30E+00	8.41E+00	8.52E+00	8.62E+00	8.73E+00	8.83E+00	8.92E+00	9.02E+00	9.19E+00	9.28E+00
ra228	4.74E-08	4.85E-08	4.96E-08	5.07E-08	5.18E-08	5.28E-08	5.39E-08	5.50E-08	5.61E-08	5.82E-08	5.93E-08
ac225	3.27E-05	3.34E-05	3.41E-05	3.48E-05	3.55E-05	3.62E-05	3.68E-05	3.75E-05	3.82E-05	3.95E-05	4.01E-05
ac227	4.68E-03	4.68E-03	4.68E-03	4.68E-03	4.68E-03	4.68E-03	4.68E-03	4.68E-03	4.68E-03	4.68E-03	4.68E-03
ac228	5.79E-12	5.92E-12	6.05E-12	6.18E-12	6.32E-12	6.45E-12	6.58E-12	6.71E-12	6.84E-12	7.11E-12	7.24E-12
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05
th228	1.66E-08	1.70E-08	1.73E-08	1.77E-08	1.80E-08	1.84E-08	1.87E-08	1.91E-08	1.94E-08	2.01E-08	2.05E-08
th229	9.58E+00	9.78E+00	9.99E+00	1.02E+01	1.04E+01	1.06E+01	1.08E+01	1.10E+01	1.12E+01	1.16E+01	1.18E+01
th230	3.99E+02	4.04E+02	4.09E+02	4.14E+02	4.19E+02	4.24E+02	4.29E+02	4.33E+02	4.37E+02	4.46E+02	4.50E+02
th231	6.33E-07	6.34E-07	6.34E-07	6.35E-07	6.36E-07	6.36E-07	6.37E-07	6.38E-07	6.38E-07	6.39E-07	6.40E-07

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 122

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
th232	1.18E+02	1.21E+02	1.23E+02	1.26E+02	1.29E+02	1.31E+02	1.34E+02	1.37E+02	1.39E+02	1.45E+02	1.48E+02
th233	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th234	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04
pa231	7.16E+00	7.16E+00	7.16E+00	7.16E+00	7.16E+00	7.16E+00	7.16E+00	7.16E+00	7.16E+00	7.16E+00	7.16E+00
pa232	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pa233	3.22E-04	3.22E-04	3.21E-04	3.21E-04	3.21E-04	3.21E-04	3.21E-04	3.20E-04	3.20E-04	3.20E-04	3.20E-04
pa234m	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	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	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u231	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u232	3.05E-08	3.02E-08	2.98E-08	2.95E-08	2.91E-08	2.88E-08	2.84E-08	2.81E-08	2.77E-08	2.71E-08	2.67E-08
u233	2.21E+02	2.25E+02	2.29E+02	2.33E+02	2.37E+02	2.41E+02	2.45E+02	2.49E+02	2.53E+02	2.60E+02	2.64E+02
u234	2.30E+03	2.29E+03	2.28E+03	2.27E+03	2.26E+03	2.25E+03	2.24E+03	2.23E+03	2.22E+03	2.20E+03	2.19E+03
u235	1.56E+05	1.56E+05	1.56E+05	1.56E+05	1.56E+05	1.57E+05	1.57E+05	1.57E+05	1.57E+05	1.57E+05	1.57E+05
u236	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04
u237	1.87E-23	1.59E-23	1.35E-23	1.14E-23	9.72E-24	8.26E-24	7.02E-24	5.96E-24	5.06E-24	3.65E-24	3.10E-24
u238	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	2.12E-31	2.22E-31	2.33E-31	2.43E-31	2.54E-31	2.64E-31	2.74E-31	2.84E-31	2.95E-31	3.15E-31	3.25E-31
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236	5.75E-04	5.68E-04	5.61E-04	5.55E-04	5.48E-04	5.41E-04	5.35E-04	5.28E-04	5.22E-04	5.10E-04	5.04E-04
np237	9.48E+03	9.47E+03	9.47E+03	9.46E+03	9.45E+03	9.45E+03	9.44E+03	9.43E+03	9.43E+03	9.42E+03	9.41E+03
np238	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np239	7.95E-12	6.58E-12	5.46E-12	4.52E-12	3.75E-12	3.10E-12	2.57E-12	2.13E-12	1.76E-12	1.21E-12	1.00E-12
np240m	1.81E-33	1.90E-33	1.99E-33	2.08E-33	2.16E-33	2.25E-33	2.34E-33	2.43E-33	2.51E-33	2.69E-33	2.77E-33
np240	1.86E-35	1.95E-35	2.04E-35	2.14E-35	2.23E-35	2.32E-35	2.41E-35	2.50E-35	2.59E-35	2.76E-35	2.85E-35
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pu236	1.29E-09	1.28E-09	1.26E-09	1.24E-09	1.23E-09	1.22E-09	1.20E-09	1.19E-09	1.17E-09	1.14E-09	1.13E-09
pu237	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu238	4.80E-40	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu239	3.67E+03	3.46E+03	3.27E+03	3.09E+03	2.91E+03	2.75E+03	2.60E+03	2.45E+03	2.31E+03	2.06E+03	1.95E+03
pu240	1.08E+01	8.77E+00	7.10E+00	5.75E+00	4.66E+00	3.77E+00	3.05E+00	2.47E+00	2.00E+00	1.31E+00	1.06E+00
pu241	6.17E-16	5.24E-16	4.45E-16	3.78E-16	3.21E-16	2.73E-16	2.32E-16	1.97E-16	1.67E-16	1.21E-16	1.03E-16
pu242	1.14E-02	1.14E-02	1.13E-02	1.13E-02	1.12E-02	1.12E-02	1.12E-02	1.11E-02	1.11E-02	1.10E-02	1.10E-02
pu243	8.11E-28	8.11E-28	8.11E-28	8.11E-28	8.10E-28	8.10E-28	8.10E-28	8.10E-28	8.10E-28	8.10E-28	8.10E-28
pu244	1.07E-20	1.13E-20	1.18E-20	1.23E-20	1.28E-20	1.34E-20	1.39E-20	1.44E-20	1.49E-20	1.59E-20	1.65E-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	6.87E-13	4.36E-14	1.51E-14	1.19E-14	1.01E-14	8.58E-15	7.29E-15	6.19E-15	5.26E-15	3.81E-15	3.23E-15
am242m	3.57E-40	.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	9.24E-06	7.65E-06	6.34E-06	5.25E-06	4.35E-06	3.61E-06	2.99E-06	2.48E-06	2.05E-06	1.41E-06	1.17E-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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 123

0 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
cm242	1.02E-42	.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	.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	.00E+00
cm245	3.71E-13	3.15E-13	2.68E-13	2.27E-13	1.93E-13	1.64E-13	1.39E-13	1.18E-13	1.01E-13	7.26E-14	6.16E-14	
cm246	8.86E-16	6.61E-16	4.93E-16	3.68E-16	2.74E-16	2.05E-16	1.53E-16	1.14E-16	8.50E-17	4.73E-17	3.53E-17	
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	1.45E-19	1.44E-19	1.43E-19	1.43E-19	1.42E-19	1.42E-19	1.41E-19	1.41E-19	1.40E-19	1.39E-19	1.38E-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	2.79E-35	2.58E-35	2.38E-35	2.20E-35	2.03E-35	1.88E-35	1.73E-35	1.60E-35	1.48E-35	1.26E-35	1.16E-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	2.97E-38	5.69E-40	1.08E-41	3.49E-43	.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	6.44E-37	1.38E-37	2.94E-38	6.27E-39	1.34E-39	2.86E-40	6.12E-41	1.30E-41	2.81E-42	.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	8.85E+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	

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 124

0 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	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	.00E+00
tl206	1.07E-05	1.08E-05	1.10E-05	1.11E-05	1.13E-05	1.14E-05	1.15E-05	1.16E-05	1.18E-05	1.20E-05	1.21E-05	

tl207	3.38E-01	3.38E-01	3.37E-01	3.37E-01	3.37E-01	3.37E-01	3.37E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01
tl208	4.89E-06	5.00E-06	5.10E-06	5.20E-06	5.31E-06	5.41E-06	5.51E-06	5.62E-06	5.72E-06	5.93E-06	6.03E-06
tl209	3.98E-02	4.07E-02	4.16E-02	4.24E-02	4.32E-02	4.41E-02	4.49E-02	4.57E-02	4.65E-02	4.82E-02	4.89E-02
pb206	.00E+00	.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	.00E+00
pb208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pb209	1.90E+00	1.94E+00	1.98E+00	2.02E+00	2.06E+00	2.10E+00	2.14E+00	2.18E+00	2.22E+00	2.29E+00	2.33E+00
pb210	8.09E+00	8.21E+00	8.32E+00	8.42E+00	8.53E+00	8.63E+00	8.73E+00	8.82E+00	8.91E+00	9.09E+00	9.18E+00
pb211	3.39E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.39E-01	3.39E-01
pb212	1.36E-05	1.39E-05	1.42E-05	1.45E-05	1.48E-05	1.51E-05	1.53E-05	1.56E-05	1.59E-05	1.65E-05	1.68E-05
pb214	8.09E+00	8.21E+00	8.32E+00	8.42E+00	8.53E+00	8.63E+00	8.73E+00	8.82E+00	8.92E+00	9.09E+00	9.18E+00
bi208	.00E+00	.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	.00E+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	8.09E+00	8.21E+00	8.32E+00	8.42E+00	8.53E+00	8.63E+00	8.73E+00	8.82E+00	8.91E+00	9.09E+00	9.18E+00
bi211	3.39E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.39E-01	3.39E-01
bi212	1.36E-05	1.39E-05	1.42E-05	1.45E-05	1.48E-05	1.51E-05	1.53E-05	1.56E-05	1.59E-05	1.65E-05	1.68E-05
bi213	1.90E+00	1.94E+00	1.98E+00	2.02E+00	2.06E+00	2.10E+00	2.14E+00	2.18E+00	2.22E+00	2.29E+00	2.33E+00
bi214	8.09E+00	8.21E+00	8.32E+00	8.42E+00	8.53E+00	8.63E+00	8.73E+00	8.82E+00	8.92E+00	9.09E+00	9.18E+00
po210	8.09E+00	8.21E+00	8.32E+00	8.42E+00	8.53E+00	8.63E+00	8.73E+00	8.82E+00	8.91E+00	9.09E+00	9.18E+00
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
po211	9.31E-04	9.31E-04	9.31E-04	9.31E-04	9.31E-04	9.31E-04	9.31E-04	9.31E-04	9.31E-04	9.31E-04	9.31E-04
po212	8.72E-06	8.91E-06	9.09E-06	9.27E-06	9.46E-06	9.64E-06	9.83E-06	1.00E-05	1.02E-05	1.06E-05	1.07E-05
po213	1.86E+00	1.90E+00	1.94E+00	1.98E+00	2.02E+00	2.06E+00	2.09E+00	2.13E+00	2.17E+00	2.24E+00	2.28E+00
po214	8.09E+00	8.21E+00	8.32E+00	8.42E+00	8.53E+00	8.63E+00	8.73E+00	8.82E+00	8.91E+00	9.09E+00	9.18E+00
po215	3.39E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.39E-01	3.39E-01
po216	1.36E-05	1.39E-05	1.42E-05	1.45E-05	1.48E-05	1.51E-05	1.53E-05	1.56E-05	1.59E-05	1.65E-05	1.68E-05
po218	8.09E+00	8.21E+00	8.32E+00	8.43E+00	8.53E+00	8.63E+00	8.73E+00	8.83E+00	8.92E+00	9.09E+00	9.18E+00
at217	1.90E+00	1.94E+00	1.98E+00	2.02E+00	2.06E+00	2.10E+00	2.14E+00	2.18E+00	2.22E+00	2.29E+00	2.33E+00
rn218	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rn219	3.39E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.39E-01	3.39E-01
rn220	1.36E-05	1.39E-05	1.42E-05	1.45E-05	1.48E-05	1.51E-05	1.53E-05	1.56E-05	1.59E-05	1.65E-05	1.68E-05
rn222	8.09E+00	8.21E+00	8.32E+00	8.43E+00	8.53E+00	8.63E+00	8.73E+00	8.83E+00	8.92E+00	9.09E+00	9.18E+00
fr221	1.90E+00	1.94E+00	1.98E+00	2.02E+00	2.06E+00	2.10E+00	2.14E+00	2.18E+00	2.22E+00	2.29E+00	2.33E+00
fr223	4.67E-03	4.67E-03	4.67E-03	4.67E-03	4.67E-03	4.67E-03	4.67E-03	4.67E-03	4.67E-03	4.67E-03	4.67E-03
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	3.39E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.39E-01	3.39E-01
ra224	1.36E-05	1.39E-05	1.42E-05	1.45E-05	1.48E-05	1.51E-05	1.53E-05	1.56E-05	1.59E-05	1.65E-05	1.68E-05
ra225	1.90E+00	1.94E+00	1.98E+00	2.02E+00	2.06E+00	2.10E+00	2.14E+00	2.18E+00	2.22E+00	2.29E+00	2.33E+00
ra226	8.09E+00	8.21E+00	8.32E+00	8.43E+00	8.53E+00	8.63E+00	8.73E+00	8.83E+00	8.92E+00	9.09E+00	9.18E+00
ra228	1.29E-05	1.32E-05	1.35E-05	1.38E-05	1.41E-05	1.44E-05	1.47E-05	1.50E-05	1.53E-05	1.59E-05	1.62E-05
ac225	1.90E+00	1.94E+00	1.98E+00	2.02E+00	2.06E+00	2.10E+00	2.14E+00	2.18E+00	2.22E+00	2.29E+00	2.33E+00
ac227	3.39E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.39E-01	3.39E-01
ac228	1.29E-05	1.32E-05	1.35E-05	1.38E-05	1.41E-05	1.44E-05	1.47E-05	1.50E-05	1.53E-05	1.59E-05	1.62E-05
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	3.34E-01	3.34E-01	3.34E-01	3.34E-01	3.34E-01	3.34E-01	3.34E-01	3.34E-01	3.34E-01	3.34E-01	3.34E-01
th228	1.36E-05	1.39E-05	1.42E-05	1.45E-05	1.48E-05	1.51E-05	1.53E-05	1.56E-05	1.59E-05	1.65E-05	1.68E-05
th229	1.90E+00	1.94E+00	1.98E+00	2.02E+00	2.06E+00	2.10E+00	2.14E+00	2.18E+00	2.22E+00	2.29E+00	2.33E+00
th230	8.23E+00	8.34E+00	8.44E+00	8.55E+00	8.65E+00	8.75E+00	8.84E+00	8.93E+00	9.02E+00	9.19E+00	9.27E+00
th231	3.37E-01	3.37E-01	3.37E-01	3.38E-01	3.38E-01	3.38E-01	3.39E-01	3.39E-01	3.39E-01	3.40E-01	3.40E-01

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 125

0 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
th232	1.29E-05	1.32E-05	1.35E-05	1.38E-05	1.41E-05	1.44E-05	1.47E-05	1.50E-05	1.53E-05	1.59E-05	1.62E-05
th233	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.90E+00
pa231	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.38E-01
pa232	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pa233	6.68E+00	6.68E+00	6.67E+00	6.67E+00	6.67E+00	6.66E+00	6.66E+00	6.65E+00	6.65E+00	6.64E+00	6.64E+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	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	3.77E-03
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u231	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u232	6.74E-07	6.66E-07	6.58E-07	6.50E-07	6.43E-07	6.35E-07	6.27E-07	6.20E-07	6.12E-07	5.98E-07	5.91E-07
u233	2.13E+00	2.17E+00	2.21E+00	2.25E+00	2.29E+00	2.32E+00	2.36E+00	2.40E+00	2.44E+00	2.51E+00	2.54E+00
u234	1.43E+01	1.42E+01	1.42E+01	1.41E+01	1.40E+01	1.40E+01	1.39E+01	1.39E+01	1.38E+01	1.37E+01	1.36E+01
u235	3.37E-01	3.37E-01	3.37E-01	3.38E-01	3.38E-01	3.38E-01	3.39E-01	3.39E-01	3.39E-01	3.40E-01	3.40E-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	2.99E+00
u237	1.52E-18	1.30E-18	1.10E-18	9.35E-19	7.94E-19	6.75E-19	5.73E-19	4.87E-19	4.14E-19	2.98E-19	2.53E-19
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	2.90E+00
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	1.96E-25	2.06E-25	2.16E-25	2.25E-25	2.35E-25	2.45E-25	2.54E-25	2.64E-25	2.73E-25	2.92E-25	3.01E-25
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236	7.58E-06	7.49E-06	7.40E-06	7.31E-06	7.22E-06	7.13E-06	7.05E-06	6.96E-06	6.88E-06	6.72E-06	6.64E-06
np237	6.68E+00	6.68E+00	6.67E+00	6.67E+00	6.67E+00	6.66E+00	6.66E+00	6.65E+00	6.65E+00	6.64E+00	6.64E+00
np238	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np239	1.84E-06	1.53E-06	1.27E-06	1.05E-06	8.69E-07	7.20E-07	5.97E-07	4.94E-07	4.10E-07	2.81E-07	2.33E-07
np240m	1.96E-25	2.06E-25	2.16E-25	2.25E-25	2.35E-25	2.45E-25	2.54E-25	2.64E-25	2.73E-25	2.92E-25	3.01E-25
np240	2.36E-28	2.47E-28	2.59E-28	2.70E-28	2.82E-28	2.93E-28	3.05E-28	3.16E-28	3.28E-28	3.50E-28	3.61E-28
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	6.74E-07	6.66E-07	6.58E-07	6.50E-07	6.43E-07	6.35E-07	6.27E-07	6.20E-07	6.12E-07	5.98E-07	5.91E-07
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	2.28E+02	2.15E+02	2.03E+02	1.91E+02	1.81E+02	1.71E+02	1.61E+02	1.52E+02	1.44E+02	1.28E+02	1.21E+02
pu240	2.46E+00	1.99E+00	1.61E+00	1.31E+00	1.06E+00	8.56E-01	6.93E-01	5.61E-01	4.54E-01	2.98E-01	2.41E-01
pu241	6.38E-14	5.42E-14	4.60E-14	3.91E-14	3.32E-14	2.82E-14	2.40E-14	2.04E-14	1.73E-14	1.25E-14	1.06E-14
pu242	4.51E-05	4.50E-05	4.48E-05	4.46E-05	4.45E-05	4.43E-05	4.41E-05	4.40E-05	4.38E-05	4.35E-05	4.33E-05
pu243	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	2.11E-21	2.11E-21
pu244	1.97E-25	2.06E-25	2.16E-25	2.26E-25	2.35E-25	2.45E-25	2.54E-25	2.64E-25	2.73E-25	2.92E-25	3.01E-25
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	2.36E-12	1.50E-13	5.18E-14	4.10E-14	3.47E-14	2.95E-14	2.50E-14	2.13E-14	1.81E-14	1.31E-14	1.11E-14
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	1.84E-06	1.53E-06	1.27E-06	1.05E-06	8.69E-07	7.20E-07	5.97E-07	4.94E-07	4.10E-07	2.81E-07	2.33E-07
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

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 126

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
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	6.37E-14	5.41E-14	4.60E-14	3.90E-14	3.32E-14	2.82E-14	2.39E-14	2.03E-14	1.73E-14	1.25E-14	1.06E-14
cm246	2.72E-16	2.03E-16	1.52E-16	1.13E-16	8.43E-17	6.29E-17	4.69E-17	3.50E-17	2.61E-17	1.45E-17	1.08E-17
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	2.11E-21	2.11E-21
cm248	6.13E-22	6.11E-22	6.08E-22	6.06E-22	6.03E-22	6.01E-22	5.98E-22	5.96E-22	5.94E-22	5.89E-22	5.86E-22
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

cm250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.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	3.71E+02	3.60E+02	3.49E+02	3.38E+02	3.29E+02	3.20E+02	3.11E+02	3.03E+02	2.96E+02	2.83E+02	2.76E+02

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 127

0 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
h 3	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 6	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04
li 7	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06
be 9	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05
be 10	1.05E-04	1.05E-04	1.05E-04	1.05E-04	1.05E-04	1.05E-04	1.05E-04	1.05E-04	1.05E-04	1.04E-04	1.04E-04
c 14	1.82E-07	1.43E-07	1.12E-07	8.80E-08	6.91E-08	5.42E-08	4.26E-08	3.34E-08	2.62E-08	1.62E-08	1.27E-08
ni 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07
cu 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08
zn 68	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09
zn 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08
zn 70	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06
ga 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09
zn 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05
ge 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03
co 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 73	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02
ge 73m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ni 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 74	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03
co 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 75	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01
ni 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 128
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
zn 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01
as 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 76	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04
ni 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01
se 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 78	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	2.05E+00
cu 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 79	3.68E+00	3.66E+00	3.65E+00	3.63E+00	3.62E+00	3.60E+00	3.59E+00	3.57E+00	3.56E+00	3.53E+00	3.51E+00
se 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79	5.07E-01	5.22E-01	5.38E-01	5.53E-01	5.68E-01	5.83E-01	5.99E-01	6.14E-01	6.29E-01	6.58E-01	6.73E-01
br 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 80	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01
br 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04

cu 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 81	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
kr 81	7.62E-07	7.57E-07	7.52E-07	7.48E-07	7.43E-07	7.38E-07	7.33E-07	7.28E-07	7.24E-07	7.14E-07	7.10E-07
kr 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 129

0 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
ge 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 82	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01
br 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02
zn 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01
kr 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02
ga 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02
ge 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02
rb 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02
ge 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

se 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02
sr 87	7.15E-04	7.22E-04	7.29E-04	7.37E-04	7.44E-04	7.51E-04	7.59E-04	7.66E-04	7.73E-04	7.88E-04	7.96E-04
sr 87m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 130

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
br 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 88	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02
as 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02
y 89m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 91	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02
nb 91	6.07E-19	7.90E-20	1.03E-20	1.34E-21	1.74E-22	2.27E-23	2.95E-24	3.85E-25	5.01E-26	8.49E-28	1.10E-28
se 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 92	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02
nb 92	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07
se 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

zr 93	4.45E+02	4.45E+02	4.45E+02	4.44E+02	4.44E+02	4.43E+02	4.43E+02	4.43E+02	4.42E+02	4.41E+02	4.41E+02
nb 93	1.27E+01	1.31E+01	1.35E+01	1.39E+01	1.43E+01	1.47E+01	1.51E+01	1.55E+01	1.59E+01	1.67E+01	1.71E+01
nb 93m	4.70E-03	4.69E-03	4.69E-03	4.68E-03	4.68E-03	4.68E-03	4.67E-03	4.67E-03	4.66E-03	4.65E-03	4.65E-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 100k year cycle fission products page 131

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
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	3.18E-04	2.97E-04	2.77E-04	2.59E-04	2.42E-04	2.26E-04	2.11E-04	1.97E-04	1.84E-04	1.60E-04	1.50E-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	.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	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	2.00E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-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	5.89E+02	5.85E+02	5.81E+02	5.77E+02	5.74E+02	5.70E+02	5.66E+02	5.62E+02	5.59E+02	5.51E+02	5.48E+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	1.31E+02	1.35E+02	1.39E+02	1.43E+02	1.47E+02	1.50E+02	1.54E+02	1.58E+02	1.61E+02	1.69E+02	1.72E+02	

rb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y100	.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 fission products page 132

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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
zr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo100	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02
tc100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00
rb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru101	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02
sr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru102	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02
rh102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02
rh103m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru104	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02
rh104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd104	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01
y105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd105	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02

1
Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 133
0 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	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	4.53E+01	4.53E+01	4.53E+01	4.53E+01	4.53E+01	4.53E+01	4.53E+01	4.53E+01	4.52E+01	4.52E+01	4.52E+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	2.86E-01	2.96E-01	3.06E-01	3.15E-01	3.25E-01	3.35E-01	3.44E-01	3.54E-01	3.63E-01	3.83E-01	3.92E-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	.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	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	.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	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	.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

1
Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 134
0 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
cd110	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01
nb111	.00E+00	.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	.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	.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	.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	.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	.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	.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	.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	.00E+00
cd111	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00
cd111m	.00E+00	.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	.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	.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	.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	.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	.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	.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	.00E+00
cd112	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00
mo113	.00E+00	.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	.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	.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	.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	.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	.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	.00E+00
cd113	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01
cd113m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in113	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
in113m	.00E+00	.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	.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	.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	.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	.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	.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	.00E+00
cd114	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00
in114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn114	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04
mo115	.00E+00	.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	.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	.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	.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	.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	.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	.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	.00E+00
cd115m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in115	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00
in115m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 135

0 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
sn115	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	

tc116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.72E+00
in116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in116m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	7.57E-02
tc117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	1.99E+00
sn117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118m	.00E+00	.00E+00	.00E+00	.00E+00	.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	1.88E+00
ru119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.06E+00
sn119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.05E+00
rh121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 136

0 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
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	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+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	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03
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	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00
te123	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06
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	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+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	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03
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	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+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	5.44E+00	5.37E+00	5.29E+00	5.22E+00	5.15E+00	5.08E+00	5.01E+00	4.94E+00	4.87E+00	4.74E+00	4.67E+00

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 137

0 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
sb126	2.59E-07	2.55E-07	2.51E-07	2.48E-07	2.45E-07	2.41E-07	2.38E-07	2.35E-07	2.31E-07	2.25E-07	2.22E-07
sb126m	1.97E-09	1.94E-09	1.91E-09	1.89E-09	1.86E-09	1.83E-09	1.81E-09	1.78E-09	1.76E-09	1.71E-09	1.69E-09
te126	2.84E+00	2.92E+00	2.99E+00	3.06E+00	3.14E+00	3.21E+00	3.28E+00	3.35E+00	3.41E+00	3.55E+00	3.61E+00
xe126	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-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

in127m	.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
sn127m	.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
te127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te127m	.00E+00	.00E+00	.00E+00	.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
xe127	.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
cd128	.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
sn128	.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
sb128m	.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
i128	.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
cd129	.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
sn129	.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
sb129	.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
te129m	.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
xe129	3.36E-01	3.47E-01	3.57E-01	3.68E-01	3.79E-01	3.90E-01	4.01E-01	4.12E-01	4.23E-01	4.45E-01	4.55E-01
xe129m	.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
in130	.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
sb130	.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
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
i130	.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
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
cd131	.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
sn131	.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
te131	.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
i131	.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
xe131m	.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 fission products page 138

0 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
cd132	.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
sn132	.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
sb132m	.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
i132	.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
cs132	.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

in133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs133	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03
ba133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03
xe134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba134	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01
sn135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs135	1.05E+03	1.05E+03	1.05E+03	1.05E+03	1.05E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03
cs135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135	1.97E+01	2.03E+01	2.10E+01	2.16E+01	2.22E+01	2.29E+01	2.35E+01	2.41E+01	2.48E+01	2.60E+01	2.66E+01
ba135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe136	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00
ba136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 139

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
sb137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03
ba137m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ba138	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03
la138	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03
sb139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la139	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
ce139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce140	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
pr140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr141	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02
nd141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce142	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02
pr142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd142	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00
i143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 140

0 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
xe143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd143	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02
i144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd144	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02

i145	.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
cs145	.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
la145	.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
pr145	.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
pm145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm145	.00E+00	.00E+00	.00E+00	.00E+00	.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
cs146	.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
la146	.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
pr146	.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
pm146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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
xe147	.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
ba147	.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
ce147	.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
nd147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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
cs148	.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
la148	.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
pr148	.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
pm148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

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0 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
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	.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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ba151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu151	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01
ba152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm152	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01
eu152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd152	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01
la153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu153	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01
gd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 142

0 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
sm154	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01
eu154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd154	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00
la155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01
ce156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd156	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01
ce157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu157	.00E+00	.00E+00	.00E+00	.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	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02
pr158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu158	.00E+00	.00E+00	.00E+00	.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	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00
pr159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd159	.00E+00	.00E+00	.00E+00	.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	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01
nd160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu160	.00E+00	.00E+00	.00E+00	.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	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01
tb160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy160	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03
nd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb161	.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 fission products page 143

0

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
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	7.00E-02	7.00E-02
pm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy162	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02
sm163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
dy163	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02
sm164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy164	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03
sm165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu165	.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
tb165	.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
dy165m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ho165	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03
dy166	.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
ho166m	6.02E-12	1.90E-12	5.97E-13	1.88E-13	5.92E-14	1.87E-14	5.87E-15	1.85E-15	5.83E-16	5.78E-17	1.82E-17
er166	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04
er167	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07
yb168	.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
tm169	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07
yb169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er170	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07
tm170	.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
yb170	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09
er171	.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
yb171	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07
er172	.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
yb172	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07
total	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04

1 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 144

0 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
h 3	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 6	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 7	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
be 9	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
be 10	2.35E-06	2.35E-06	2.35E-06	2.35E-06	2.34E-06	2.34E-06	2.34E-06	2.34E-06	2.34E-06	2.33E-06	2.33E-06
c 14	8.11E-07	6.37E-07	5.00E-07	3.92E-07	3.08E-07	2.42E-07	1.90E-07	1.49E-07	1.17E-07	7.21E-08	5.66E-08
ni 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 68	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 145

0 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
zn 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 79	5.05E-02	5.03E-02	5.01E-02	4.99E-02	4.96E-02	4.94E-02	4.92E-02	4.90E-02	4.88E-02	4.84E-02	4.82E-02
se 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

as 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 81	1.58E-08	1.57E-08	1.56E-08	1.55E-08	1.54E-08	1.53E-08	1.52E-08	1.51E-08	1.50E-08	1.48E-08	1.47E-08
kr 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	.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 fission products page 146

0 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
ge 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

rb 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05
sr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 87m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 88	.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 fission products page 147

0

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	yr
br 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
kr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rb 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
as 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
se 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
br 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
kr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rb 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 89m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
as 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
se 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
br 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
kr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rb 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rb 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
se 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
br 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
kr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rb 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 91m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb 91	3.51E-18	4.56E-19	5.94E-20	7.74E-21	1.01E-21	1.31E-22	1.71E-23	2.22E-24	2.89E-25	4.90E-27	6.39E-28	
se 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
br 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
kr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rb 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
sr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
y 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
zr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
nb 92	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	
se 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	

br 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 93	1.12E+00	1.12E+00	1.12E+00	1.12E+00	1.12E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00
nb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 93m	1.12E+00	1.12E+00	1.12E+00	1.12E+00	1.12E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00
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 100k year cycle fission products page 148

0 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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 94	5.95E-05	5.56E-05	5.19E-05	4.85E-05	4.53E-05	4.23E-05	3.95E-05	3.69E-05	3.45E-05	3.01E-05	2.81E-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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc 98	1.74E-07	1.74E-07	1.74E-07	1.74E-07	1.74E-07	1.74E-07	1.74E-07	1.74E-07	1.74E-07	1.74E-07	1.74E-07
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	1.01E+01	1.00E+01	9.94E+00	9.88E+00	9.81E+00	9.75E+00	9.69E+00	9.62E+00	9.56E+00	9.44E+00	9.37E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y100	.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 fission products page 149

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

tc105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd105	.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 fission products page 150

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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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.33E-02
pd107m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+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 100k year cycle fission products page 151

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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
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	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	6.67E-14
cd113m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114m	.00E+00	.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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	1.18E-11
in115m	.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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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 152
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	yr
sn115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tc116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag116m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	
in116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in116m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	
tc117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	
sn117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
tc118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag118m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in118m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	
ru119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in119m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	
sn119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ru120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
rh120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
pd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
ag120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
cd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	
in120m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	
rh121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	

1 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 153
0 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	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	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	3.96E-16	3.96E-16	
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	1.54E-01	1.52E-01	1.50E-01	1.48E-01	1.46E-01	1.44E-01	1.42E-01	1.40E-01	1.38E-01	1.34E-01	1.33E-01	

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 154

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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	yr
sb126	2.16E-02	2.13E-02	2.10E-02	2.07E-02	2.05E-02	2.02E-02	1.99E-02	1.96E-02	1.94E-02	1.88E-02	1.86E-02	
sb126m	1.54E-01	1.52E-01	1.50E-01	1.48E-01	1.46E-01	1.44E-01	1.42E-01	1.40E-01	1.38E-01	1.34E-01	1.33E-01	

te126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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
in127m	.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
sn127m	.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
te127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te127m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe127	.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
cd128	.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
sn128	.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
sb128m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd129	.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
sn129	.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
sb129	.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
te129m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i129	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.17E-02	2.17E-02
xe129	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe129m	.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
in130	.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
sb130	.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
te130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i130	.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
xe130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd131	.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
sn131	.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
te131	.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
i131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe131m	.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 fission products page 155

0 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
cd132	.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
sn132	.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
sb132m	.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
i132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs135	1.21E+00	1.21E+00	1.21E+00	1.21E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00
cs135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 156

0 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
sb137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

te138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la138	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10
sb139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce142	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05
pr142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 157

0 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
xe143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

la144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd144	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09
i145	.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
cs145	.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
la145	.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
pr145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm145	.00E+00	.00E+00	.00E+00	.00E+00	.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
cs146	.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
la146	.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
pr146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm146	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08
xe147	.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
ba147	.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
ce147	.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
nd147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm147	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06
cs148	.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
la148	.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
pr148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	.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 fission products page 158

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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	yr
sm148	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	
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	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	
eu149	.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	
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
eu150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
eu152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	4.39E-10	4.39E-10
la153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
gd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154m	.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 fission products page 159

0 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
sm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
ce156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

eu156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb161	.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 fission products page 160

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

eu165	.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
tb165	.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
dy165m	.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
dy166	.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
ho166m	1.08E-11	3.40E-12	1.07E-12	3.38E-13	1.06E-13	3.35E-14	1.05E-14	3.32E-15	1.05E-15	1.04E-16	3.27E-17
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	.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
yb168	.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
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	.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
yb170	.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
tm171	.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
er172	.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
yb172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
total	1.39E+01	1.39E+01	1.38E+01	1.37E+01	1.37E+01	1.36E+01	1.35E+01	1.34E+01	1.34E+01	1.32E+01	1.32E+01

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 161

0 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	3.63E+02	3.66E+02	3.74E+02	3.81E+02	3.88E+02	3.95E+02	4.02E+02	4.08E+02	4.41E+02	5.35E+02	5.80E+02
tl206	5.57E-14	5.62E-14	5.74E-14	5.84E-14	5.94E-14	6.03E-14	6.12E-14	6.19E-14	6.62E-14	6.51E-14	6.22E-14
tl207	1.77E-09	1.77E-09	1.77E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.78E-09	1.79E-09	1.80E-09	1.80E-09
tl208	2.04E-14	2.07E-14	2.16E-14	2.25E-14	2.33E-14	2.42E-14	2.51E-14	2.60E-14	3.12E-14	4.88E-14	5.77E-14
tl209	1.20E-10	1.22E-10	1.26E-10	1.31E-10	1.35E-10	1.40E-10	1.44E-10	1.48E-10	1.71E-10	2.38E-10	2.46E-10
pb206	2.38E+02	2.45E+02	2.64E+02	2.83E+02	3.02E+02	3.22E+02	3.42E+02	3.63E+02	4.89E+02	9.26E+02	1.14E+03
pb207	1.15E+01	1.18E+01	1.25E+01	1.32E+01	1.38E+01	1.45E+01	1.52E+01	1.59E+01	2.00E+01	3.38E+01	4.07E+01
pb208	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.04E-01	2.06E-01	2.06E-01
pb209	5.05E-07	5.14E-07	5.33E-07	5.53E-07	5.72E-07	5.91E-07	6.09E-07	6.26E-07	7.24E-07	1.01E-06	1.04E-06
pb210	1.20E-01	1.21E-01	1.24E-01	1.26E-01	1.28E-01	1.30E-01	1.32E-01	1.34E-01	1.43E-01	1.40E-01	1.34E-01
pb211	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08	1.38E-08	1.38E-08	1.38E-08	1.38E-08	1.39E-08	1.39E-08
pb212	1.21E-11	1.23E-11	1.28E-11	1.33E-11	1.38E-11	1.44E-11	1.49E-11	1.54E-11	1.85E-11	2.90E-11	3.42E-11
pb214	2.80E-07	2.82E-07	2.88E-07	2.94E-07	2.99E-07	3.03E-07	3.07E-07	3.11E-07	3.33E-07	3.27E-07	3.12E-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	5.22E+01	5.41E+01	5.90E+01	6.41E+01	6.93E+01	7.48E+01	8.04E+01	8.61E+01	1.24E+02	2.88E+02	3.82E+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	7.39E-05	7.46E-05	7.61E-05	7.76E-05	7.89E-05	8.01E-05	8.12E-05	8.22E-05	8.79E-05	8.64E-05	8.26E-05
bi211	8.13E-10	8.13E-10	8.14E-10	8.14E-10	8.15E-10	8.15E-10	8.16E-10	8.17E-10	8.20E-10	8.25E-10	8.26E-10
bi212	1.14E-12	1.16E-12	1.21E-12	1.26E-12	1.31E-12	1.36E-12	1.41E-12	1.46E-12	1.76E-12	2.75E-12	3.24E-12
bi213	1.20E-07	1.22E-07	1.27E-07	1.32E-07	1.36E-07	1.41E-07	1.45E-07	1.49E-07	1.72E-07	2.39E-07	2.47E-07
bi214	2.08E-07	2.10E-07	2.14E-07	2.18E-07	2.22E-07	2.25E-07	2.28E-07	2.31E-07	2.47E-07	2.43E-07	2.32E-07
po210	2.04E-03	2.06E-03	2.10E-03	2.14E-03	2.18E-03	2.21E-03	2.24E-03	2.27E-03	2.43E-03	2.39E-03	2.28E-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	8.98E-15	8.99E-15	8.99E-15	9.00E-15	9.01E-15	9.01E-15	9.02E-15	9.03E-15	9.06E-15	9.12E-15	9.13E-15
po212	6.02E-23	6.12E-23	6.38E-23	6.64E-23	6.89E-23	7.15E-23	7.41E-23	7.67E-23	9.23E-23	1.44E-22	1.70E-22
po213	1.81E-16	1.84E-16	1.91E-16	1.98E-16	2.05E-16	2.11E-16	2.18E-16	2.24E-16	2.59E-16	3.60E-16	3.71E-16
po214	2.86E-14	2.88E-14	2.94E-14	3.00E-14	3.05E-14	3.10E-14	3.14E-14	3.18E-14	3.40E-14	3.34E-14	3.19E-14

po215	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.15E-14	1.16E-14	1.17E-14	1.17E-14
po216	4.66E-17	4.74E-17	4.94E-17	5.14E-17	5.34E-17	5.54E-17	5.74E-17	5.94E-17	7.14E-17	1.12E-16	1.32E-16
po218	3.30E-08	3.33E-08	3.40E-08	3.46E-08	3.52E-08	3.57E-08	3.62E-08	3.66E-08	3.92E-08	3.86E-08	3.68E-08
at217	1.45E-12	1.47E-12	1.53E-12	1.58E-12	1.64E-12	1.69E-12	1.74E-12	1.79E-12	2.07E-12	2.88E-12	2.97E-12
rn218	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rn219	2.60E-11	2.60E-11	2.60E-11	2.61E-11	2.61E-11	2.61E-11	2.61E-11	2.61E-11	2.63E-11	2.64E-11	2.64E-11
rn220	1.82E-14	1.85E-14	1.93E-14	2.01E-14	2.08E-14	2.16E-14	2.24E-14	2.32E-14	2.79E-14	4.36E-14	5.15E-14
rn222	5.97E-05	6.02E-05	6.14E-05	6.26E-05	6.36E-05	6.46E-05	6.55E-05	6.63E-05	7.09E-05	6.97E-05	6.66E-05
fr221	1.34E-08	1.36E-08	1.42E-08	1.47E-08	1.52E-08	1.57E-08	1.62E-08	1.66E-08	1.92E-08	2.67E-08	2.76E-08
fr223	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.21E-10	1.22E-10	1.23E-10	1.23E-10
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	6.61E-06	6.61E-06	6.62E-06	6.62E-06	6.63E-06	6.63E-06	6.64E-06	6.64E-06	6.67E-06	6.71E-06	6.72E-06
ra224	1.05E-10	1.07E-10	1.12E-10	1.16E-10	1.21E-10	1.25E-10	1.30E-10	1.34E-10	1.61E-10	2.53E-10	2.98E-10
ra225	5.94E-05	6.04E-05	6.27E-05	6.50E-05	6.73E-05	6.94E-05	7.16E-05	7.37E-05	8.51E-05	1.18E-04	1.22E-04
ra226	9.28E+00	9.36E+00	9.56E+00	9.74E+00	9.90E+00	1.01E+01	1.02E+01	1.03E+01	1.10E+01	1.08E+01	1.04E+01
ra228	5.93E-08	6.04E-08	6.31E-08	6.58E-08	6.85E-08	7.12E-08	7.39E-08	7.66E-08	9.28E-08	1.47E-07	1.74E-07
ac225	4.01E-05	4.08E-05	4.24E-05	4.39E-05	4.54E-05	4.69E-05	4.84E-05	4.98E-05	5.75E-05	7.99E-05	8.25E-05
ac227	4.68E-03	4.68E-03	4.68E-03	4.69E-03	4.69E-03	4.69E-03	4.70E-03	4.70E-03	4.72E-03	4.75E-03	4.76E-03
ac228	7.24E-12	7.37E-12	7.70E-12	8.03E-12	8.36E-12	8.69E-12	9.02E-12	9.35E-12	1.13E-11	1.79E-11	2.12E-11
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.10E-05	1.10E-05	1.10E-05
th228	2.05E-08	2.08E-08	2.17E-08	2.26E-08	2.34E-08	2.43E-08	2.52E-08	2.61E-08	3.14E-08	4.91E-08	5.80E-08
th229	1.18E+01	1.20E+01	1.24E+01	1.29E+01	1.33E+01	1.37E+01	1.42E+01	1.46E+01	1.68E+01	2.34E+01	2.42E+01
th230	4.50E+02	4.53E+02	4.62E+02	4.71E+02	4.78E+02	4.85E+02	4.91E+02	4.97E+02	5.21E+02	5.16E+02	4.90E+02
th231	6.40E-07	6.40E-07	6.41E-07	6.42E-07	6.43E-07	6.43E-07	6.44E-07	6.44E-07	6.46E-07	6.47E-07	6.47E-07

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 162

0 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
th232	1.48E+02	1.50E+02	1.57E+02	1.64E+02	1.70E+02	1.77E+02	1.84E+02	1.91E+02	2.31E+02	3.65E+02	4.32E+02
th233	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th234	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04
pa231	7.16E+00	7.16E+00	7.17E+00	7.17E+00	7.18E+00	7.19E+00	7.19E+00	7.20E+00	7.23E+00	7.28E+00	7.28E+00
pa232	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pa233	3.20E-04	3.19E-04	3.19E-04	3.18E-04	3.18E-04	3.17E-04	3.17E-04	3.16E-04	3.13E-04	3.03E-04	2.98E-04
pa234m	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	4.23E-09	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	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09	1.89E-09
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u231	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u232	2.67E-08	2.64E-08	2.56E-08	2.49E-08	2.41E-08	2.34E-08	2.27E-08	2.21E-08	1.84E-08	1.01E-08	7.45E-09
u233	2.64E+02	2.68E+02	2.77E+02	2.85E+02	2.94E+02	3.02E+02	3.11E+02	3.19E+02	3.63E+02	4.69E+02	5.04E+02
u234	2.19E+03	2.18E+03	2.15E+03	2.13E+03	2.11E+03	2.08E+03	2.06E+03	2.04E+03	1.91E+03	1.56E+03	1.41E+03
u235	1.57E+05	1.57E+05	1.58E+05	1.58E+05	1.58E+05	1.58E+05	1.58E+05	1.58E+05	1.59E+05	1.59E+05	1.59E+05
u236	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.62E+04	4.61E+04	4.60E+04	4.59E+04
u237	3.10E-24	2.64E-24	1.75E-24	1.17E-24	7.76E-25	5.16E-25	3.43E-25	2.28E-25	1.98E-26	5.67E-30	9.60E-32
u238	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06	8.63E+06
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	3.25E-31	3.35E-31	3.60E-31	3.84E-31	4.09E-31	4.33E-31	4.57E-31	4.80E-31	6.17E-31	1.02E-30	1.19E-30
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236	5.04E-04	4.98E-04	4.83E-04	4.68E-04	4.54E-04	4.41E-04	4.28E-04	4.15E-04	3.47E-04	1.90E-04	1.40E-04
np237	9.41E+03	9.40E+03	9.39E+03	9.37E+03	9.36E+03	9.34E+03	9.33E+03	9.31E+03	9.22E+03	8.93E+03	8.79E+03
np238	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np239	1.00E-12	8.32E-13	5.20E-13	3.25E-13	2.03E-13	1.27E-13	7.92E-14	4.95E-14	2.95E-15	2.43E-19	2.20E-21
np240m	2.77E-33	2.86E-33	3.07E-33	3.28E-33	3.49E-33	3.70E-33	3.90E-33	4.10E-33	5.27E-33	8.68E-33	1.01E-32
np240	2.85E-35	2.94E-35	3.16E-35	3.38E-35	3.59E-35	3.80E-35	4.01E-35	4.22E-35	5.42E-35	8.93E-35	1.04E-34
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pu236	1.13E-09	1.12E-09	1.08E-09	1.05E-09	1.02E-09	9.90E-10	9.60E-10	9.32E-10	7.78E-10	4.26E-10	3.15E-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	1.95E+03	1.84E+03	1.59E+03	1.38E+03	1.19E+03	1.03E+03	8.96E+02	7.76E+02	3.28E+02	1.85E+01	4.39E+00
pu240	1.06E+00	8.59E-01	5.07E-01	2.99E-01	1.76E-01	1.04E-01	6.13E-02	3.61E-02	1.52E-03	3.93E-08	2.00E-10
pu241	1.03E-16	8.71E-17	5.79E-17	3.85E-17	2.56E-17	1.70E-17	1.13E-17	7.54E-18	6.53E-19	1.87E-22	3.17E-24
pu242	1.10E-02	1.09E-02	1.08E-02	1.07E-02	1.06E-02	1.05E-02	1.04E-02	1.03E-02	9.76E-03	8.11E-03	7.39E-03
pu243	8.10E-28	8.10E-28	8.10E-28	8.10E-28	8.09E-28	8.09E-28	8.09E-28	8.09E-28	8.08E-28	8.04E-28	8.03E-28
pu244	1.65E-20	1.70E-20	1.82E-20	1.95E-20	2.07E-20	2.19E-20	2.31E-20	2.43E-20	3.13E-20	5.15E-20	6.02E-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	3.23E-15	2.74E-15	1.75E-15	1.16E-15	7.73E-16	5.14E-16	3.42E-16	2.27E-16	1.97E-17	5.95E-21	9.56E-23
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	1.17E-06	9.67E-07	6.04E-07	3.77E-07	2.36E-07	1.47E-07	9.21E-08	5.75E-08	3.42E-09	2.82E-13	2.56E-15
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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 163

0 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	6.16E-14	5.24E-14	3.48E-14	2.32E-14	1.54E-14	1.02E-14	6.81E-15	4.53E-15	3.92E-16	1.13E-19	1.91E-21
cm246	3.53E-17	2.63E-17	1.27E-17	6.08E-18	2.92E-18	1.40E-18	6.75E-19	3.25E-19	4.00E-21	1.73E-27	1.14E-30
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	2.32E-17	2.31E-17	2.31E-17
cm248	1.38E-19	1.38E-19	1.36E-19	1.35E-19	1.34E-19	1.32E-19	1.31E-19	1.30E-19	1.22E-19	9.94E-20	8.97E-20
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm250	1.16E-35	1.07E-35	8.80E-36	7.21E-36	5.91E-36	4.84E-36	3.97E-36	3.25E-36	9.84E-37	1.83E-38	2.50E-39
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	.00E+00	.00E+00	.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	8.85E+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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 164

0 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	1.21E-05	1.22E-05	1.25E-05	1.27E-05	1.29E-05	1.31E-05	1.33E-05	1.35E-05	1.44E-05	1.42E-05	1.35E-05

tl207	3.38E-01	3.38E-01	3.38E-01	3.38E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.41E-01	3.43E-01	3.43E-01
tl208	6.03E-06	6.13E-06	6.39E-06	6.65E-06	6.91E-06	7.17E-06	7.43E-06	7.69E-06	9.25E-06	1.45E-05	1.71E-05
tl209	4.89E-02	4.97E-02	5.17E-02	5.36E-02	5.54E-02	5.72E-02	5.89E-02	6.07E-02	7.01E-02	9.74E-02	1.01E-01
pb206	.00E+00	.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	.00E+00
pb208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pb209	2.33E+00	2.37E+00	2.46E+00	2.55E+00	2.64E+00	2.72E+00	2.81E+00	2.89E+00	3.34E+00	4.64E+00	4.79E+00
pb210	9.18E+00	9.26E+00	9.45E+00	9.63E+00	9.79E+00	9.94E+00	1.01E+01	1.02E+01	1.09E+01	1.07E+01	1.02E+01
pb211	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.40E-01	3.40E-01	3.40E-01	3.42E-01	3.44E-01	3.44E-01
pb212	1.68E-05	1.71E-05	1.78E-05	1.85E-05	1.92E-05	1.99E-05	2.07E-05	2.14E-05	2.57E-05	4.02E-05	4.75E-05
pb214	9.18E+00	9.26E+00	9.45E+00	9.63E+00	9.79E+00	9.94E+00	1.01E+01	1.02E+01	1.09E+01	1.07E+01	1.02E+01
bi208	.00E+00	.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	.00E+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	9.18E+00	9.26E+00	9.45E+00	9.63E+00	9.79E+00	9.94E+00	1.01E+01	1.02E+01	1.09E+01	1.07E+01	1.02E+01
bi211	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.40E-01	3.40E-01	3.40E-01	3.42E-01	3.44E-01	3.44E-01
bi212	1.68E-05	1.71E-05	1.78E-05	1.85E-05	1.92E-05	1.99E-05	2.07E-05	2.14E-05	2.57E-05	4.02E-05	4.75E-05
bi213	2.33E+00	2.37E+00	2.46E+00	2.55E+00	2.64E+00	2.72E+00	2.81E+00	2.89E+00	3.34E+00	4.64E+00	4.79E+00
bi214	9.18E+00	9.26E+00	9.45E+00	9.63E+00	9.79E+00	9.94E+00	1.01E+01	1.02E+01	1.09E+01	1.07E+01	1.02E+01
po210	9.18E+00	9.26E+00	9.45E+00	9.63E+00	9.79E+00	9.94E+00	1.01E+01	1.02E+01	1.09E+01	1.07E+01	1.02E+01
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
po211	9.31E-04	9.32E-04	9.32E-04	9.33E-04	9.34E-04	9.34E-04	9.35E-04	9.36E-04	9.40E-04	9.46E-04	9.47E-04
po212	1.07E-05	1.09E-05	1.14E-05	1.19E-05	1.23E-05	1.28E-05	1.32E-05	1.37E-05	1.65E-05	2.58E-05	3.04E-05
po213	2.28E+00	2.32E+00	2.41E+00	2.50E+00	2.58E+00	2.67E+00	2.75E+00	2.83E+00	3.27E+00	4.54E+00	4.69E+00
po214	9.18E+00	9.26E+00	9.45E+00	9.63E+00	9.79E+00	9.94E+00	1.01E+01	1.02E+01	1.09E+01	1.07E+01	1.02E+01
po215	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.40E-01	3.40E-01	3.40E-01	3.42E-01	3.44E-01	3.44E-01
po216	1.68E-05	1.71E-05	1.78E-05	1.85E-05	1.92E-05	1.99E-05	2.07E-05	2.14E-05	2.57E-05	4.02E-05	4.75E-05
po218	9.18E+00	9.26E+00	9.45E+00	9.63E+00	9.79E+00	9.94E+00	1.01E+01	1.02E+01	1.09E+01	1.07E+01	1.03E+01
at217	2.33E+00	2.37E+00	2.46E+00	2.55E+00	2.64E+00	2.72E+00	2.81E+00	2.89E+00	3.34E+00	4.64E+00	4.79E+00
rn218	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rn219	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.40E-01	3.40E-01	3.40E-01	3.42E-01	3.44E-01	3.44E-01
rn220	1.68E-05	1.71E-05	1.78E-05	1.85E-05	1.92E-05	1.99E-05	2.07E-05	2.14E-05	2.57E-05	4.02E-05	4.75E-05
rn222	9.18E+00	9.26E+00	9.45E+00	9.63E+00	9.79E+00	9.94E+00	1.01E+01	1.02E+01	1.09E+01	1.07E+01	1.03E+01
fr221	2.33E+00	2.37E+00	2.46E+00	2.55E+00	2.64E+00	2.72E+00	2.81E+00	2.89E+00	3.34E+00	4.64E+00	4.79E+00
fr223	4.67E-03	4.67E-03	4.68E-03	4.68E-03	4.68E-03	4.69E-03	4.69E-03	4.70E-03	4.72E-03	4.75E-03	4.75E-03
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.40E-01	3.40E-01	3.40E-01	3.42E-01	3.44E-01	3.44E-01
ra224	1.68E-05	1.71E-05	1.78E-05	1.85E-05	1.92E-05	1.99E-05	2.07E-05	2.14E-05	2.57E-05	4.02E-05	4.75E-05
ra225	2.33E+00	2.37E+00	2.46E+00	2.55E+00	2.64E+00	2.72E+00	2.81E+00	2.89E+00	3.34E+00	4.64E+00	4.79E+00
ra226	9.18E+00	9.26E+00	9.45E+00	9.63E+00	9.79E+00	9.94E+00	1.01E+01	1.02E+01	1.09E+01	1.07E+01	1.03E+01
ra228	1.62E-05	1.65E-05	1.72E-05	1.80E-05	1.87E-05	1.94E-05	2.02E-05	2.09E-05	2.53E-05	4.00E-05	4.74E-05
ac225	2.33E+00	2.37E+00	2.46E+00	2.55E+00	2.64E+00	2.72E+00	2.81E+00	2.89E+00	3.34E+00	4.64E+00	4.79E+00
ac227	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.40E-01	3.40E-01	3.40E-01	3.42E-01	3.44E-01	3.44E-01
ac228	1.62E-05	1.65E-05	1.72E-05	1.80E-05	1.87E-05	1.94E-05	2.02E-05	2.09E-05	2.53E-05	4.00E-05	4.74E-05
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	3.34E-01	3.34E-01	3.34E-01	3.35E-01	3.35E-01	3.35E-01	3.35E-01	3.36E-01	3.37E-01	3.39E-01	3.39E-01
th228	1.68E-05	1.71E-05	1.78E-05	1.85E-05	1.92E-05	1.99E-05	2.07E-05	2.14E-05	2.57E-05	4.02E-05	4.75E-05
th229	2.33E+00	2.37E+00	2.46E+00	2.55E+00	2.64E+00	2.72E+00	2.81E+00	2.89E+00	3.34E+00	4.64E+00	4.79E+00
th230	9.27E+00	9.35E+00	9.54E+00	9.71E+00	9.86E+00	1.00E+01	1.01E+01	1.03E+01	1.07E+01	1.06E+01	1.01E+01
th231	3.40E-01	3.40E-01	3.41E-01	3.41E-01	3.42E-01	3.42E-01	3.42E-01	3.43E-01	3.44E-01	3.44E-01	3.44E-01

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 165

0 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
th232	1.62E-05	1.65E-05	1.72E-05	1.80E-05	1.87E-05	1.94E-05	2.02E-05	2.09E-05	2.53E-05	4.00E-05	4.74E-05
th233	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.90E+00
pa231	3.38E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.40E-01	3.40E-01	3.40E-01	3.42E-01	3.44E-01	3.44E-01
pa232	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pa233	6.64E+00	6.63E+00	6.62E+00	6.61E+00	6.60E+00	6.59E+00	6.58E+00	6.57E+00	6.50E+00	6.30E+00	6.20E+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	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	3.77E-03
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u231	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u232	5.91E-07	5.84E-07	5.66E-07	5.49E-07	5.33E-07	5.17E-07	5.02E-07	4.87E-07	4.06E-07	2.22E-07	1.65E-07
u233	2.54E+00	2.58E+00	2.67E+00	2.75E+00	2.84E+00	2.92E+00	3.00E+00	3.07E+00	3.50E+00	4.52E+00	4.86E+00
u234	1.36E+01	1.36E+01	1.34E+01	1.33E+01	1.31E+01	1.30E+01	1.28E+01	1.27E+01	1.19E+01	9.68E+00	8.79E+00
u235	3.40E-01	3.40E-01	3.41E-01	3.41E-01	3.42E-01	3.42E-01	3.42E-01	3.43E-01	3.44E-01	3.44E-01	3.44E-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	2.98E+00	2.98E+00	2.97E+00
u237	2.53E-19	2.15E-19	1.43E-19	9.53E-20	6.34E-20	4.21E-20	2.80E-20	1.86E-20	1.61E-21	4.63E-25	7.84E-27
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	2.90E+00
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	3.01E-25	3.10E-25	3.33E-25	3.56E-25	3.79E-25	4.01E-25	4.23E-25	4.45E-25	5.72E-25	9.42E-25	1.10E-24
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236	6.64E-06	6.56E-06	6.36E-06	6.17E-06	5.99E-06	5.81E-06	5.64E-06	5.47E-06	4.57E-06	2.50E-06	1.85E-06
np237	6.64E+00	6.63E+00	6.62E+00	6.61E+00	6.60E+00	6.59E+00	6.58E+00	6.57E+00	6.50E+00	6.30E+00	6.20E+00
np238	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np239	2.33E-07	1.93E-07	1.21E-07	7.54E-08	4.71E-08	2.94E-08	1.84E-08	1.15E-08	6.84E-10	5.63E-14	5.11E-16
np240m	3.01E-25	3.10E-25	3.33E-25	3.56E-25	3.79E-25	4.01E-25	4.23E-25	4.45E-25	5.72E-25	9.42E-25	1.10E-24
np240	3.61E-28	3.72E-28	4.00E-28	4.27E-28	4.55E-28	4.81E-28	5.08E-28	5.34E-28	6.86E-28	1.13E-27	1.32E-27
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	5.91E-07	5.84E-07	5.66E-07	5.49E-07	5.33E-07	5.17E-07	5.02E-07	4.87E-07	4.06E-07	2.22E-07	1.65E-07
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	1.21E+02	1.14E+02	9.88E+01	8.56E+01	7.41E+01	6.42E+01	5.56E+01	4.82E+01	2.03E+01	1.15E+00	2.72E-01
pu240	2.41E-01	1.95E-01	1.15E-01	6.78E-02	4.00E-02	2.36E-02	1.39E-02	8.20E-03	3.45E-04	8.92E-09	4.53E-11
pu241	1.06E-14	9.01E-15	5.99E-15	3.99E-15	2.65E-15	1.76E-15	1.17E-15	7.80E-16	6.75E-17	1.94E-20	3.28E-22
pu242	4.33E-05	4.32E-05	4.28E-05	4.24E-05	4.20E-05	4.16E-05	4.12E-05	4.08E-05	3.86E-05	3.21E-05	2.92E-05
pu243	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.11E-21	2.10E-21	2.09E-21	2.09E-21
pu244	3.01E-25	3.11E-25	3.34E-25	3.57E-25	3.79E-25	4.02E-25	4.24E-25	4.46E-25	5.73E-25	9.43E-25	1.10E-24
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	1.11E-14	9.40E-15	6.00E-15	3.99E-15	2.65E-15	1.76E-15	1.17E-15	7.80E-16	6.75E-17	2.04E-20	3.28E-22
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	2.33E-07	1.93E-07	1.21E-07	7.54E-08	4.71E-08	2.94E-08	1.84E-08	1.15E-08	6.84E-10	5.63E-14	5.11E-16
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 100k year cycle actinides page 166

0 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
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	1.06E-14	8.99E-15	5.98E-15	3.98E-15	2.65E-15	1.76E-15	1.17E-15	7.79E-16	6.74E-17	1.93E-20	3.27E-22
cm246	1.08E-17	8.09E-18	3.89E-18	1.87E-18	8.98E-19	4.32E-19	2.08E-19	9.97E-20	1.23E-21	5.33E-28	3.42E-31
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	2.10E-21	2.09E-21	2.09E-21
cm248	5.86E-22	5.84E-22	5.78E-22	5.72E-22	5.66E-22	5.61E-22	5.55E-22	5.49E-22	5.17E-22	4.21E-22	3.81E-22
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

cm250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.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	2.76E+02	2.71E+02	2.58E+02	2.47E+02	2.38E+02	2.30E+02	2.23E+02	2.18E+02	2.00E+02	1.88E+02	1.82E+02

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

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nuclide concentrations, grams fission products page 167

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
h 3	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 6	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04
li 7	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06	8.41E-06
be 9	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.62E-05
be 10	1.04E-04	1.04E-04	1.04E-04	1.04E-04	1.03E-04	1.03E-04	1.03E-04	1.03E-04	1.01E-04	9.72E-05	9.51E-05
c 14	1.27E-08	9.97E-09	5.44E-09	2.97E-09	1.62E-09	8.87E-10	4.84E-10	2.64E-10	7.01E-12	3.90E-17	9.20E-20
ni 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07	3.03E-07
cu 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08	4.98E-08
zn 68	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09	2.95E-09
zn 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08	9.59E-08
zn 70	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06	2.40E-06
ga 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09	2.53E-09
zn 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05	2.90E-05
ge 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03
co 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 73	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02	1.07E-02
ge 73m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ni 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 74	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 74	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03	9.24E-03
co 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 75	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01
ni 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 168

0

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
zn 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01
as 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 76	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04
ni 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01	7.55E-01
se 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 78	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	2.05E+00
cu 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 79	3.51E+00	3.50E+00	3.46E+00	3.43E+00	3.39E+00	3.35E+00	3.32E+00	3.28E+00	3.08E+00	2.50E+00	2.25E+00
se 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79	6.73E-01	6.88E-01	7.24E-01	7.61E-01	7.96E-01	8.32E-01	8.67E-01	9.02E-01	1.10E+00	1.69E+00	1.94E+00
br 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 80	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.23E+01
br 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04	3.99E-04

cu 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 81	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
kr 81	7.10E-07	7.05E-07	6.94E-07	6.82E-07	6.71E-07	6.61E-07	6.50E-07	6.39E-07	5.80E-07	4.19E-07	3.56E-07
kr 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 169

0 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
ge 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 82	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01	3.13E+01
br 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02	3.52E-02
zn 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01	5.03E+01
kr 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02	1.06E+02
ga 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02
ge 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02	1.94E+02
rb 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02	1.28E-02
ge 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

se 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02	2.54E+02
sr 87	7.96E-04	8.03E-04	8.21E-04	8.40E-04	8.58E-04	8.76E-04	8.95E-04	9.13E-04	1.02E-03	1.39E-03	1.57E-03
sr 87m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 88	.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 fission products page 170

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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
br 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 88	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02
as 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02	4.96E+02
y 89m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02	6.06E+02
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 91	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02	6.22E+02
nb 91	1.10E-28	1.44E-29	8.80E-32	5.38E-34	3.29E-36	2.01E-38	1.23E-40	7.65E-43	.00E+00	.00E+00	.00E+00
se 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 92	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02	6.37E+02
nb 92	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.95E-07	3.94E-07	3.94E-07
se 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

zr 93	4.41E+02	4.41E+02	4.40E+02	4.39E+02	4.38E+02	4.37E+02	4.36E+02	4.35E+02	4.29E+02	4.10E+02	4.01E+02
nb 93	1.71E+01	1.75E+01	1.85E+01	1.95E+01	2.05E+01	2.15E+01	2.25E+01	2.34E+01	2.93E+01	4.83E+01	5.75E+01
nb 93m	4.65E-03	4.65E-03	4.64E-03	4.62E-03	4.61E-03	4.60E-03	4.59E-03	4.58E-03	4.52E-03	4.32E-03	4.22E-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 100k year cycle

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fission products page 171

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
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	1.50E-04	1.40E-04	1.18E-04	9.95E-05	8.39E-05	7.07E-05	5.96E-05	5.02E-05	1.80E-05	5.93E-07	1.08E-07
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	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	2.00E-04	2.00E-04	2.00E-04	1.99E-04	1.99E-04	1.99E-04	1.99E-04	1.99E-04	1.98E-04	1.95E-04	1.93E-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	5.48E+02	5.44E+02	5.35E+02	5.27E+02	5.18E+02	5.10E+02	5.01E+02	4.93E+02	4.47E+02	3.22E+02	2.73E+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	1.72E+02	1.76E+02	1.85E+02	1.94E+02	2.02E+02	2.11E+02	2.19E+02	2.27E+02	2.73E+02	3.98E+02	4.47E+02

rb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y100	.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 fission products page 172

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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
zr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo100	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02	7.55E+02
tc100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00	5.50E+00
rb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru101	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02	6.24E+02
sr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru102	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02	5.39E+02
rh102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02	3.99E+02
rh103m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru104	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02
rh104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd104	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01	1.58E+01
y105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd105	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02	1.64E+02

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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 173
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	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	4.52E+01	4.52E+01	4.52E+01	4.52E+01	4.51E+01	4.51E+01	4.51E+01	4.51E+01	4.49E+01	4.44E+01	4.42E+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	3.92E-01	4.02E-01	4.26E-01	4.50E-01	4.74E-01	4.98E-01	5.22E-01	5.46E-01	6.90E-01	1.17E+00	1.40E+00
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	.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	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	.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	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	.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

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 174
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
cd110	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01	5.61E-01
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	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+00	5.01E+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	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+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	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01	1.96E-01
cd113m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in113	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
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	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00	4.91E+00
in114	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn114	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in115	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00
in115m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 175

0 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
sn115	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02

tc116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.72E+00
in116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in116m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	7.57E-02
tc117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	1.99E+00
sn117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118m	.00E+00	.00E+00	.00E+00	.00E+00	.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	1.88E+00
ru119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.06E+00
sn119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120m	.00E+00	.00E+00	.00E+00	.00E+00	.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	2.05E+00
rh121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 176

0 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
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	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00	2.22E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+00	2.63E+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	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03	3.56E-03
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	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00	2.68E+00
te123	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06
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	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+00	4.46E+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	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03	5.36E-03
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	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+00	5.20E+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	4.67E+00	4.61E+00	4.45E+00	4.30E+00	4.15E+00	4.01E+00	3.87E+00	3.74E+00	3.04E+00	1.52E+00	1.07E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 177

0

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	2.22E-07	2.19E-07	2.11E-07	2.04E-07	1.97E-07	1.91E-07	1.84E-07	1.78E-07	1.44E-07	7.22E-08	5.11E-08
sb126m	1.69E-09	1.66E-09	1.61E-09	1.55E-09	1.50E-09	1.45E-09	1.40E-09	1.35E-09	1.10E-09	5.49E-10	3.88E-10
te126	3.61E+00	3.68E+00	3.83E+00	3.98E+00	4.13E+00	4.27E+00	4.41E+00	4.54E+00	5.24E+00	6.76E+00	7.21E+00
xe126	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-10	8.47E-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

in127m	.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
sn127m	.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
te127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te127m	.00E+00	.00E+00	.00E+00	.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
xe127	.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
cd128	.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
sn128	.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
sb128m	.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
i128	.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
cd129	.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
sn129	.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
sb129	.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
te129m	.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
xe129	4.55E-01	4.66E-01	4.93E-01	5.21E-01	5.48E-01	5.75E-01	6.02E-01	6.29E-01	7.92E-01	1.33E+00	1.60E+00
xe129m	.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
in130	.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
sb130	.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
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
i130	.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
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
cd131	.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
sn131	.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
te131	.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
i131	.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
xe131m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 178

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
cd132	.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
sn132	.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
sb132m	.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
i132	.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
cs132	.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

in133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs133	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03	1.06E+03
ba133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03	1.26E+03
xe134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba134	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.07E+01
sn135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs135	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.03E+03	1.03E+03	1.03E+03	1.02E+03	9.92E+02	9.77E+02
cs135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135	2.66E+01	2.73E+01	2.88E+01	3.04E+01	3.20E+01	3.35E+01	3.51E+01	3.66E+01	4.59E+01	7.63E+01	9.11E+01
ba135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe136	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03	1.03E+03
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00	4.03E+00
ba136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 179

0 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
sb137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03	1.04E+03
ba137m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ba138	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03	1.10E+03
la138	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03	5.84E-03
sb139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la139	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
ce139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce140	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
pr140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr141	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02	9.73E+02
nd141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce142	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02	9.88E+02
pr142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd142	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00	1.90E+00
i143	.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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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
xe143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd143	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02	9.53E+02
i144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd144	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02	9.70E+02

i145	.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
cs145	.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
la145	.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
pr145	.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
pm145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm145	.00E+00	.00E+00	.00E+00	.00E+00	.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
cs146	.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
la146	.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
pr146	.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
pm146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	8.36E-04	8.36E-04	8.36E-04
xe147	.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
ba147	.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
ce147	.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
nd147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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
cs148	.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
la148	.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
pr148	.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
pm148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 181

0 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
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	.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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ba151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu151	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01	3.76E+01
ba152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm152	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01	7.57E+01
eu152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd152	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01	2.01E+01
la153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu153	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01	3.65E+01
gd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 182

0 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
sm154	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01	1.64E+01
eu154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd154	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00	2.15E+00
la155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01	6.66E-01
ce156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd156	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01
ce157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu157	.00E+00	.00E+00	.00E+00	.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	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02	5.42E-02
pr158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu158	.00E+00	.00E+00	.00E+00	.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	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00	3.07E+00
pr159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd159	.00E+00	.00E+00	.00E+00	.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	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01	4.41E-01
nd160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu160	.00E+00	.00E+00	.00E+00	.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	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01	1.79E-01
tb160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy160	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03
nd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 183

0 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
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	7.00E-02	7.00E-02
pm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy162	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02	3.62E-02
sm163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
dy163	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02	1.35E-02
sm164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy164	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03	3.85E-03
sm165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu165	.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
tb165	.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
dy165m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

ho165	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03	2.94E-03
dy166	.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
ho166m	1.82E-17	5.73E-18	3.19E-19	1.78E-20	9.90E-22	5.51E-23	3.07E-24	1.71E-25	5.08E-33	.00E+00	.00E+00
er166	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04
er167	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06	1.25E-06
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07	3.38E-07
yb168	.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
tm169	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07	4.80E-07
yb169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er170	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07	5.06E-07
tm170	.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
yb170	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09	2.88E-09
er171	.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
yb171	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07	7.02E-07
er172	.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
yb172	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07	4.57E-07
total	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04	2.78E+04

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 184

0

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
h 3	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 6	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 7	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
be 9	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
be 10	2.33E-06	2.33E-06	2.32E-06	2.32E-06	2.31E-06	2.31E-06	2.30E-06	2.30E-06	2.27E-06	2.17E-06	2.13E-06
c 14	5.66E-08	4.45E-08	2.43E-08	1.33E-08	7.24E-09	3.95E-09	2.16E-09	1.18E-09	3.13E-11	1.74E-16	4.10E-19
ni 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 68	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 71m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 73	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 185

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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
zn 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 76	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 77m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 78	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 79	4.82E-02	4.80E-02	4.75E-02	4.70E-02	4.65E-02	4.60E-02	4.55E-02	4.51E-02	4.23E-02	3.43E-02	3.09E-02
se 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

as 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 81	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 81	1.47E-08	1.46E-08	1.44E-08	1.41E-08	1.39E-08	1.37E-08	1.35E-08	1.33E-08	1.20E-08	8.68E-09	7.38E-09
kr 81m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1
0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 186

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
ge 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

rb 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05	2.18E-05
sr 87	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 87m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 187

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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
br 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 88	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 91	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 91	6.39E-28	8.31E-29	5.02E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 92	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 92	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.39E-11	4.38E-11	4.37E-11
se 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

br 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 93	1.11E+00	1.11E+00	1.11E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.09E+00	1.08E+00	1.03E+00	1.01E+00
nb 93	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 93m	1.11E+00	1.11E+00	1.11E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.09E+00	1.08E+00	1.03E+00	1.01E+00
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 100k year cycle fission products page 188

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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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 94	2.81E-05	2.62E-05	2.21E-05	1.86E-05	1.57E-05	1.32E-05	1.12E-05	9.42E-06	3.38E-06	1.11E-07	2.02E-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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc 98	1.74E-07	1.74E-07	1.73E-07	1.73E-07	1.73E-07	1.73E-07	1.73E-07	1.73E-07	1.72E-07	1.69E-07	1.68E-07
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	9.37E+00	9.31E+00	9.16E+00	9.01E+00	8.86E+00	8.72E+00	8.58E+00	8.44E+00	7.65E+00	5.51E+00	4.67E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y100	.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 fission products page 189

0 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
zr100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru101	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd104	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo105	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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

0 fission products page 190

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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	2.33E-02	2.33E-02	2.32E-02	2.32E-02	2.32E-02	2.32E-02	2.32E-02	2.32E-02	2.31E-02	2.29E-02	2.27E-02
pd107m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 191

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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
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	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	6.67E-14
cd113m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114m	.00E+00	.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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	1.18E-11
in115m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 192

0 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
sn115	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
in116	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in116m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
tc117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
sn117m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
ru119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
sn119m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120m	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
rh121	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 193

0 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
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	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	3.96E-16	3.96E-16
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	1.33E-01	1.31E-01	1.26E-01	1.22E-01	1.18E-01	1.14E-01	1.10E-01	1.06E-01	8.63E-02	4.31E-02	3.05E-02

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 194

0 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
sb126	1.86E-02	1.83E-02	1.77E-02	1.71E-02	1.65E-02	1.59E-02	1.54E-02	1.49E-02	1.21E-02	6.04E-03	4.27E-03
sb126m	1.33E-01	1.31E-01	1.26E-01	1.22E-01	1.18E-01	1.14E-01	1.10E-01	1.06E-01	8.63E-02	4.31E-02	3.05E-02

te126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe126	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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
in127m	.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
sn127m	.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
te127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te127m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i127	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe127	.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
cd128	.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
sn128	.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
sb128m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe128	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd129	.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
sn129	.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
sb129	.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
te129m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i129	2.17E-02	2.17E-02	2.17E-02	2.17E-02	2.17E-02	2.17E-02	2.17E-02	2.17E-02	2.17E-02	2.16E-02	2.15E-02
xe129	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe129m	.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
in130	.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
sb130	.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
te130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i130	.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
xe130	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd131	.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
sn131	.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
te131	.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
i131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe131	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe131m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 195

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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
cd132	.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
sn132	.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
sb132m	.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
i132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba133	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba134	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs135	1.20E+00	1.20E+00	1.20E+00	1.20E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.18E+00	1.14E+00	1.13E+00
cs135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 196

0 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
sb137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

te138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba138	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la138	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10	1.44E-10
sb139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr139	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr140	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd141	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce142	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05	2.37E-05
pr142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd142	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 197

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
xe143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd143	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

la144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd144	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09	1.15E-09
i145	.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
cs145	.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
la145	.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
pr145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm145	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm145	.00E+00	.00E+00	.00E+00	.00E+00	.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
cs146	.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
la146	.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
pr146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm146	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm146	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08	1.99E-08
xe147	.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
ba147	.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
ce147	.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
nd147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm147	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm147	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06	8.92E-06
cs148	.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
la148	.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
pr148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 198

0 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
sm148	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12	2.64E-12
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	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12	2.11E-12
eu149	.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
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	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00
eu150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu151	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
eu152	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	4.39E-10	4.39E-10
la153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
gd153	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 199

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
sm154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd154	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
ce156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

eu156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd156	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd157	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd158	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb159	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy160	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb161	.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 fission products page 200

0

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
dy161	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy162	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.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	.00E+00	.00E+00
dy163	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy164	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm165	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

eu165	.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
tb165	.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
dy165m	.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
dy166	.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
ho166m	3.27E-17	1.03E-17	5.73E-19	3.19E-20	1.78E-21	9.89E-23	5.51E-24	3.07E-25	.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
er167	.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
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	.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
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	.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
yb170	.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
tm171	.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
er172	.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
yb172	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
total	1.32E+01	1.31E+01	1.29E+01	1.28E+01	1.26E+01	1.24E+01	1.23E+01	1.21E+01	1.13E+01	8.88E+00	7.95E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 201

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

	initial	300000. yr	500000. yr	999999. yr
he 4	5.80E+02	6.23E+02	7.83E+02	1.10E+03
tl206	6.22E-14	5.83E-14	4.25E-14	2.38E-14
tl207	1.80E-09	1.80E-09	1.80E-09	1.80E-09
tl208	5.77E-14	6.65E-14	1.02E-13	1.89E-13
tl209	2.46E-10	2.59E-10	2.91E-10	2.68E-10
pb206	1.14E+03	1.33E+03	1.99E+03	3.02E+03
pb207	4.07E+01	4.76E+01	7.52E+01	1.44E+02
pb208	2.06E-01	2.08E-01	2.13E-01	2.37E-01
pb209	1.04E-06	1.10E-06	1.23E-06	1.13E-06
pb210	1.34E-01	1.26E-01	9.16E-02	5.14E-02
pb211	1.39E-08	1.39E-08	1.39E-08	1.39E-08
pb212	3.42E-11	3.94E-11	6.04E-11	1.12E-10
pb214	3.12E-07	2.93E-07	2.13E-07	1.20E-07
bi208	.00E+00	.00E+00	.00E+00	.00E+00
bi209	3.82E+02	4.82E+02	9.26E+02	2.05E+03
bi210m	.00E+00	.00E+00	.00E+00	.00E+00
bi210	8.26E-05	7.74E-05	5.64E-05	3.16E-05
bi211	8.26E-10	8.26E-10	8.26E-10	8.26E-10
bi212	3.24E-12	3.74E-12	5.73E-12	1.07E-11
bi213	2.47E-07	2.61E-07	2.92E-07	2.69E-07
bi214	2.32E-07	2.17E-07	1.59E-07	8.89E-08
po210	2.28E-03	2.14E-03	1.56E-03	8.74E-04
po211m	.00E+00	.00E+00	.00E+00	.00E+00
po211	9.13E-15	9.13E-15	9.13E-15	9.13E-15
po212	1.70E-22	1.97E-22	3.01E-22	5.60E-22
po213	3.71E-16	3.92E-16	4.40E-16	4.04E-16
po214	3.19E-14	2.99E-14	2.18E-14	1.22E-14

po215	1.17E-14	1.17E-14	1.17E-14	1.17E-14
po216	1.32E-16	1.52E-16	2.33E-16	4.33E-16
po218	3.68E-08	3.45E-08	2.52E-08	1.41E-08
at217	2.97E-12	3.14E-12	3.52E-12	3.24E-12
rn218	.00E+00	.00E+00	.00E+00	.00E+00
rn219	2.64E-11	2.65E-11	2.64E-11	2.64E-11
rn220	5.15E-14	5.94E-14	9.09E-14	1.69E-13
rn222	6.66E-05	6.24E-05	4.55E-05	2.55E-05
fr221	2.76E-08	2.91E-08	3.26E-08	3.00E-08
fr223	1.23E-10	1.23E-10	1.23E-10	1.23E-10
ra222	.00E+00	.00E+00	.00E+00	.00E+00
ra223	6.72E-06	6.72E-06	6.72E-06	6.71E-06
ra224	2.98E-10	3.44E-10	5.27E-10	9.80E-10
ra225	1.22E-04	1.29E-04	1.44E-04	1.33E-04
ra226	1.04E+01	9.71E+00	7.08E+00	3.97E+00
ra228	1.74E-07	2.00E-07	3.07E-07	5.72E-07
ac225	8.25E-05	8.71E-05	9.76E-05	8.98E-05
ac227	4.76E-03	4.76E-03	4.76E-03	4.75E-03
ac228	2.12E-11	2.45E-11	3.75E-11	6.98E-11
th226	.00E+00	.00E+00	.00E+00	.00E+00
th227	1.10E-05	1.10E-05	1.10E-05	1.10E-05
th228	5.80E-08	6.68E-08	1.02E-07	1.90E-07
th229	2.42E+01	2.55E+01	2.86E+01	2.63E+01
th230	4.90E+02	4.59E+02	3.38E+02	1.90E+02
th231	6.47E-07	6.47E-07	6.47E-07	6.47E-07

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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 202
nuclide concentrations, grams
basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
th232	4.32E+02	4.98E+02	7.64E+02	1.42E+03
th233	.00E+00	.00E+00	.00E+00	.00E+00
th234	1.25E-04	1.25E-04	1.25E-04	1.25E-04
pa231	7.28E+00	7.28E+00	7.28E+00	7.28E+00
pa232	.00E+00	.00E+00	.00E+00	.00E+00
pa233	2.98E-04	2.94E-04	2.75E-04	2.34E-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	7.45E-09	5.51E-09	1.65E-09	8.11E-11
u233	5.04E+02	5.30E+02	5.76E+02	5.37E+02
u234	1.41E+03	1.29E+03	9.34E+02	5.81E+02
u235	1.59E+05	1.59E+05	1.59E+05	1.59E+05
u236	4.59E+04	4.58E+04	4.56E+04	4.49E+04
u237	9.60E-32	1.63E-33	1.34E-40	.00E+00
u238	8.63E+06	8.63E+06	8.63E+06	8.63E+06
u239	.00E+00	.00E+00	.00E+00	.00E+00
u240	1.19E-30	1.34E-30	1.82E-30	2.43E-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	1.40E-04	1.04E-04	3.11E-05	1.53E-06
np237	8.79E+03	8.64E+03	8.10E+03	6.89E+03
np238	.00E+00	.00E+00	.00E+00	.00E+00
np239	2.20E-21	2.00E-23	8.91E-27	8.72E-27
np240m	1.01E-32	1.15E-32	1.56E-32	2.07E-32
np240	1.04E-34	1.18E-34	1.60E-34	2.13E-34
np241	.00E+00	.00E+00	.00E+00	.00E+00

pu236	3.15E-10	2.33E-10	6.98E-11	3.43E-12
pu237	.00E+00	.00E+00	.00E+00	.00E+00
pu238	.00E+00	.00E+00	.00E+00	.00E+00
pu239	4.39E+00	1.04E+00	3.31E-03	1.89E-09
pu240	2.00E-10	1.02E-12	6.86E-22	9.91E-24
pu241	3.17E-24	5.37E-26	4.42E-33	.00E+00
pu242	7.39E-03	6.74E-03	4.65E-03	1.84E-03
pu243	8.03E-28	8.01E-28	7.94E-28	7.77E-28
pu244	6.02E-20	6.80E-20	9.23E-20	1.23E-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	9.56E-23	1.62E-24	1.40E-31	.00E+00
am242m	.00E+00	.00E+00	.00E+00	.00E+00
am242	.00E+00	.00E+00	.00E+00	.00E+00
am243	2.56E-15	2.32E-17	1.04E-20	1.01E-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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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 203

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

	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	1.91E-21	3.23E-23	2.66E-30	.00E+00
cm246	1.14E-30	7.51E-34	.00E+00	.00E+00
cm247	2.31E-17	2.30E-17	2.28E-17	2.23E-17
cm248	8.97E-20	8.10E-20	5.39E-20	1.94E-20
cm249	.00E+00	.00E+00	.00E+00	.00E+00
cm250	2.50E-39	3.41E-40	.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	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 204

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

	initial	300000. yr	500000. yr	999999. yr
he 4	.00E+00	.00E+00	.00E+00	.00E+00
tl206	1.35E-05	1.27E-05	9.24E-06	5.18E-06

tl207	3.43E-01	3.43E-01	3.43E-01	3.43E-01
tl208	1.71E-05	1.97E-05	3.01E-05	5.61E-05
tl209	1.01E-01	1.06E-01	1.19E-01	1.09E-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	4.79E+00	5.06E+00	5.67E+00	5.21E+00
pb210	1.02E+01	9.60E+00	7.00E+00	3.93E+00
pb211	3.44E-01	3.44E-01	3.44E-01	3.44E-01
pb212	4.75E-05	5.48E-05	8.39E-05	1.56E-04
pb214	1.02E+01	9.60E+00	7.00E+00	3.93E+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	1.02E+01	9.60E+00	7.00E+00	3.93E+00
bi211	3.44E-01	3.44E-01	3.44E-01	3.44E-01
bi212	4.75E-05	5.48E-05	8.39E-05	1.56E-04
bi213	4.79E+00	5.06E+00	5.67E+00	5.21E+00
bi214	1.02E+01	9.60E+00	7.00E+00	3.93E+00
po210	1.02E+01	9.60E+00	7.00E+00	3.93E+00
po211m	.00E+00	.00E+00	.00E+00	.00E+00
po211	9.47E-04	9.47E-04	9.47E-04	9.46E-04
po212	3.04E-05	3.51E-05	5.38E-05	1.00E-04
po213	4.69E+00	4.95E+00	5.55E+00	5.10E+00
po214	1.02E+01	9.60E+00	7.00E+00	3.93E+00
po215	3.44E-01	3.44E-01	3.44E-01	3.44E-01
po216	4.75E-05	5.48E-05	8.39E-05	1.56E-04
po218	1.03E+01	9.60E+00	7.00E+00	3.93E+00
at217	4.79E+00	5.06E+00	5.67E+00	5.21E+00
rn218	.00E+00	.00E+00	.00E+00	.00E+00
rn219	3.44E-01	3.44E-01	3.44E-01	3.44E-01
rn220	4.75E-05	5.48E-05	8.39E-05	1.56E-04
rn222	1.03E+01	9.60E+00	7.00E+00	3.93E+00
fr221	4.79E+00	5.06E+00	5.67E+00	5.21E+00
fr223	4.75E-03	4.75E-03	4.75E-03	4.75E-03
ra222	.00E+00	.00E+00	.00E+00	.00E+00
ra223	3.44E-01	3.44E-01	3.44E-01	3.44E-01
ra224	4.75E-05	5.48E-05	8.39E-05	1.56E-04
ra225	4.79E+00	5.06E+00	5.67E+00	5.21E+00
ra226	1.03E+01	9.60E+00	7.00E+00	3.93E+00
ra228	4.74E-05	5.47E-05	8.39E-05	1.56E-04
ac225	4.79E+00	5.06E+00	5.67E+00	5.21E+00
ac227	3.44E-01	3.44E-01	3.44E-01	3.44E-01
ac228	4.74E-05	5.47E-05	8.39E-05	1.56E-04
th226	.00E+00	.00E+00	.00E+00	.00E+00
th227	3.39E-01	3.40E-01	3.39E-01	3.39E-01
th228	4.75E-05	5.48E-05	8.39E-05	1.56E-04
th229	4.79E+00	5.06E+00	5.67E+00	5.21E+00
th230	1.01E+01	9.46E+00	6.97E+00	3.93E+00
th231	3.44E-01	3.44E-01	3.44E-01	3.44E-01

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 205

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

	initial300000. yr	500000. yr	999999. yr	
th232	4.74E-05	5.47E-05	8.39E-05	1.56E-04
th233	.00E+00	.00E+00	.00E+00	.00E+00
th234	2.90E+00	2.90E+00	2.90E+00	2.90E+00
pa231	3.44E-01	3.44E-01	3.44E-01	3.44E-01
pa232	.00E+00	.00E+00	.00E+00	.00E+00

pa233	6.20E+00	6.10E+00	5.71E+00	4.86E+00
pa234m	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
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	1.65E-07	1.22E-07	3.65E-08	1.79E-09
u233	4.86E+00	5.11E+00	5.55E+00	5.18E+00
u234	8.79E+00	8.02E+00	5.81E+00	3.61E+00
u235	3.44E-01	3.44E-01	3.44E-01	3.44E-01
u236	2.97E+00	2.97E+00	2.95E+00	2.91E+00
u237	7.84E-27	1.33E-28	.00E+00	.00E+00
u238	2.90E+00	2.90E+00	2.90E+00	2.90E+00
u239	.00E+00	.00E+00	.00E+00	.00E+00
u240	1.10E-24	1.24E-24	1.69E-24	2.25E-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	1.85E-06	1.37E-06	4.10E-07	2.01E-08
np237	6.20E+00	6.10E+00	5.71E+00	4.86E+00
np238	.00E+00	.00E+00	.00E+00	.00E+00
np239	5.11E-16	4.64E-18	2.07E-21	2.02E-21
np240m	1.10E-24	1.24E-24	1.69E-24	2.25E-24
np240	1.32E-27	1.49E-27	2.03E-27	2.70E-27
np241	.00E+00	.00E+00	.00E+00	.00E+00
pu236	1.65E-07	1.22E-07	3.65E-08	1.79E-09
pu237	.00E+00	.00E+00	.00E+00	.00E+00
pu238	.00E+00	.00E+00	.00E+00	.00E+00
pu239	2.72E-01	6.47E-02	2.06E-04	1.17E-10
pu240	4.53E-11	2.31E-13	1.56E-22	2.25E-24
pu241	3.28E-22	5.55E-24	4.56E-31	.00E+00
pu242	2.92E-05	2.66E-05	1.84E-05	7.27E-06
pu243	2.09E-21	2.08E-21	2.07E-21	2.02E-21
pu244	1.10E-24	1.25E-24	1.69E-24	2.25E-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	3.28E-22	5.55E-24	4.79E-31	.00E+00
am242m	.00E+00	.00E+00	.00E+00	.00E+00
am242	.00E+00	.00E+00	.00E+00	.00E+00
am243	5.11E-16	4.64E-18	2.07E-21	2.02E-21
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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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle actinides page 206

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

	initial300000. 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	3.27E-22	5.55E-24	4.56E-31	.00E+00
cm246	3.42E-31	.00E+00	.00E+00	.00E+00
cm247	2.09E-21	2.08E-21	2.07E-21	2.02E-21
cm248	3.81E-22	3.44E-22	2.29E-22	8.25E-23
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	1.82E+02	1.77E+02	1.54E+02	1.15E+02

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 207

0 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	3.17E-04	3.17E-04	3.17E-04	3.17E-04
li 7	8.41E-06	8.41E-06	8.41E-06	8.41E-06
be 9	1.62E-05	1.62E-05	1.62E-05	1.62E-05
be 10	9.51E-05	9.31E-05	8.53E-05	6.87E-05
c 14	9.20E-20	2.17E-22	6.71E-33	.00E+00
ni 66	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	3.03E-07	3.03E-07	3.03E-07	3.03E-07
cu 67	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	4.98E-08	4.98E-08	4.98E-08	4.98E-08
zn 68	2.95E-09	2.95E-09	2.95E-09	2.95E-09
zn 69	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	9.59E-08	9.59E-08	9.59E-08	9.59E-08
zn 70	2.40E-06	2.40E-06	2.40E-06	2.40E-06
ga 70	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	2.53E-09	2.53E-09	2.53E-09	2.53E-09
zn 71	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	2.90E-05	2.90E-05	2.90E-05	2.90E-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	2.66E-03	2.66E-03	2.66E-03	2.66E-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	1.07E-02	1.07E-02	1.07E-02	1.07E-02
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	9.24E-03	9.24E-03	9.24E-03	9.24E-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	1.04E-01	1.04E-01	1.04E-01	1.04E-01
ni 76	.00E+00	.00E+00	.00E+00	.00E+00
cu 76	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 208

0 nuclide concentrations, grams
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	3.39E-01	3.39E-01	3.39E-01	3.39E-01
as 76	.00E+00	.00E+00	.00E+00	.00E+00
se 76	1.09E-04	1.09E-04	1.09E-04	1.09E-04
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	7.55E-01	7.55E-01	7.55E-01	7.55E-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	2.05E+00	2.05E+00	2.05E+00	2.05E+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	2.25E+00	2.03E+00	1.33E+00	4.65E-01
se 79m	.00E+00	.00E+00	.00E+00	.00E+00
br 79	1.94E+00	2.16E+00	2.86E+00	3.72E+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	1.23E+01	1.23E+01	1.23E+01	1.23E+01
br 80	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	3.99E-04	3.99E-04	3.99E-04	3.99E-04

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	1.84E+01	1.84E+01	1.84E+01	1.84E+01
kr 81	3.56E-07	3.02E-07	1.58E-07	3.10E-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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 209

0 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	3.13E+01	3.13E+01	3.13E+01	3.13E+01
br 82	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	3.52E-02	3.52E-02	3.52E-02	3.52E-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	5.03E+01	5.03E+01	5.03E+01	5.03E+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	1.06E+02	1.06E+02	1.06E+02	1.06E+02
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	1.20E+02	1.20E+02	1.20E+02	1.20E+02
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	1.94E+02	1.94E+02	1.94E+02	1.94E+02
rb 86	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	1.28E-02	1.28E-02	1.28E-02	1.28E-02
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	2.54E+02	2.54E+02	2.54E+02	2.54E+02
sr 87	1.57E-03	1.76E-03	2.49E-03	4.33E-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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 210

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

	initial300000. yr	500000. yr	999999. yr	
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	3.67E+02	3.67E+02	3.67E+02	3.67E+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	4.96E+02	4.96E+02	4.96E+02	4.96E+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	6.06E+02	6.06E+02	6.06E+02	6.06E+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	6.22E+02	6.22E+02	6.22E+02	6.22E+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	6.37E+02	6.37E+02	6.37E+02	6.37E+02
nb 92	3.94E-07	3.93E-07	3.92E-07	3.88E-07
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	4.01E+02	3.92E+02	3.58E+02	2.85E+02
nb 93	5.75E+01	6.65E+01	1.00E+02	1.73E+02
nb 93m	4.22E-03	4.13E-03	3.77E-03	3.01E-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 100k year cycle fission products page 211

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

	initial	300000. yr	500000. yr	999999. yr
sr 94	.00E+00	.00E+00	.00E+00	.00E+00
y 94	.00E+00	.00E+00	.00E+00	.00E+00
zr 94	7.10E+02	7.10E+02	7.10E+02	7.10E+02
nb 94	1.08E-07	1.95E-08	2.11E-11	8.10E-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	7.23E+02	7.23E+02	7.23E+02	7.23E+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	7.13E+02	7.13E+02	7.13E+02	7.13E+02
nb 96	.00E+00	.00E+00	.00E+00	.00E+00
mo 96	3.07E+00	3.07E+00	3.07E+00	3.07E+00
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	6.53E+02	6.53E+02	6.53E+02	6.53E+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	6.81E+02	6.81E+02	6.81E+02	6.81E+02
tc 98	1.93E-04	1.91E-04	1.85E-04	1.70E-04
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	2.73E+02	2.32E+02	1.20E+02	2.33E+01
tc 99m	.00E+00	.00E+00	.00E+00	.00E+00
ru 99	4.47E+02	4.88E+02	6.00E+02	6.97E+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

1

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

0 nuclide concentrations, grams fission products page 212

basis =per critical mass 10.1 MT UO2

	initial300000. 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	7.55E+02	7.55E+02	7.55E+02	7.55E+02
tc100	.00E+00	.00E+00	.00E+00	.00E+00
ru100	5.50E+00	5.50E+00	5.50E+00	5.50E+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	6.24E+02	6.24E+02	6.24E+02	6.24E+02
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	5.39E+02	5.39E+02	5.39E+02	5.39E+02
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	3.99E+02	3.99E+02	3.99E+02	3.99E+02
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	2.69E+02	2.69E+02	2.69E+02	2.69E+02
rh104	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	.00E+00	.00E+00	.00E+00	.00E+00
pd104	1.58E+01	1.58E+01	1.58E+01	1.58E+01
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	1.64E+02	1.64E+02	1.64E+02	1.64E+02

1 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 213

0 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	8.76E+01	8.76E+01	8.76E+01	8.76E+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	4.42E+01	4.40E+01	4.30E+01	4.08E+01
pd107m	.00E+00	.00E+00	.00E+00	.00E+00
ag107	1.40E+00	1.64E+00	2.57E+00	4.80E+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	2.60E+01	2.60E+01	2.60E+01	2.60E+01
ag108	.00E+00	.00E+00	.00E+00	.00E+00
ag108m	.00E+00	.00E+00	.00E+00	.00E+00
cd108	5.25E-04	5.25E-04	5.25E-04	5.25E-04
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	1.84E+01	1.84E+01	1.84E+01	1.84E+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	8.63E+00	8.63E+00	8.63E+00	8.63E+00
ag110	.00E+00	.00E+00	.00E+00	.00E+00
ag110m	.00E+00	.00E+00	.00E+00	.00E+00

1 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 214

0 nuclide concentrations, grams

basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
cd110	5.61E-01	5.61E-01	5.61E-01	5.61E-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	5.01E+00	5.01E+00	5.01E+00	5.01E+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	3.25E+00	3.25E+00	3.25E+00	3.25E+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	1.96E-01	1.96E-01	1.96E-01	1.96E-01
cd113m	.00E+00	.00E+00	.00E+00	.00E+00
in113	4.50E-02	4.50E-02	4.50E-02	4.50E-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	4.91E+00	4.91E+00	4.91E+00	4.91E+00
in114	.00E+00	.00E+00	.00E+00	.00E+00
in114m	.00E+00	.00E+00	.00E+00	.00E+00
sn114	1.10E-04	1.10E-04	1.10E-04	1.10E-04
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	1.67E+00	1.67E+00	1.67E+00	1.67E+00
in115m	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 215

0 nuclide concentrations, grams

basis =per critical mass 10.1 MT UO2

	initial	300000. yr	500000. yr	999999. yr
sn115	8.75E-02	8.75E-02	8.75E-02	8.75E-02

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	2.72E+00	2.72E+00	2.72E+00	2.72E+00
in116	.00E+00	.00E+00	.00E+00	.00E+00
in116m	.00E+00	.00E+00	.00E+00	.00E+00
sn116	7.57E-02	7.57E-02	7.57E-02	7.57E-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	1.99E+00	1.99E+00	1.99E+00	1.99E+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	1.88E+00	1.88E+00	1.88E+00	1.88E+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	2.06E+00	2.06E+00	2.06E+00	2.06E+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	2.05E+00	2.05E+00	2.05E+00	2.05E+00
rh121	.00E+00	.00E+00	.00E+00	.00E+00

1

0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 216
nuclide concentrations, grams
basis =per critical mass 10.1 MT UO2

	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	2.22E+00	2.22E+00	2.22E+00	2.22E+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	2.63E+00	2.63E+00	2.63E+00	2.63E+00
sb122	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	.00E+00	.00E+00	.00E+00	.00E+00
te122	3.56E-03	3.56E-03	3.56E-03	3.56E-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	2.68E+00	2.68E+00	2.68E+00	2.68E+00
te123	1.69E-06	1.69E-06	1.69E-06	1.69E-06
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	4.46E+00	4.46E+00	4.46E+00	4.46E+00
sb124	.00E+00	.00E+00	.00E+00	.00E+00
sb124m	.00E+00	.00E+00	.00E+00	.00E+00
te124	5.36E-03	5.36E-03	5.36E-03	5.36E-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	5.20E+00	5.20E+00	5.20E+00	5.20E+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	1.07E+00	7.60E-01	1.90E-01	5.94E-03

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 217

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

	initial	300000. yr	500000. yr	999999. yr
sb126	5.11E-08	3.61E-08	9.03E-09	2.82E-10
sb126m	3.88E-10	2.74E-10	6.86E-11	2.14E-12
te126	7.21E+00	7.52E+00	8.09E+00	8.28E+00
xe126	8.47E-10	8.47E-10	8.47E-10	8.47E-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	2.21E+01	2.21E+01	2.21E+01	2.21E+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	5.81E+01	5.81E+01	5.81E+01	5.81E+01
i128	.00E+00	.00E+00	.00E+00	.00E+00
xe128	3.17E-02	3.17E-02	3.17E-02	3.17E-02
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	1.22E+02	1.22E+02	1.21E+02	1.18E+02
xe129	1.60E+00	1.87E+00	2.94E+00	5.58E+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	2.79E+02	2.79E+02	2.79E+02	2.79E+02
i130	.00E+00	.00E+00	.00E+00	.00E+00
i130m	.00E+00	.00E+00	.00E+00	.00E+00
xe130	5.45E-01	5.45E-01	5.45E-01	5.45E-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	4.50E+02	4.50E+02	4.50E+02	4.50E+02
xe131m	.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 page 218

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

	initial300000. 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	7.09E+02	7.09E+02	7.09E+02	7.09E+02
cs132	.00E+00	.00E+00	.00E+00	.00E+00
ba132	4.87E-06	4.87E-06	4.87E-06	4.87E-06

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	1.06E+03	1.06E+03	1.06E+03	1.06E+03
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	1.26E+03	1.26E+03	1.26E+03	1.26E+03
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	1.07E+01	1.07E+01	1.07E+01	1.07E+01
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	9.77E+02	9.62E+02	9.06E+02	7.79E+02
cs135m	.00E+00	.00E+00	.00E+00	.00E+00
ba135	9.11E+01	1.06E+02	1.62E+02	2.89E+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	1.03E+03	1.03E+03	1.03E+03	1.03E+03
cs136	.00E+00	.00E+00	.00E+00	.00E+00
ba136	4.03E+00	4.03E+00	4.03E+00	4.03E+00
ba136m	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 219

0 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	1.04E+03	1.04E+03	1.04E+03	1.04E+03
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	1.10E+03	1.10E+03	1.10E+03	1.10E+03
la138	5.84E-03	5.84E-03	5.84E-03	5.84E-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	1.05E+03	1.05E+03	1.05E+03	1.05E+03
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	1.05E+03	1.05E+03	1.05E+03	1.05E+03
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	9.73E+02	9.73E+02	9.73E+02	9.73E+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	9.88E+02	9.88E+02	9.88E+02	9.88E+02
pr142	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00
nd142	1.90E+00	1.90E+00	1.90E+00	1.90E+00
i143	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 220

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

	initial300000. 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	9.53E+02	9.53E+02	9.53E+02	9.53E+02
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	9.70E+02	9.70E+02	9.70E+02	9.70E+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	6.66E+02	6.66E+02	6.66E+02	6.66E+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	5.25E+02	5.25E+02	5.25E+02	5.25E+02
pm146	.00E+00	.00E+00	.00E+00	.00E+00
sm146	8.36E-04	8.35E-04	8.34E-04	8.31E-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	3.89E+02	3.89E+02	3.89E+02	3.89E+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	2.98E+02	2.98E+02	2.98E+02	2.98E+02
pm148	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 221

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

	initial	300000. yr	500000. yr	999999. yr
sm148	8.64E+00	8.64E+00	8.64E+00	8.64E+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	8.79E+00	8.79E+00	8.79E+00	8.79E+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	1.23E+02	1.23E+02	1.23E+02	1.23E+02
pm150	.00E+00	.00E+00	.00E+00	.00E+00
sm150	1.85E+02	1.85E+02	1.85E+02	1.85E+02
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	3.76E+01	3.76E+01	3.76E+01	3.76E+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	7.57E+01	7.57E+01	7.57E+01	7.57E+01
eu152	.00E+00	.00E+00	.00E+00	.00E+00
eu152m	.00E+00	.00E+00	.00E+00	.00E+00
gd152	2.01E+01	2.01E+01	2.01E+01	2.01E+01
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	3.65E+01	3.65E+01	3.65E+01	3.65E+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 100k year cycle fission products page 222

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

	initial	300000. yr	500000. yr	999999. yr
sm154	1.64E+01	1.64E+01	1.64E+01	1.64E+01
eu154	.00E+00	.00E+00	.00E+00	.00E+00
gd154	2.15E+00	2.15E+00	2.15E+00	2.15E+00
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	6.66E-01	6.66E-01	6.66E-01	6.66E-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	1.12E+01	1.12E+01	1.12E+01	1.12E+01
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	5.42E-02	5.42E-02	5.42E-02	5.42E-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	3.07E+00	3.07E+00	3.07E+00	3.07E+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	4.41E-01	4.41E-01	4.41E-01	4.41E-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	1.79E-01	1.79E-01	1.79E-01	1.79E-01
tb160	.00E+00	.00E+00	.00E+00	.00E+00
dy160	2.30E-03	2.30E-03	2.30E-03	2.30E-03
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 100k year cycle fission products page 223

0

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

	initial	300000. yr	500000. yr	999999. yr
dy161	7.00E-02	7.00E-02	7.00E-02	7.00E-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	3.62E-02	3.62E-02	3.62E-02	3.62E-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	1.35E-02	1.35E-02	1.35E-02	1.35E-02
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	3.85E-03	3.85E-03	3.85E-03	3.85E-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

ho165	2.94E-03	2.94E-03	2.94E-03	2.94E-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	3.07E-04	3.07E-04	3.07E-04	3.07E-04
er167	1.25E-06	1.25E-06	1.25E-06	1.25E-06
er167m	.00E+00	.00E+00	.00E+00	.00E+00
er168	3.38E-07	3.38E-07	3.38E-07	3.38E-07
yb168	.00E+00	.00E+00	.00E+00	.00E+00
er169	.00E+00	.00E+00	.00E+00	.00E+00
tm169	4.80E-07	4.80E-07	4.80E-07	4.80E-07
yb169	.00E+00	.00E+00	.00E+00	.00E+00
er170	5.06E-07	5.06E-07	5.06E-07	5.06E-07
tm170	.00E+00	.00E+00	.00E+00	.00E+00
tm170m	.00E+00	.00E+00	.00E+00	.00E+00
yb170	2.88E-09	2.88E-09	2.88E-09	2.88E-09
er171	.00E+00	.00E+00	.00E+00	.00E+00
tm171	.00E+00	.00E+00	.00E+00	.00E+00
yb171	7.02E-07	7.02E-07	7.02E-07	7.02E-07
er172	.00E+00	.00E+00	.00E+00	.00E+00
tm172	.00E+00	.00E+00	.00E+00	.00E+00
yb172	4.57E-07	4.57E-07	4.57E-07	4.57E-07
total	2.78E+04	2.78E+04	2.78E+04	2.78E+04

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 224

0 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	2.13E-06	2.08E-06	1.91E-06	1.54E-06
c 14	4.10E-19	9.68E-22	2.28E-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	.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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 225

0 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	3.09E-02	2.78E-02	1.83E-02	6.38E-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	7.38E-09	6.27E-09	3.27E-09	6.43E-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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 226

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

	initial300000. 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	2.18E-05	2.18E-05	2.18E-05	2.18E-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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 227

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

	initial	300000. yr	500000. yr	999999. yr
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	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00
nb 92	4.37E-11	4.37E-11	4.35E-11	4.31E-11
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	1.01E+00	9.85E-01	8.99E-01	7.17E-01
nb 93	.00E+00	.00E+00	.00E+00	.00E+00
nb 93m	1.01E+00	9.85E-01	8.99E-01	7.17E-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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 228

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

	initial300000. yr	500000. yr	999999. yr	
sr 94	.00E+00	.00E+00	.00E+00	.00E+00
y 94	.00E+00	.00E+00	.00E+00	.00E+00
zr 94	.00E+00	.00E+00	.00E+00	.00E+00
nb 94	2.02E-08	3.65E-09	3.95E-12	1.52E-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	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00
nb 96	.00E+00	.00E+00	.00E+00	.00E+00
mo 96	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00
tc 98	1.68E-07	1.66E-07	1.61E-07	1.48E-07
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	4.67E+00	3.97E+00	2.06E+00	3.98E-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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 229

0 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 100k year cycle fission products page 230

0

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

	initial300000. 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	2.27E-02	2.26E-02	2.21E-02	2.10E-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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 231

0 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	6.67E-14	6.67E-14	6.67E-14	6.67E-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	1.18E-11	1.18E-11	1.18E-11	1.18E-11
in115m	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 232

0 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

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 233

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

	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	.00E+00	.00E+00	.00E+00	.00E+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	.00E+00	.00E+00	.00E+00	.00E+00
sb122	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	.00E+00	.00E+00	.00E+00	.00E+00
te122	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00
te123	3.96E-16	3.96E-16	3.96E-16	3.96E-16
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	.00E+00	.00E+00	.00E+00	.00E+00
sb124	.00E+00	.00E+00	.00E+00	.00E+00
sb124m	.00E+00	.00E+00	.00E+00	.00E+00
te124	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+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	3.05E-02	2.16E-02	5.39E-03	1.69E-04

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Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 234

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

	initial	300000. yr	500000. yr	999999. yr
sb126	4.27E-03	3.02E-03	7.55E-04	2.36E-05
sb126m	3.05E-02	2.16E-02	5.39E-03	1.69E-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	2.15E-02	2.15E-02	2.13E-02	2.08E-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 100k year cycle fission products page 235

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

	initial300000. 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	1.13E+00	1.11E+00	1.04E+00	8.97E-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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0 Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 236
nuclide radioactivity, curies
basis =per critical mass 10.1 MT UO2

	initial300000. 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	1.44E-10	1.44E-10	1.44E-10	1.44E-10
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	2.37E-05	2.37E-05	2.37E-05	2.37E-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

1
Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 237
0 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	1.15E-09	1.15E-09	1.15E-09	1.15E-09
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	1.99E-08	1.99E-08	1.98E-08	1.98E-08
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	8.92E-06	8.92E-06	8.92E-06	8.92E-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

1

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 238

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

	initial	300000. yr	500000. yr	999999. yr
sm148	2.64E-12	2.64E-12	2.64E-12	2.64E-12
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	2.11E-12	2.11E-12	2.11E-12	2.11E-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	4.39E-10	4.39E-10	4.39E-10	4.39E-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

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 239

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

	initial300000. yr	500000. yr	999999. yr	
sm154	.00E+00	.00E+00	.00E+00	.00E+00
eu154	.00E+00	.00E+00	.00E+00	.00E+00
gd154	.00E+00	.00E+00	.00E+00	.00E+00
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	.00E+00	.00E+00	.00E+00	.00E+00
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	.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+0C
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

Part B 8% UO2 in Tuff (47% H2O) DBF Fuel 100k year cycle fission products page 240

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

initial300000. yr500000. yr999999. 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

```
      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
      ho165      .00E+00   .00E+00   .00E+00   .00E+00
      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      .00E+00   .00E+00   .00E+00   .00E+00
      er167      .00E+00   .00E+00   .00E+00   .00E+00
      er167m     .00E+00   .00E+00   .00E+00   .00E+00
      er168      .00E+00   .00E+00   .00E+00   .00E+00
      yb168      .00E+00   .00E+00   .00E+00   .00E+00
      er169      .00E+00   .00E+00   .00E+00   .00E+00
      tm169      .00E+00   .00E+00   .00E+00   .00E+00
      yb169      .00E+00   .00E+00   .00E+00   .00E+00
      er170      .00E+00   .00E+00   .00E+00   .00E+00
      tm170      .00E+00   .00E+00   .00E+00   .00E+00
      tm170m     .00E+00   .00E+00   .00E+00   .00E+00
      yb170      .00E+00   .00E+00   .00E+00   .00E+00
      er171      .00E+00   .00E+00   .00E+00   .00E+00
      tm171      .00E+00   .00E+00   .00E+00   .00E+00
      yb171      .00E+00   .00E+00   .00E+00   .00E+00
      er172      .00E+00   .00E+00   .00E+00   .00E+00
      tm172      .00E+00   .00E+00   .00E+00   .00E+00
      yb172      .00E+00   .00E+00   .00E+00   .00E+00
    total        7.95E+00  7.16E+00  4.97E+00  2.78E+00
1   * normal termination of execution *
0                                           table of contents for material tables
0                                             case or subcase printed      page

                                                        1                    1
                                                        2                   41
                                                        3                   81
                                                        4                  121
                                                        5                  161
                                                        6                  201

Ondset          33                                                                              0          0          0
          21          4          1          27          6          0          0       1698        690        130
           0          0          0           0          0          0         -1         96         18         18
         880       7935          0           5         99          3         13
          18          0         71
0    35$ array       1 entries read
0      0t
    54$$ a8 1 e
     56$$ 0 7 a5 1 a13 -1 a15 3 0 4 e    5t
0    56$ array      20 entries read
0      5t
      l90    97344
      l116   60787
      l32    33663 nudata (library) storage size
      l44    33734
      l103   75921
    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
0    60* array       7 entries read
0    65$ array      63 entries read
```

```
0    6t
     l140  66851
     used   100723 in size   150000
0jopt          12
               0             0             0             0             0             0             0             0             0             0
               0             0
0therm          4
  5.272101E-01 3.663942E-01 2.909018E+00 1.000000E-25
0non            5
            7935            20             6            18          1697
0mmn           19
               0             7             0             0             1             1             0             0             0             0
              21           100            -1             4             3             0             4             0             0
0tconst         5
  8.640000E+04  .000000E+00  .000000E+00  .000000E+00 5.000000E-02
0mzero          4
               0           689           129           879
0pow            3
  .000000E+00  .000000E+00  .000000E+00
0 linp          9
               6             0            51            26             2          3000          1000          1697             5
0 case or subcase    1  Part B 8% UO2 in Tuff (47% H2O) DBF Fuel  100k year cycle
    56$$ 0 -6 a10 1  e  t
0   56$ array     20 entries read
0   57* array      5 entries read
0    5t
     l90  102444
     l116  66199
     l32   33663 nudata (library) storage size
     l44   33734
     l103  81099
   61** f1-20
   65$$ 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
0   60* array     10 entries read
0   65$ array     63 entries read
0    6t
     l140  71957
     used   107068 in size   150000
0jopt          12
               0             0             0             0             0             0             0             0             0             0
               0             0
0therm          4
  5.272101E-01 3.663942E-01 2.909018E+00 1.000000E-25
0non            5
            7935            20             6            18          1697
0mmn           19
               0            10             0             0             1             1             0             0             0             7
              21           100             0             5             0             0             4             0             0
0tconst         5
  3.156000E+07 1.000000E+01 2.300000E+01  .000000E+00 5.000000E-02
0mzero          4
              18           689           129           879
0pow            3
  .000000E+00  .000000E+00  .000000E+00
0 linp          9
               6             0            51            26             2          3000          1000          1697             5
0 case or subcase    2  Part B 8% UO2 in Tuff (47% H2O) DBF Fuel  100k year cycle
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
0jopt            12
              0           0           0           0           0           0           0           0           0           0
              0           0
0therm            4
  5.272101E-01 3.663942E-01 2.909018E+00 1.000000E-25
0non              5
           7935          20           6          18        1697
0mmn             19
              0          10           0           0           1           1           0           0           0          10
             21         100           0           5           0           0           4           0           0
0tconst           5
  3.156000E+07 4.000000E+02 2.800000E+01  .000000E+00 5.000000E-02
0mzero            4
             21         689         129         879
0pow              3
   .000000E+00  .000000E+00  .000000E+00
0 linp            9
              6           0          51          26           2        3000        1000        1697           5
0 case or subcase    3  Part B 8% UO2 in Tuff (47% H2O) DBF Fuel  100k year cycle
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
0jopt            12
              0           0           0           0           0           0           0           0           0           0
              0           0
0therm            4
  5.272101E-01 3.663942E-01 2.909018E+00 1.000000E-25
0non              5
           7935          20           6          18        1697
0mmn             19
              0          10           0           0           1           1           0           0           0          10
             21         100           0           5           0           0           4           0           0
0tconst           5
  3.156000E+07 1.600000E+04 2.500000E+01  .000000E+00 5.000000E-02
0mzero            4
             21         689         129         879
```

```
Opow              3
   .000000E+00  .000000E+00  .000000E+00
0 linp            9
             6            0           51           26            2         3000         1000         1697            5
0 case or subcase    4  Part B 8% UO2 in Tuff (47% H2O) DBF Fuel  100k year cycle
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
             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
             0           10            0            0            1            1            0            0            0           10
            21          100            0            5            0            0            4            0            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           9
             6            0           51           26            2         3000         1000         1697            5
0 case or subcase    5  Part B 8% UO2 in Tuff (47% H2O) DBF Fuel  100k year cycle
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
             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
```

```
                0           3           0           0           1           1           0           0           0          10
               21         100           0           5           0           0           4           0           0
Otconst         5
  3.156000E+07 2.500000E+05 2.600000E+01  .000000E+00 5.000000E-02
Omzero          4
               21         689         129         879
Opow            3
   .000000E+00  .000000E+00  .000000E+00
0 linp          9
               6           0          51          26           2        3000        1000        1697           5
0 case or subcase    6  Part B 8% UO2 in Tuff (47% H2O) DBF Fuel  100k year cycle
    56$$ 0 -10 a10 1 e  t
0   56$ array     20 entries read
0    0t
```

```
1mcnp     version 4a    ld=10/01/93                          08/29/96 17:16:39
**************************************************************************        probid =   08/29/96 17:16:39
 inp=sp40e1 outp=sp40e10

        Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1) 1000 Years  600K
        C    Calico Hills Tuff 1.5095 g/cc  .40 porosity -  sphere surrounded by tuff
        C    Water and UO2 offset each other in porous space / H2O @ 500k
        C     CELL SPECIFICATIONS
        C     INNER WATER REGION
        1     1  7.48784-2   -1   IMP:N=1
        2     2  8.38290-2  1 -2  IMP:N=1
        C     OUTSIDE WORLD
        3     0  2   IMP:N=0

        C     SURFACE SPECIFICATIONS
        1     SO  140        $ INNER FUEL ZONE
        2     SO  200        $ TUFF REFLECTOR

        MODE  N
        KCODE  4000 1. 30 130
        C     KSRC   0 0 1  0 0 10  0 0 -20  0 0 29  0 20 5  0 0 -5  -10 0 -10
        C       0 -5 -20 -10 0 -13 0 -10 14 0 0 -15 -10 -5  -16 5 5 0 10 10 17
        C      MATERIAL SPECIFICATIONS
        c        32 (x .776 at 265 C) vol% water in calico Hills tuff - 8 vol% UO2
        c        3.0% Original Enrichment/ 20 GWD/MT decayed to Uranium isotopes
        c       1000 yr critical
        m1    62149.50c   2.0302E-09
              62151.50c   1.9060E-10
              60143.50c   2.0165E-08
              45103.50c   1.0845E-08
              63151.55c   1.2151E-09
              64157.50c   1.1152E-11
              64155.50c   9.4362E-11
              48000.50c   3.2119E-10
              54131.50c   9.9667E-09
              55133.50c   2.3024E-08
              43099.50c   2.0926E-08
              62147.50c   7.7393E-09
              62152.50c   1.0071E-09
              60145.50c   1.3415E-08
              42095.50c   2.2139E-08
              92233.50c   7.1050E-10
              92234.50c   4.8749E-07
              92235.53c   3.8398E-05
              92236.50c   9.3098E-06
              92238.53c   1.9289E-03
              93237.50c   2.2324E-06
              94238.50c   1.2260E-09
              94239.55c   2.5206E-07
              94240.50c   1.1983E-09
                 1001.53c 1.6549-2
                 8016.53c 4.0446-2
                11023.50c 3.9366-4
                12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
                19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
        mt1   lwtr.03t
        c        40 (x .99 at 50 C) vol% water in calico Hills tuff
        m2       1001.53c 2.6477-2   8016.53c 4.1448-2  11023.50c 3.9366-4
                12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
                19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
```

```
  57-       mt2     lwtr.02t
  58-       PRINT
1     initial source from file   srctp

 original number of points                          4109
    points not in any cell                 0
    points in cells of zero importance     0
    points in void cells                   0
    points in ambiguous cells              0
 total points rejected                                0
 points remaining                                  4109
 points after expansion or contraction             3998
 nominal source size                               4000

 initial guess for k(eff.)                      1.000000

 cycles to skip before tallying                      30

 number of keff cycles that can be stored           260

 total fission nubar data are being used.

 warning.    lwtr.02t and   lwtr.03t are both called for.
1material composition                                                    print table 40

 material
  number     component nuclide, atom fraction

     1          62149,   .00000     62151,   .00000     60143,   .00000     45103,   .00000
                63151,   .00000     64157,   .00000     64155,   .00000     48000,   .00000
                54131,   .00000     55133,   .00000     43099,   .00000     62147,   .00000
                62152,   .00000     60145,   .00000     42095,   .00000     92233,   .00000
                92234,   .00001     92235,   .00051     92236,   .00012     92238,   .02576
                93237,   .00003     94238,   .00000     94239,   .00000     94240,   .00000
                 1001,   .22101      8016,   .54016     11023,   .00526     12000,   .00309
                13027,   .03482     14000,   .15233     19000,   .00742     20000,   .00761
                26000,   .00187
 associated thermal s(a,b) data sets:    lwtr.03t
     2           1001,   .31585      8016,   .49444     11023,   .00470     12000,   .00276
                13027,   .03110     14000,   .13606     19000,   .00663     20000,   .00679
                26000,   .00167
 associated thermal s(a,b) data sets:    lwtr.02t



 material
  number     component nuclide, mass fraction

     1          62149,   .00000     62151,   .00000     60143,   .00000     45103,   .00000
                63151,   .00000     64157,   .00000     64155,   .00000     48000,   .00000
                54131,   .00000     55133,   .00000     43099,   .00000     62147,   .00000
                62152,   .00000     60145,   .00000     42095,   .00000     92233,   .00000
                92234,   .00007     92235,   .00567     92236,   .00138     92238,   .28834
                93237,   .00033     94238,   .00000     94239,   .00004     94240,   .00000
                 1001,   .01047      8016,   .40624     11023,   .00568     12000,   .00353
                13027,   .04417     14000,   .20116     19000,   .01365     20000,   .01433
                26000,   .00492
     2           1001,   .02326      8016,   .57779     11023,   .00789     12000,   .00490
```

13027, .06130 14000, .27919 19000, .01894 20000, .01989
26000, .00683

1cell volumes and masses

print table 50

cell		atom density	gram density	input volume	calculated volume	mass	pieces	reason volume not calculated
1	1	7.48784E-02	2.64442E+00	.00000E+00	1.14940E+07	3.03951E+07	1	
2	2	8.38290E-02	1.90533E+00	.00000E+00	2.20163E+07	4.19483E+07	1	
3	3	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	0	infinite

1problem summary

run terminated when 130 kcode cycles were done.

+

Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1) 1000 Years 600K 08/29/96 20:06:20

0 probid = 08/29/96 17:16:39

neutron creation	tracks	weight (per source particle)	energy
source	519674	1.0006E+00	2.0326E+00
weight window	0	0.	0.
cell importance	0	0.	0.
weight cutoff	0	6.3380E-02	4.4399E-05
energy importance	0	0.	0.
dxtran	0	0.	0.
forced collisions	0	0.	0.
exp. transform	0	0.	0.
upscattering	0	0.	3.3583E-07
(n,xn)	588	8.6112E-04	6.6018E-04
fission	0	0.	0.
total	520262	1.0649E+00	2.0333E+00

neutron loss	tracks	weight (per source particle)	energy
escape	126	1.3718E-04	1.2736E-04
energy cutoff	0	0.	0.
time cutoff	0	0.	0.
weight window	0	0.	0.
cell importance	0	0.	0.
weight cutoff	519843	6.3632E-02	1.6609E-05
energy importance	0	0.	0.
dxtran	0	0.	0.
forced collisions	0	0.	0.
exp. transform	0	0.	0.
downscattering	0	0.	1.9288E+00
capture	0	6.1749E-01	6.3069E-02
loss to (n,xn)	293	4.2907E-04	3.6224E-03
loss to fission	0	3.8318E-01	3.7712E-02
total	520262	1.0649E+00	2.0333E+00

number of neutrons banked 295
neutron tracks per source particle 1.0011E+00
neutron collisions per source particle 7.9251E+01
total neutron collisions 41184790
net multiplication 1.0004E+00 .0000

computer time so far in this run 169.26 minutes
computer time in mcrun 169.20 minutes
source particles per minute 3.0714E+03
random numbers generated 477387773

average lifetime, shakes
escape 2.9292E+04
capture 9.4549E+03
capture or escape 9.4576E+03
any termination 1.0298E+04

cutoffs
tco 1.0000E+34
eco .0000E+00
wc1 -5.0000E-01
wc2 -2.5000E-01

maximum number ever in bank 2
bank overflows to backup file 0
field length 0
most random numbers used was 11632 in history 510173

range of sampled source weights = 9.3633E-01 to 1.0667E+00

1neutron activity in each cell

print table 126

cell		tracks entering	population	collisions	collisions * weight (per history)	number weighted energy	flux weighted energy	average track weight (relative)	average track mfp (cm)
1	1	602498	519969	33779469	4.7696E+01	3.1733E-04	5.1024E-01	8.0498E-01	2.5168E+00
2	2	106614	50337	7405321	7.5479E+00	4.6489E-05	2.0115E-01	5.7874E-01	1.3153E+00
total		709112	570306	41184790	5.5244E+01				

1keff results for: Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1) 1000 Years 600K probid = 08/29/96 17:16:39

the initial fission neutron source distribution was read from the srctp file named srctp .
the criticality problem was scheduled to skip 30 cycles and run a total of 130 cycles with nominally 4000 neutrons per cycle.
this problem has run 30 inactive cycles with 119522 neutron histories and 100 active cycles with 400152 neutron histories.

this calculation has completed the requested number of keff cycles using a total of 519674 fission neutron source histories.
all cells with fissionable material were sampled and had fission neutron source points.

the results of the w test for normality applied to the individual collision, absorption, and track-length keff cycle values are:

the k(collision) cycle values appear normally distributed at the 95 percent confidence level
the k(absorption) cycle values appear normally distributed at the 95 percent confidence level
the k(trk length) cycle values appear normally distributed at the 95 percent confidence level

---

the final estimated combined collision/absorption/track-length keff = .93949 with an estimated standard deviation of .00097

the estimated 68, 95, & 99 percent keff confidence intervals are .93852 to .94046, .93756 to .94142, and .93693 to .94205

the estimated collision/absorption neutron removal lifetime = 9.46E-05 seconds with an estimated standard deviation of 2.00E-07

---

the estimated average keffs, one standard deviations, and 68, 95, and 99 percent confidence intervals are:

keff estimator	keff	standard deviation	68% confidence	95% confidence	99% confidence	corr
collision	.93888	.00149	.93739 to .94037	.93591 to .94184	.93495 to .94281	
absorption	.94002	.00117	.93884 to .94119	.93768 to .94235	.93692 to .94311	
track length	.93915	.00153	.93762 to .94068	.93610 to .94220	.93511 to .94319	
col/absorp	.93959	.00096	.93863 to .94055	.93768 to .94150	.93706 to .94213	.0735
abs/trk len	.93970	.00097	.93873 to .94068	.93777 to .94164	.93714 to .94227	.0761
col/trk len	.93868	.00150	.93719 to .94018	.93570 to .94167	.93473 to .94264	.9889
col/abs/trk len	.93949	.00097	.93852 to .94046	.93756 to .94142	.93693 to .94205	

```
1mcnp     version 4a    ld=10/01/93                              08/16/96 10:52:15
*************************************************************************         probid =   08/16/96 10:52:15
 inp=sp40f1 outp=sp40f10

          Far-Field Consequence Study - 32% H20/ 8% U02 (sp40f1) 5000 Years  600K
          C    Calico Hills Tuff 1.5095 g/cc  .40 porosity -  sphere surrounded by tuff
          C    Water and UO2 offset each other in porous space / H20 @ 500k
          C     CELL SPECIFICATIONS
          C     INNER WATER REGION
          1     1  7.48597-2   -1    IMP:N=1
          2     2  8.38290-2  1 -2   IMP:N=1
          C     OUTSIDE WORLD
          3     0  2    IMP:N=0

          C     SURFACE SPECIFICATIONS
          1     SO  140        $ INNER FUEL ZONE
          2     SO  200        $ TUFF REFLECTOR

          MODE  N
          KCODE  4000 1. 30 130
          C      KSRC   0 0 1  0 0 10  0 0 -20  0 0 29  0 20 5  0 0 -5  -10 0 -10
          C        0 -5 -20 -10 0 -13 0 -10 14 0 0 -15 -10 -5  -16 5 5 0 10 10 17
          C       MATERIAL SPECIFICATIONS
          c         32 (x .776 at 265 C) vol% water in calico Hills tuff - 8 vol% UO2
          c         3.0% Original Enrichment/ 20 GWD/MT decayed to Uranium isotopes
          c        5000 yr critical
          m1     62149.50c   2.7761E-09
                 62150.50c   1.5868E-08
                 60143.50c   9.8994E-08
                 45103.50c   5.5500E-08
                 63151.55c   5.7285E-09
                 64157.50c   1.8097E-11
                 64155.50c   2.3641E-10
                 48000.50c   1.8479E-09
                 54131.50c   4.9633E-08
                 55133.50c   1.1472E-07
                 43099.50c   1.0383E-07
                 62147.50c   3.8518E-08
                 62152.50c   5.8288E-09
                 60145.50c   6.6530E-08
                 42095.50c   1.0987E-07
                 92233.50c   3.4401E-09
                 92234.50c   5.4119E-07
                 92235.53c   3.8842E-05
                 92236.50c   1.0034E-05
                 92238.53c   2.0287E-03
                 93237.50c   2.3313E-06
                 94238.50c   1.2084E-09
                 94239.55c   1.1354E-06
                 94240.50c   2.3573E-08
                    1001.53c 1.6331-2
                    8016.53c 4.0542-2
                   11023.50c 3.9366-4
                   12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
                   19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
          mt1      lwtr.03t
          c          40 (x .99 at 50 C) vol% water in calico Hills tuff
          m2        1001.53c 2.6477-2   8016.53c 4.1448-2  11023.50c 3.9366-4
                   12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
                   19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
```

```
   57-       mt2     lwtr.02t
   58-       PRINT
1     initial source from file   srctp

 original number of points                          3860
    points not in any cell                  0
    points in cells of zero importance      0
    points in void cells                    0
    points in ambiguous cells               0
 total points rejected                                 0
 points remaining                                   3860
 points after expansion or contraction              4006
 nominal source size                                4000

 initial guess for k(eff.)                       1.000000

 cycles to skip before tallying                       30

 number of keff cycles that can be stored            260

 total fission nubar data are being used.

 warning.    lwtr.02t and   lwtr.03t are both called for.
1material composition                                                    print table 40

 material
  number     component nuclide, atom fraction

     1          62149,   .00000      62150,   .00000      60143,   .00000      45103,   .00000
                63151,   .00000      64157,   .00000      64155,   .00000      48000,   .00000
                54131,   .00000      55133,   .00000      43099,   .00000      62147,   .00000
                62152,   .00000      60145,   .00000      42095,   .00000      92233,   .00000
                92234,   .00001      92235,   .00052      92236,   .00013      92238,   .02710
                93237,   .00003      94238,   .00000      94239,   .00002      94240,   .00000
                 1001,   .21816       8016,   .54158      11023,   .00526      12000,   .00309
                13027,   .03483      14000,   .15237      19000,   .00743      20000,   .00761
                26000,   .00188
 associated thermal s(a,b) data sets:    lwtr.03t
     2           1001,   .31585       8016,   .49444      11023,   .00470      12000,   .00276
                13027,   .03110      14000,   .13606      19000,   .00663      20000,   .00679
                26000,   .00167
 associated thermal s(a,b) data sets:    lwtr.02t



 material
  number     component nuclide, mass fraction

     1          62149,   .00000      62150,   .00000      60143,   .00001      45103,   .00000
                63151,   .00000      64157,   .00000      64155,   .00000      48000,   .00000
                54131,   .00000      55133,   .00001      43099,   .00001      62147,   .00000
                62152,   .00000      60145,   .00001      42095,   .00001      92233,   .00000
                92234,   .00008      92235,   .00564      92236,   .00146      92238,   .29845
                93237,   .00034      94238,   .00000      94239,   .00017      94240,   .00000
                 1001,   .01017       8016,   .40075      11023,   .00559      12000,   .00347
                13027,   .04347      14000,   .19797      19000,   .01343      20000,   .01411
                26000,   .00484
     2           1001,   .02326       8016,   .57779      11023,   .00789      12000,   .00490
```

13027, .06130 14000, .27919 19000, .01894 20000, .01989
26000, .00683

1cell volumes and masses print table 50

cell		atom density	gram density	input volume	calculated volume	mass	pieces	reason volume not calculated
1	1	7.48597E-02	2.68707E+00	.00000E+00	1.14940E+07	3.08853E+07	1	
2	2	8.38290E-02	1.90533E+00	.00000E+00	2.20163E+07	4.19483E+07	1	
3	3	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	0	infinite

1problem summary

run terminated when 130 kcode cycles were done.

+ 08/16/96 14:21:45

Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40f1) 5000 Years 600K probid = 08/16/96 10:52:15

0

neutron creation	tracks	weight (per source particle)	energy	neutron loss	tracks	weight (per source particle)	energy
source	520705	9.9865E-01	2.0325E+00	escape	121	1.3371E-04	9.7630E-05
				energy cutoff	0	0.	0.
				time cutoff	0	0.	0.
weight window	0	0.	0.	weight window	0	0.	0.
cell importance	0	0.	0.	cell importance	0	0.	0.
weight cutoff	0	6.1894E-02	4.9069E-05	weight cutoff	520907	6.2184E-02	3.9745E-05
energy importance	0	0.	0.	energy importance	0	0.	0.
dxtran	0	0.	0.	dxtran	0	0.	0.
forced collisions	0	0.	0.	forced collisions	0	0.	0.
exp. transform	0	0.	0.	exp. transform	0	0.	0.
upscattering	0	0.	3.1523E-07	downscattering	0	0.	1.9268E+00
				capture	0	6.1880E-01	6.3175E-02
(n,xn)	645	9.1944E-04	6.9393E-04	loss to (n,xn)	322	4.5905E-04	3.8266E-03
fission	0	0.	0.	loss to fission	0	3.7988E-01	3.9383E-02
total	521350	1.0615E+00	2.0333E+00	total	521350	1.0615E+00	2.0333E+00

				cutoffs	
number of neutrons banked	323	average lifetime, shakes		tco	1.0000E+34
neutron tracks per source particle	1.0012E+00	escape	2.3624E+04	eco	.0000E+00
neutron collisions per source particle	7.6491E+01	capture	8.9475E+03	wc1	-5.0000E-01
total neutron collisions	39829078	capture or escape	8.9494E+03	wc2	-2.5000E-01
net multiplication	1.0005E+00 .0000	any termination	9.7475E+03		

computer time so far in this run	173.12 minutes	maximum number ever in bank	2
computer time in mcrun	173.05 minutes	bank overflows to backup file	0
source particles per minute	3.0089E+03	field length	0
random numbers generated	463070842	most random numbers used was	11052 in history 430100

range of sampled source weights = 9.2039E-01 to 1.0678E+00

1neutron activity in each cell print table 126

cell		tracks entering	population	collisions	collisions * weight (per history)	number weighted energy	flux weighted energy	average track weight (relative)	average track mfp (cm)
1	1	601198	521028	32483446	4.6105E+01	3.3875E-04	5.1710E-01	8.0892E-01	2.5438E+00
2	2	104094	50166	7345632	7.4852E+00	4.6897E-05	2.0123E-01	5.7986E-01	1.3187E+00
total		705292	571194	39829078	5.3590E+01				

1keff results for: Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40f1) 5000 Years 600K probid = 08/16/96 10:52:15

the initial fission neutron source distribution was read from the srctp file named srctp .
the criticality problem was scheduled to skip 30 cycles and run a total of 130 cycles with nominally 4000 neutrons per cycle.
this problem has run 30 inactive cycles with 119861 neutron histories and 100 active cycles with 400844 neutron histories.

this calculation has completed the requested number of keff cycles using a total of 520705 fission neutron source histories.
all cells with fissionable material were sampled and had fission neutron source points.

the results of the w test for normality applied to the individual collision, absorption, and track-length keff cycle values are:

the k(collision) cycle values appear normally distributed at the 95 percent confidence level
the k(absorption) cycle values appear normally distributed at the 95 percent confidence level
the k(trk length) cycle values appear normally distributed at the 95 percent confidence level

---

the final estimated combined collision/absorption/track-length keff = .94166 with an estimated standard deviation of .00081

the estimated 68, 95, & 99 percent keff confidence intervals are .94084 to .94247, .94003 to .94328, and .93950 to .94381

the estimated collision/absorption neutron removal lifetime = 8.94E-05 seconds with an estimated standard deviation of 1.90E-07

---

the estimated average keffs, one standard deviations, and 68, 95, and 99 percent confidence intervals are:

keff estimator	keff	standard deviation	68% confidence	95% confidence	99% confidence	corr
collision	.94222	.00130	.94092 to .94352	.93963 to .94481	.93878 to .94566	
absorption	.94125	.00109	.94016 to .94234	.93909 to .94342	.93838 to .94412	
track length	.94223	.00134	.94089 to .94358	.93956 to .94491	.93868 to .94578	
col/absorp	.94166	.00081	.94084 to .94247	.94004 to .94327	.93952 to .94380	-.0713
abs/trk len	.94165	.00082	.94083 to .94247	.94002 to .94328	.93949 to .94381	-.0762
col/trk len	.94222	.00130	.94091 to .94352	.93962 to .94481	.93877 to .94566	.9843
col/abs/trk len	.94166	.00081	.94084 to .94247	.94003 to .94328	.93950 to .94381	

```
1mcnp     version 4a    ld=10/01/93                          08/29/96 12:31:20
 ******************************************************************************                    probid =   08/29/96 12:31:20
 inp=sp40g1 outp=sp40g10

    1-        Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40g1) 10000 Years  600K
    2-        C    Calico Hills Tuff 1.5095 g/cc  .40 porosity -  sphere surrounded by tuff
    3-        C    Water and UO2 offset each other in porous space / H2O @ 500k
    4-        C     CELL SPECIFICATIONS
    5-        C     INNER WATER REGION
    6-        1     1  7.48343-2   -1   IMP:N=1
    7-        2     2  8.38290-2  1 -2  IMP:N=1
    8-        C     OUTSIDE WORLD
    9-        3     0  2   IMP:N=0
   10-
   11-        C     SURFACE SPECIFICATIONS
   12-        1     SO  140       $ INNER FUEL ZONE
   13-        2     SO  200       $ TUFF REFLECTOR
   14-
   15-        MODE  N
   16-        KCODE  4000 1. 30 130
   17-        C     KSRC   0 0 1  0 0 10  0 0 -20  0 0 29  0 20 5  0 0 -5  -10 0 -10
   18-        C       0 -5 -20 -10 0 -13 0 -10 14 0 0 -15 -10 -5  -16 5 5 0 10 10 17
   19-        C      MATERIAL SPECIFICATIONS
   20-        c        32 (x .776 at 265 C) vol% water in calico Hills tuff - 8 vol% UO2
   21-        c        3.0% Original Enrichment/ 20 GWD/MT decayed to Uranium isotopes
   22-        c       10000 yr critical
   23-        m1    62149.50c   2.8219E-09
   24-              63151.55c   9.6170E-09
   25-              60143.50c   1.9432E-07
   26-              45103.50c   1.1304E-07
   27-              54131.50c   9.9667E-08
   28-              55133.50c   2.2906E-07
   29-              62147.50c   7.6323E-08
   30-              43099.50c   2.0502E-07
   31-              64155.50c   2.9053E-10
   32-              60145.50c   1.3161E-07
   33-              62152.50c   1.3106E-08
   34-              42095.50c   2.1753E-07
   35-              48000.50c   4.2020E-09
   36-              62150.50c   3.4356E-08
   37-              36083.50c   1.7568E-08
   38-              92233.50c   6.6328E-09
   39-              92234.50c   6.0552E-07
   40-              92235.53c   3.9787E-05
   41-              92236.50c   1.0899E-05
   42-              92238.53c   2.1513E-03
   43-              93237.50c   2.4587E-06
   44-              94238.50c   1.1952E-09
   45-              94239.55c   1.9793E-06
   46-              94240.50c   7.0065E-08
   47-                 1001.53c 1.6059-2
   48-                 8016.53c 4.0662-2
   49-                11023.50c 3.9366-4
   50-                12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
   51-                19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
   52-        mt1     lwtr.03t
   53-        c        40 (x .99 at 50 C) vol% water in calico Hills tuff
   54-        m2       1001.53c 2.6477-2   8016.53c 4.1448-2  11023.50c 3.9366-4
   55-                12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
   56-                19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
```

```
   57-       mt2     lwtr.02t
   58-       PRINT
1     initial source from file   srctp

 original number of points                          3911
    points not in any cell                 0
    points in cells of zero importance     0
    points in void cells                   0
    points in ambiguous cells              0
 total points rejected                                0
 points remaining                                  3911
 points after expansion or contraction             3997
 nominal source size                               4000

 initial guess for k(eff.)                     1.000000

 cycles to skip before tallying                      30

 number of keff cycles that can be stored           260

 total fission nubar data are being used.

 warning.    lwtr.02t and   lwtr.03t are both called for.
1material composition                                                    print table 40

 the sum of the fractions of material     1 was 7.483317E-02

 material
  number      component nuclide, atom fraction

     1           62149,   .00000      63151,   .00000      60143,   .00000      45103,   .00000
                 54131,   .00000      55133,   .00000      62147,   .00000      43099,   .00000
                 64155,   .00000      60145,   .00000      62152,   .00000      42095,   .00000
                 48000,   .00000      62150,   .00000      36083,   .00000      92233,   .00000
                 92234,   .00001      92235,   .00053      92236,   .00015      92238,   .02875
                 93237,   .00003      94238,   .00000      94239,   .00003      94240,   .00000
                  1001,   .21460       8016,   .54337      11023,   .00526      12000,   .00309
                 13027,   .03484      14000,   .15242      19000,   .00743      20000,   .00761
                 26000,   .00188
 associated thermal s(a,b) data sets:    lwtr.03t
     2            1001,   .31585       8016,   .49444      11023,   .00470      12000,   .00276
                 13027,   .03110      14000,   .13606      19000,   .00663      20000,   .00679
                 26000,   .00167
 associated thermal s(a,b) data sets:    lwtr.02t



 material
  number      component nuclide, mass fraction

     1           62149,   .00000      63151,   .00000      60143,   .00002      45103,   .00001
                 54131,   .00001      55133,   .00002      62147,   .00001      43099,   .00001
                 64155,   .00000      60145,   .00001      62152,   .00000      42095,   .00001
                 48000,   .00000      62150,   .00000      36083,   .00000      92233,   .00000
                 92234,   .00009      92235,   .00567      92236,   .00156      92238,   .31042
                 93237,   .00035      94238,   .00000      94239,   .00029      94240,   .00001
                  1001,   .00981       8016,   .39423      11023,   .00549      12000,   .00341
                 13027,   .04264      14000,   .19418      19000,   .01317      20000,   .01383
```

	26000,	.00475							
2	1001,	.02326	8016,	.57779	11023,	.00789	12000,	.00490	
	13027,	.06130	14000,	.27919	19000,	.01894	20000,	.01989	
	26000,	.00683							

warning. 1 of the materials had unnormalized fractions.

1cell volumes and masses print table 50

	cell	atom density	gram density	input volume	calculated volume	mass	pieces	reason volume not calculated
1	1	7.48343E-02	2.73956E+00	.00000E+00	1.14940E+07	3.14886E+07	1	
2	2	8.38290E-02	1.90533E+00	.00000E+00	2.20163E+07	4.19483E+07	1	
3	3	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	0	infinite

1problem summary

run terminated when 130 kcode cycles were done.

\+ 08/29/96 15:14:42

Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40g1) 10000 Years 600K . probid = 08/29/96 12:31:20

0

neutron creation	tracks	weight (per source particle)	energy	neutron loss	tracks	weight (per source particle)	energy
source	520436	9.9916E-01	2.0352E+00	escape	153	1.6128E-04	1.1441E-04
				energy cutoff	0	0.	0.
				time cutoff	0	0.	0.
weight window	0	0.	0.	weight window	0	0.	0.
cell importance	0	0.	0.	cell importance	0	0.	0.
weight cutoff	0	6.0983E-02	2.7101E-05	weight cutoff	520613	6.1096E-02	6.6854E-05
energy importance	0	0.	0.	energy importance	0	0.	0.
dxtran	0	0.	0.	dxtran	0	0.	0.
forced collisions	0	0.	0.	forced collisions	0	0.	0.
exp. transform	0	0.	0.	exp. transform	0	0.	0.
upscattering	0	0.	2.9577E-07	downscattering	0	0.	1.9255E+00
				capture	0	6.2055E-01	6.4128E-02
(n,xn)	659	9.6723E-04	6.5978E-04	loss to (n,xn)	329	4.8289E-04	3.9434E-03
fission	0	0.	0.	loss to fission	0	3.7882E-01	4.2055E-02
total	521095	1.0611E+00	2.0358E+00	total	521095	1.0611E+00	2.0358E+00

```
number of neutrons banked                    330      average lifetime, shakes           cutoffs
neutron tracks per source particle    1.0013E+00        escape               3.1172E+04     tco   1.0000E+34
neutron collisions per source particle 7.4256E+01       capture              8.5120E+03     eco    .0000E+00
total neutron collisions               38645372         capture or escape    8.5157E+03     wc1  -5.0000E-01
net multiplication             1.0005E+00  .0000        any termination      9.2837E+03     wc2  -2.5000E-01

computer time so far in this run   163.31 minutes       maximum number ever in bank        2
computer time in mcrun             163.24 minutes       bank overflows to backup file      0
source particles per minute          3.1882E+03         field length                       0
random numbers generated              449866891         most random numbers used was   10990 in history   491523

range of sampled source weights = 9.4540E-01 to 1.0782E+00
```

1neutron activity in each cell print table 126

	cell	tracks entering	population	collisions	collisions * weight (per history)	number weighted energy	flux weighted energy	average track weight (relative)	average track mfp (cm)
1	1	602874	520766	31088264	4.4549E+01	3.6530E-04	5.2725E-01	8.1428E-01	2.5766E+00
2	2	106605	51877	7557108	7.7142E+00	4.7815E-05	2.0459E-01	5.8117E-01	1.3267E+00

total 709479 572643 38645372 5.2263E+01
1keff results for: Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40g1) 10000 Years 600K probid = 08/29/96 12:31:20

the initial fission neutron source distribution was read from the srctp file named srctp .
the criticality problem was scheduled to skip 30 cycles and run a total of 130 cycles with nominally 4000 neutrons per cycle.
this problem has run 30 inactive cycles with 119705 neutron histories and 100 active cycles with 400731 neutron histories.

this calculation has completed the requested number of keff cycles using a total of 520436 fission neutron source histories.
all cells with fissionable material were sampled and had fission neutron source points.

the results of the w test for normality applied to the individual collision, absorption, and track-length keff cycle values are:

the k(collision) cycle values appear normally distributed at the 95 percent confidence level
the k(absorption) cycle values appear normally distributed at the 95 percent confidence level
the k(trk length) cycle values appear normally distributed at the 95 percent confidence level

the final estimated combined collision/absorption/track-length keff = .94531 with an estimated standard deviation of .00095

the estimated 68, 95, & 99 percent keff confidence intervals are .94436 to .94626, .94341 to .94721, and .94279 to .94783

the estimated collision/absorption neutron removal lifetime = 8.49E-05 seconds with an estimated standard deviation of 1.77E-07

the estimated average keffs, one standard deviations, and 68, 95, and 99 percent confidence intervals are:

keff estimator	keff	standard deviation	68% confidence	95% confidence	99% confidence	corr
collision	.94621	.00133	.94488 to .94755	.94356 to .94887	.94270 to .94973	
absorption	.94452	.00112	.94340 to .94565	.94228 to .94676	.94155 to .94749	
track length	.94663	.00133	.94530 to .94797	.94398 to .94929	.94311 to .95016	
col/absorp	.94520	.00094	.94426 to .94614	.94333 to .94706	.94273 to .94767	.1675
abs/trk len	.94537	.00094	.94443 to .94630	.94350 to .94723	.94289 to .94784	.1608
col/trk len	.94639	.00135	.94504 to .94775	.94370 to .94908	.94282 to .94996	.9819
col/abs/trk len	.94531	.00095	.94436 to .94626	.94341 to .94721	.94279 to .94783	

```
1mcnp     version 4a    ld=10/01/93                          08/29/96 20:06:21
 ******************************************************************************                probid =   08/29/96 20:06:21
 inp=sp40e1n outp=sp40e1n0

    1-       Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1n) 1000 Years  600K
    2-       C    Calico Hills Tuff 1.5095 g/cc  .40 porosity -  sphere surrounded by tuff
    3-       C    Water and UO2 offset each other in porous space / H2O @ 500k
    4-       C     CELL SPECIFICATIONS
    5-       C     INNER WATER REGION
    6-       1     1  7.48831-2   -1   IMP:N=1
    7-       2     2  8.38290-2  1 -2  IMP:N=1
    8-       C     OUTSIDE WORLD
    9-       3     0  2   IMP:N=0
   10-
   11-       C     SURFACE SPECIFICATIONS
   12-       1     SO  140       $ INNER FUEL ZONE
   13-       2     SO  200       $ TUFF REFLECTOR
   14-
   15-       MODE  N
   16-       KCODE  4000 1. 30 130
   17-       C     KSRC   0 0 1  0 0 10  0 0 -20  0 0 29  0 20 5  0 0 -5  -10 0 -10
   18-       C       0 -5 -20 -10 0 -13 0 -10 14 0 0 -15 -10 -5  -16 5 5 0 10 10 17
   19-       C      MATERIAL SPECIFICATIONS
   20-       c        32 (x .776 at 265 C) vol% water in calico Hills tuff - 8 vol% UO2
   21-       c        3.0% Original Enrichment/ 20 GWD/MT decayed to Uranium isotopes
   22-       c        no UO2 infiltration after criticality initiation
   23-       c       1000 yr critical
   24-       m1    62149.50c     2.0302E-09
   25-             62151.50c     1.9060E-10
   26-             60143.50c     2.0165E-08
   27-             45103.50c     1.0845E-08
   28-             63151.55c     1.2151E-09
   29-             64157.50c     1.1152E-11
   30-             64155.50c     9.4362E-11
   31-             48000.50c     3.2119E-10
   32-             54131.50c     9.9667E-09
   33-             55133.50c     2.3024E-08
   34-             43099.50c     2.0926E-08
   35-             62147.50c     7.7393E-09
   36-             62152.50c     1.0071E-09
   37-             60145.50c     1.3415E-08
   38-             42095.50c     2.2139E-08
   39-             92233.50c     7.1050E-10
   40-             92234.50c     4.8134E-07
   41-             92235.53c     3.7897E-05
   42-             92236.50c     9.1899E-06
   43-             92238.53c     1.9039E-03
   44-             93237.50c     2.2038E-06
   45-             94238.50c     1.2260E-09
   46-             94239.55c     2.5206E-07
   47-             94240.50c     1.1983E-09
   48-                1001.53c 1.6603-2
   49-                8016.53c 4.0422-2
   50-               11023.50c 3.9366-4
   51-               12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
   52-               19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
   53-       mt1     lwtr.03t
   54-       c        40 (x .99 at 50 C) vol% water in calico Hills tuff
   55-       m2       1001.53c 2.6477-2   8016.53c 4.1448-2  11023.50c 3.9366-4
   56-               12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
```

```
   57-              19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
   58-       mt2    lwtr.02t
   59-       PRINT
1     initial source from file   srctp

 original number of points                          3931
    points not in any cell                  0
    points in cells of zero importance      0
    points in void cells                    0
    points in ambiguous cells               0
 total points rejected                              0
 points remaining                                3931
 points after expansion or contraction           3996
 nominal source size                             4000

 initial guess for k(eff.)                    1.000000

 cycles to skip before tallying                    30

 number of keff cycles that can be stored         260

 total fission nubar data are being used.

 warning.    lwtr.02t and   lwtr.03t are both called for.
1material composition                                                    print table 40

 material
  number     component nuclide, atom fraction

     1          62149,   .00000     62151,   .00000     60143,   .00000     45103,   .00000
                63151,   .00000     64157,   .00000     64155,   .00000     48000,   .00000
                54131,   .00000     55133,   .00000     43099,   .00000     62147,   .00000
                62152,   .00000     60145,   .00000     42095,   .00000     92233,   .00000
                92234,   .00001     92235,   .00051     92236,   .00012     92238,   .02543
                93237,   .00003     94238,   .00000     94239,   .00000     94240,   .00000
                 1001,   .22172      8016,   .53980     11023,   .00526     12000,   .00309
                13027,   .03481     14000,   .15232     19000,   .00742     20000,   .00761
                26000,   .00187
 associated thermal s(a,b) data sets:    lwtr.03t
     2           1001,   .31585      8016,   .49444     11023,   .00470     12000,   .00276
                13027,   .03110     14000,   .13606     19000,   .00663     20000,   .00679
                26000,   .00167
 associated thermal s(a,b) data sets:    lwtr.02t



 material
  number     component nuclide, mass fraction

     1          62149,   .00000     62151,   .00000     60143,   .00000     45103,   .00000
                63151,   .00000     64157,   .00000     64155,   .00000     48000,   .00000
                54131,   .00000     55133,   .00000     43099,   .00000     62147,   .00000
                62152,   .00000     60145,   .00000     42095,   .00000     92233,   .00000
                92234,   .00007     92235,   .00562     92236,   .00137     92238,   .28576
                93237,   .00033     94238,   .00000     94239,   .00004     94240,   .00000
                 1001,   .01055      8016,   .40765     11023,   .00571     12000,   .00354
                13027,   .04435     14000,   .20198     19000,   .01370     20000,   .01439
                26000,   .00494
```

```
     2          1001,   .02326      8016,   .57779      11023,   .00789      12000,   .00490
                13027,   .06130     14000,   .27919      19000,   .01894      20000,   .01989
                26000,   .00683
1cell volumes and masses                                                          print table 50
```

cell		atom density	gram density	input volume	calculated volume	mass	pieces	reason volume not calculated
1	1	7.48831E-02	2.63375E+00	.00000E+00	1.14940E+07	3.02724E+07	1	
2	2	8.38290E-02	1.90533E+00	.00000E+00	2.20163E+07	4.19483E+07	1	
3	3	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	0	infinite

```
1problem summary

      run terminated when   130 kcode cycles were done.
+                                                                          08/29/96 23:06:12
      Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1n) 1000 Years  600K      probid =   08/29/96 20:06:21
0
```

neutron creation	tracks	weight (per source particle)	energy (per source particle)	neutron loss	tracks	weight (per source particle)	energy (per source particle)
source	520500	9.9904E-01	2.0312E+00	escape	115	1.2670E-04	7.8653E-05
				energy cutoff	0	0.	0.
				time cutoff	0	0.	0.
weight window	0	0.	0.	weight window	0	0.	0.
cell importance	0	0.	0.	cell importance	0	0.	0.
weight cutoff	0	6.3912E-02	4.5884E-05	weight cutoff	520675	6.3774E-02	2.7366E-05
energy importance	0	0.	0.	energy importance	0	0.	0.
dxtran	0	0.	0.	dxtran	0	0.	0.
forced collisions	0	0.	0.	forced collisions	0	0.	0.
exp. transform	0	0.	0.	exp. transform	0	0.	0.
upscattering	0	0.	3.3925E-07	downscattering	0	0.	1.9282E+00
				capture	0	6.1767E-01	6.2789E-02
(n,xn)	578	8.5082E-04	6.3997E-04	loss to (n,xn)	288	4.2410E-04	3.5549E-03
fission	0	0.	0.	loss to fission	0	3.8181E-01	3.7167E-02
total	521078	1.0638E+00	2.0319E+00	total	521078	1.0638E+00	2.0319E+00

number of neutrons banked	290	average lifetime, shakes		cutoffs	
neutron tracks per source particle	1.0011E+00	escape	3.0491E+04	tco	1.0000E+34
neutron collisions per source particle	7.9615E+01	capture	9.5352E+03	eco	.0000E+00
total neutron collisions	41439809	capture or escape	9.5378E+03	wc1	-5.0000E-01
net multiplication	1.0004E+00 .0000	any termination	1.0389E+04	wc2	-2.5000E-01
computer time so far in this run	179.70 minutes	maximum number ever in bank	2		
computer time in mcrun	179.64 minutes	bank overflows to backup file	0		
source particles per minute	2.8975E+03	field length	0		
random numbers generated	480204045	most random numbers used was	12386 in history		367999

```
 range of sampled source weights = 9.3963E-01 to 1.0627E+00
1neutron  activity in each cell                                                   print table 126
```

cell		tracks entering	population	collisions	collisions * weight (per history)	number weighted energy	flux weighted energy	average track weight (relative)	average track mfp (cm)
1	1	601923	520790	34078462	4.7927E+01	3.1328E-04	5.0746E-01	8.0331E-01	2.5104E+00
2	2	105122	49858	7361347	7.4518E+00	4.5637E-05	1.9556E-01	5.7585E-01	1.3083E+00
total		707045	570648	41439809	5.5379E+01				

```
1keff results for: Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1n) 1000 Years  600K      probid =   08/29/96 20:06:21
```

the initial fission neutron source distribution was read from the srctp file named srctp .
the criticality problem was scheduled to skip 30 cycles and run a total of 130 cycles with nominally 4000 neutrons per cycle.
this problem has run 30 inactive cycles with 119728 neutron histories and 100 active cycles with 400772 neutron histories.

this calculation has completed the requested number of keff cycles using a total of 520500 fission neutron source histories.
all cells with fissionable material were sampled and had fission neutron source points.

the results of the w test for normality applied to the individual collision, absorption, and track-length keff cycle values are:

the k(collision) cycle values appear normally distributed at the 95 percent confidence level
the k(absorption) cycle values appear normally distributed at the 95 percent confidence level
the k(trk length) cycle values appear normally distributed at the 95 percent confidence level

---

the final estimated combined collision/absorption/track-length keff = .93731 with an estimated standard deviation of .00088

the estimated 68, 95, & 99 percent keff confidence intervals are .93642 to .93819, .93555 to .93907, and .93497 to .93964

the estimated collision/absorption neutron removal lifetime = 9.54E-05 seconds with an estimated standard deviation of 1.78E-07

---

the estimated average keffs, one standard deviations, and 68, 95, and 99 percent confidence intervals are:

keff estimator	keff	standard deviation	68% confidence	95% confidence	99% confidence	corr
collision	.93689	.00133	.93556 to .93822	.93424 to .93954	.93338 to .94040	
absorption	.93762	.00120	.93643 to .93882	.93524 to .94001	.93446 to .94079	
track length	.93681	.00136	.93545 to .93818	.93410 to .93953	.93321 to .94042	
col/absorp	.93729	.00088	.93641 to .93817	.93554 to .93905	.93497 to .93962	-.0346
abs/trk len	.93727	.00089	.93638 to .93816	.93550 to .93904	.93492 to .93962	-.0343
col/trk len	.93692	.00133	.93559 to .93826	.93427 to .93958	.93340 to .94044	.9868
col/abs/trk len	.93731	.00088	.93642 to .93819	.93555 to .93907	.93497 to .93964	

```
1mcnp     version 4a    ld=10/01/93                          08/20/96 10:58:26
 ******************************************************************************                    probid =   08/20/96 10:58:26
 inp=sp40f1n outp=sp40f1nP

    1-       Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40f1n) 5000 Years  600K
    2-       C    Calico Hills Tuff 1.5095 g/cc  .40 porosity -  sphere surrounded by tuff
    3-       C    Water and UO2 offset each other in porous space / H2O @ 500k
    4-       C     CELL SPECIFICATIONS
    5-       C     INNER WATER REGION
    6-       1     1  7.48833-2   -1   IMP:N=1
    7-       2     2  8.38290-2  1 -2  IMP:N=1
    8-       C     OUTSIDE WORLD
    9-       3     0  2   IMP:N=0
   10-
   11-       C     SURFACE SPECIFICATIONS
   12-       1     SO  140       $ INNER FUEL ZONE
   13-       2     SO  200       $ TUFF REFLECTOR
   14-
   15-       MODE  N
   16-       KCODE  4000 1. 30 130
   17-       C     KSRC   0 0 1  0 0 10  0 0 -20  0 0 29  0 20 5  0 0 -5  -10 0 -10
   18-       C       0 -5 -20 -10 0 -13 0 -10 14 0 0 -15 -10 -5  -16 5 5 0 10 10 17
   19-       C      MATERIAL SPECIFICATIONS
   20-       c        32 (x .776 at 265 C) vol% water in calico Hills tuff - 8 vol% UO2
   21-       c        3.0% Original Enrichment/ 20 GWD/MT decayed to Uranium isotopes
   22-       c        no UO2 infiltration after criticality initiation
   23-       c       5000 yr critical
   24-       m1    62149.50c    2.7761E-09
   25-             62150.50c    1.5868E-08
   26-             60143.50c    9.8994E-08
   27-             45103.50c    5.5500E-08
   28-             63151.55c    5.7285E-09
   29-             64157.50c    1.8097E-11
   30-             64155.50c    2.3641E-10
   31-             48000.50c    1.8479E-09
   32-             54131.50c    4.9633E-08
   33-             55133.50c    1.1472E-07
   34-             43099.50c    1.0383E-07
   35-             62147.50c    3.8518E-08
   36-             62152.50c    5.8288E-09
   37-             60145.50c    6.6530E-08
   38-             42095.50c    1.0987E-07
   39-             92233.50c    3.4401E-09
   40-             92234.50c    5.1045E-07
   41-             92235.53c    3.6337E-05
   42-             92236.50c    9.4341E-06
   43-             92238.53c    1.9039E-03
   44-             93237.50c    2.1883E-06
   45-             94238.50c    1.2084E-09
   46-             94239.55c    1.1354E-06
   47-             94240.50c    2.3573E-08
   48-                1001.53c 1.6603-2
   49-                8016.53c 4.0422-2
   50-               11023.50c 3.9366-4
   51-               12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
   52-               19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
   53-       mt1     lwtr.03t
   54-       c        40 (x .99 at 50 C) vol% water in calico Hills tuff
   55-       m2       1001.53c 2.6477-2   8016.53c 4.1448-2  11023.50c 3.9366-4
   56-               12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
```

```
   57-              19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
   58-       mt2    lwtr.02t
   59-       PRINT
1     initial source from file   srctp

 original number of points                          4006
    points not in any cell                 0
    points in cells of zero importance     0
    points in void cells                   0
    points in ambiguous cells              0
 total points rejected                                0
 points remaining                                  4006
 points after expansion or contraction             4002
 nominal source size                               4000

 initial guess for k(eff.)                      1.000000

 cycles to skip before tallying                      30

 number of keff cycles that can be stored           260

 total fission nubar data are being used.

 warning.    lwtr.02t and   lwtr.03t are both called for.
1material composition                                                    print table 40

 material
  number     component nuclide, atom fraction

     1          62149,   .00000     62150,   .00000     60143,   .00000     45103,   .00000
                63151,   .00000     64157,   .00000     64155,   .00000     48000,   .00000
                54131,   .00000     55133,   .00000     43099,   .00000     62147,   .00000
                62152,   .00000     60145,   .00000     42095,   .00000     92233,   .00000
                92234,   .00001     92235,   .00049     92236,   .00013     92238,   .02543
                93237,   .00003     94238,   .00000     94239,   .00002     94240,   .00000
                 1001,   .22172      8016,   .53980     11023,   .00526     12000,   .00309
                13027,   .03481     14000,   .15232     19000,   .00742     20000,   .00761
                26000,   .00187
 associated thermal s(a,b) data sets:    lwtr.03t
     2           1001,   .31585      8016,   .49444     11023,   .00470     12000,   .00276
                13027,   .03110     14000,   .13606     19000,   .00663     20000,   .00679
                26000,   .00167
 associated thermal s(a,b) data sets:    lwtr.02t



 material
  number     component nuclide, mass fraction

     1          62149,   .00000     62150,   .00000     60143,   .00001     45103,   .00000
                63151,   .00000     64157,   .00000     64155,   .00000     48000,   .00000
                54131,   .00000     55133,   .00001     43099,   .00001     62147,   .00000
                62152,   .00000     60145,   .00001     42095,   .00001     92233,   .00000
                92234,   .00008     92235,   .00539     92236,   .00140     92238,   .28576
                93237,   .00033     94238,   .00000     94239,   .00017     94240,   .00000
                 1001,   .01055      8016,   .40765     11023,   .00571     12000,   .00354
                13027,   .04435     14000,   .20198     19000,   .01370     20000,   .01439
                26000,   .00494
```

2	1001,	.02326	8016,	.57779	11023,	.00789	12000,	.00490
	13027,	.06130	14000,	.27919	19000,	.01894	20000,	.01989
	26000,	.00683						

print table 50

1cell volumes and masses

cell		atom density	gram density	input volume	calculated volume	mass	pieces	reason volume not calculated
1	1	7.48833E-02	2.63371E+00	.00000E+00	1.14940E+07	3.02720E+07	1	
2	2	8.38290E-02	1.90533E+00	.00000E+00	2.20163E+07	4.19483E+07	1	
3	3	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	0	infinite

1problem summary

run terminated when 130 kcode cycles were done. 08/20/96 13:45:45

+ Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40f1n) 5000 Years 600K probid = 08/20/96 10:58:26

0

neutron creation	tracks	weight (per source)	energy particle)
source	520250	9.9952E-01	2.0350E+00
weight window	0	0.	0.
cell importance	0	0.	0.
weight cutoff	0	6.2529E-02	4.9763E-05
energy importance	0	0.	0.
dxtran	0	0.	0.
forced collisions	0	0.	0.
exp. transform	0	0.	0.
upscattering	0	0.	3.3445E-07
(n,xn)	580	8.4475E-04	6.2405E-04
fission	0	0.	0.
total	520830	1.0629E+00	2.0357E+00

neutron loss	tracks	weight (per source)	energy particle)
escape	125	1.2726E-04	8.5181E-05
energy cutoff	0	0.	0.
time cutoff	0	0.	0.
weight window	0	0.	0.
cell importance	0	0.	0.
weight cutoff	520416	6.2465E-02	3.5211E-05
energy importance	0	0.	0.
dxtran	0	0.	0.
forced collisions	0	0.	0.
exp. transform	0	0.	0.
downscattering	0	0.	1.9318E+00
capture	0	6.2192E-01	6.3293E-02
loss to (n,xn)	289	4.2076E-04	3.5019E-03
loss to fission	0	3.7796E-01	3.6996E-02
total	520830	1.0629E+00	2.0357E+00

number of neutrons banked	291
neutron tracks per source particle	1.0011E+00
neutron collisions per source particle	7.8798E+01
total neutron collisions	40994695
net multiplication	1.0004E+00 .0000

average lifetime, shakes	
escape	3.2770E+04
capture	9.4023E+03
capture or escape	9.4052E+03
any termination	1.0237E+04

cutoffs	
tco	1.0000E+34
eco	.0000E+00
wc1	-5.0000E-01
wc2	-2.5000E-01

computer time so far in this run	166.98 minutes
computer time in mcrun	166.91 minutes
source particles per minute	3.1169E+03
random numbers generated	475422461

maximum number ever in bank	2
bank overflows to backup file	0
field length	0
most random numbers used was	13087 in history 218100

range of sampled source weights = 9.4340E-01 to 1.0823E+00

print table 126

1neutron activity in each cell

cell		tracks entering	population	collisions	collisions * weight (per history)	number weighted energy	flux weighted energy	average track weight (relative)	average track mfp (cm)
1	1	601804	520541	33709616	4.7579E+01	3.1834E-04	5.1046E-01	8.0540E-01	2.5162E+00
2	2	104929	49527	7285079	7.4097E+00	4.6737E-05	2.0187E-01	5.7843E-01	1.3171E+00
total		706733	570068	40994695	5.4988E+01				

the initial fission neutron source distribution was read from the srctp file named srctp .
the criticality problem was scheduled to skip 30 cycles and run a total of 130 cycles with nominally 4000 neutrons per cycle.
this problem has run 30 inactive cycles with 120117 neutron histories and 100 active cycles with 400133 neutron histories.

this calculation has completed the requested number of keff cycles using a total of 520250 fission neutron source histories.
all cells with fissionable material were sampled and had fission neutron source points.

the results of the w test for normality applied to the individual collision, absorption, and track-length keff cycle values are:

the k(collision) cycle values appear normally distributed at the 95 percent confidence level
the k(absorption) cycle values appear normally distributed at the 95 percent confidence level
the k(trk length) cycle values appear normally distributed at the 95 percent confidence level

---

the final estimated combined collision/absorption/track-length keff = .93482 with an estimated standard deviation of .00081

the estimated 68, 95, & 99 percent keff confidence intervals are .93401 to .93563, .93320 to .93643, and .93267 to .93696

the estimated collision/absorption neutron removal lifetime = 9.40E-05 seconds with an estimated standard deviation of 1.90E-07

---

the estimated average keffs, one standard deviations, and 68, 95, and 99 percent confidence intervals are:

keff estimator	keff	standard deviation	68% confidence	95% confidence	99% confidence	corr
collision	.93517	.00121	.93396 to .93638	.93276 to .93758	.93198 to .93836	
absorption	.93456	.00104	.93352 to .93561	.93249 to .93664	.93181 to .93731	
track length	.93519	.00125	.93393 to .93645	.93269 to .93769	.93187 to .93850	
col/absorp	.93482	.00081	.93401 to .93563	.93321 to .93643	.93268 to .93696	.0423
abs/trk len	.93482	.00082	.93399 to .93564	.93318 to .93645	.93265 to .93699	.0392
col/trk len	.93516	.00120	.93395 to .93636	.93276 to .93755	.93198 to .93833	.9870
col/abs/trk len	.93482	.00081	.93401 to .93563	.93320 to .93643	.93267 to .93696	

```
1mcnp     version 4a     ld=10/01/93                              08/29/96 16:44:37
 ******************************************************************************                probid =   08/29/96 16:44:37
 inp=sp40g1n outp=sp40g1n0

     1-        Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40g1n) 10000 Years  600K
     2-        C    Calico Hills Tuff 1.5095 g/cc  .40 porosity -  sphere surrounded by tuff
     3-        C    Water and UO2 offset each other in porous space / H2O @ 500k
     4-        C     CELL SPECIFICATIONS
     5-        C     INNER WATER REGION
     6-        1     1  7.48814-2   -1   IMP:N=1
     7-        2     2  8.38290-2  1 -2  IMP:N=1
     8-        C     OUTSIDE WORLD
     9-        3     0  2   IMP:N=0
    10-
    11-        C     SURFACE SPECIFICATIONS
    12-        1     SO  140       $ INNER FUEL ZONE
    13-        2     SO  200       $ TUFF REFLECTOR
    14-
    15-        MODE  N
    16-        KCODE  4000 1. 30 130
    17-        C     KSRC   0 0 1  0 0 10  0 0 -20  0 0 29  0 20 5  0 0 -5  -10 0 -10
    18-        C       0 -5 -20 -10 0 -13 0 -10 14 0 0 -15 -10 -5  -16 5 5 0 10 10 17
    19-        C      MATERIAL SPECIFICATIONS
    20-        c        32 (x .776 at 265 C) vol% water in calico Hills tuff - 8 vol% UO2
    21-        c        3.0% Original Enrichment/ 20 GWD/MT decayed to Uranium isotopes
    22-        c        no UO2 infiltration after criticality initiation .
    23-        c       10000 yr critical
    24-        m1    62149.50c    2.8219E-09
    25-              63151.55c    9.6170E-09
    26-              60143.50c    1.9432E-07
    27-              45103.50c    1.1304E-07
    28-              54131.50c    9.9667E-08
    29-              55133.50c    2.2906E-07
    30-              62147.50c    7.6323E-08
    31-              43099.50c    2.0502E-07
    32-              64155.50c    2.9053E-10
    33-              60145.50c    1.3161E-07
    34-              62152.50c    1.3106E-08
    35-              42095.50c    2.1753E-07
    36-              48000.50c    4.2020E-09
    37-              62150.50c    3.4356E-08
    38-              36083.50c    1.7568E-08
    39-              92233.50c    6.6328E-09
    40-              92234.50c    5.4403E-07
    41-              92235.53c    3.4776E-05
    42-              92236.50c    9.7005E-06
    43-              92238.53c    1.9017E-03
    44-              93237.50c    2.1728E-06
    45-              94238.50c    1.1952E-09
    46-              94239.55c    1.9793E-06
    47-              94240.50c    7.0065E-08
    48-                 1001.53c 1.6603-2
    49-                 8016.53c 4.0422-2
    50-                11023.50c 3.9366-4
    51-                12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
    52-                19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
    53-        mt1     lwtr.03t
    54-        c        40 (x .99 at 50 C) vol% water in calico Hills tuff
    55-        m2       1001.53c 2.6477-2   8016.53c 4.1448-2  11023.50c 3.9366-4
    56-                12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
```

```
   57-              19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
   58-       mt2    lwtr.02t
   59-       PRINT
1     initial source from file   srctp

 original number of points                          4129
    points not in any cell                 0
    points in cells of zero importance     0
    points in void cells                   0
    points in ambiguous cells              0
 total points rejected                                0
 points remaining                                  4129
 points after expansion or contraction             3992
 nominal source size                               4000

 initial guess for k(eff.)                      1.000000

 cycles to skip before tallying                      30

 number of keff cycles that can be stored           260

 total fission nubar data are being used.

 warning.    lwtr.02t and   lwtr.03t are both called for.
1material composition                                                    print table 40

 material
  number     component nuclide, atom fraction

     1          62149,   .00000     63151,   .00000     60143,   .00000     45103,   .00000
                54131,   .00000     55133,   .00000     62147,   .00000     43099,   .00000
                64155,   .00000     60145,   .00000     62152,   .00000     42095,   .00000
                48000,   .00000     62150,   .00000     36083,   .00000     92233,   .00000
                92234,   .00001     92235,   .00046     92236,   .00013     92238,   .02540
                93237,   .00003     94238,   .00000     94239,   .00003     94240,   .00000
                 1001,   .22173      8016,   .53982     11023,   .00526     12000,   .00309
                13027,   .03482     14000,   .15232     19000,   .00742     20000,   .00761
                26000,   .00187
 associated thermal s(a,b) data sets:    lwtr.03t
     2           1001,   .31585      8016,   .49444     11023,   .00470     12000,   .00276
                13027,   .03110     14000,   .13606     19000,   .00663     20000,   .00679
                26000,   .00167
 associated thermal s(a,b) data sets:    lwtr.02t



 material
  number     component nuclide, mass fraction

     1          62149,   .00000     63151,   .00000     60143,   .00002     45103,   .00001
                54131,   .00001     55133,   .00002     62147,   .00001     43099,   .00001
                64155,   .00000     60145,   .00001     62152,   .00000     42095,   .00001
                48000,   .00000     62150,   .00000     36083,   .00000     92233,   .00000
                92234,   .00008     92235,   .00516     92236,   .00144     92238,   .28553
                93237,   .00032     94238,   .00000     94239,   .00030     94240,   .00001
                 1001,   .01055      8016,   .40779     11023,   .00571     12000,   .00355
                13027,   .04437     14000,   .20205     19000,   .01371     20000,   .01440
                26000,   .00494
```

2	1001,	.02326	8016,	.57779	11023,	.00789	12000,	.00490
	13027,	.06130	14000,	.27919	19000,	.01894	20000,	.01989
	26000,	.00683						

1cell volumes and masses print table 50

	cell	atom density	gram density	input volume	calculated volume	mass	pieces	reason volume not calculated
1	1	7.48814E-02	2.63284E+00	.00000E+00	1.14940E+07	3.02619E+07	1	
2	2	8.38290E-02	1.90533E+00	.00000E+00	2.20163E+07	4.19483E+07	1	
3	3	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	0	infinite

1problem summary

run terminated when 130 kcode cycles were done.

\+ 08/29/96 19:39:01

Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40g1n) 10000 Years 600K probid = 08/29/96 16:44:37

0

neutron creation	tracks	weight (per source particle)	energy (per source particle)	neutron loss	tracks	weight (per source particle)	energy (per source particle)
source	521885	9.9639E-01	2.0383E+00	escape	141	1.4277E-04	9.9555E-05
				energy cutoff	0	0.	0.
				time cutoff	0	0.	0.
weight window	0	0.	0.	weight window	0	0.	0.
cell importance	0	0.	0.	cell importance	0	0.	0.
weight cutoff	0	6.1410E-02	3.3499E-05	weight cutoff	522038	6.1355E-02	2.3321E-05
energy importance	0	0.	0.	energy importance	0	0.	0.
dxtran	0	0.	0.	dxtran	0	0.	0.
forced collisions	0	0.	0.	forced collisions	0	0.	0.
exp. transform	0	0.	0.	exp. transform	0	0.	0.
upscattering	0	0.	3.3139E-07	downscattering	0	0.	1.9352E+00
				capture	0	6.2353E-01	6.3113E-02
(n,xn)	585	8.5591E-04	6.1523E-04	loss to (n,xn)	291	4.2578E-04	3.5293E-03
fission	0	0.	0.	loss to fission	0	3.7320E-01	3.6983E-02
total	522470	1.0587E+00	2.0390E+00	total	522470	1.0587E+00	2.0390E+00

number of neutrons banked	294	average lifetime, shakes		cutoffs	
neutron tracks per source particle	1.0011E+00	escape	3.6578E+04	tco	1.0000E+34
neutron collisions per source particle	7.8305E+01	capture	9.3155E+03	eco	.0000E+00
total neutron collisions	40866179	capture or escape	9.3194E+03	wc1	-5.0000E-01
net multiplication	1.0004E+00 .0000	any termination	1.0148E+04	wc2	-2.5000E-01

computer time so far in this run	174.17 minutes	maximum number ever in bank	2
computer time in mcrun	174.10 minutes	bank overflows to backup file	0
source particles per minute	2.9977E+03	field length	0
random numbers generated	473703477	most random numbers used was	13212 in history 186740

range of sampled source weights = 9.1701E-01 to 1.1145E+00

1neutron activity in each cell print table 126

	cell	tracks entering	population	collisions	collisions * weight (per history)	number weighted energy	flux weighted energy	average track weight (relative)	average track mfp (cm)
1	1	604475	522179	33444686	4.7067E+01	3.2383E-04	5.1426E-01	8.0512E-01	2.5256E+00
2	2	106309	50538	7421493	7.5249E+00	4.6654E-05	2.0128E-01	5.7820E-01	1.3178E+00
total		710784	572717	40866179	5.4592E+01				

1neutron weight balance in each cell -- external events print table 130

cell		entering	source	energy cutoff	time cutoff	exiting	total
1	1	1.0592E-01	9.9639E-01	.0000E+00	.0000E+00	-1.5379E-01	9.4852E-01
2	2	1.5379E-01	.0000E+00	.0000E+00	.0000E+00	-1.0606E-01	4.7728E-02
total		2.5971E-01	9.9639E-01	.0000E+00	.0000E+00	-2.5986E-01	9.9625E-01

1neutron weight balance in each cell -- variance reduction events print table 130

cell		weight window	cell importance	weight cutoff	energy importance	dxtran	forced collision	exponential transform	total
1	1	.0000E+00	.0000E+00	-4.3948E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00	-4.3948E-05
2	2	.0000E+00	.0000E+00	9.9491E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00	9.9491E-05
total		.0000E+00	.0000E+00	5.5543E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00	5.5543E-05

1keff results for: Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40g1n) 10000 Years 600K probid = 08/29/96 16:44:37

the initial fission neutron source distribution was read from the srctp file named srctp .
the criticality problem was scheduled to skip 30 cycles and run a total of 130 cycles with nominally 4000 neutrons per cycle.
this problem has run 30 inactive cycles with 120052 neutron histories and 100 active cycles with 401833 neutron histories.

this calculation has completed the requested number of keff cycles using a total of 521885 fission neutron source histories.
all cells with fissionable material were sampled and had fission neutron source points.

the results of the w test for normality applied to the individual collision, absorption, and track-length keff cycle values are:

the k(collision) cycle values appear normally distributed at the 95 percent confidence level
the k(absorption) cycle values appear normally distributed at the 95 percent confidence level
the k(trk length) cycle values appear normally distributed at the 95 percent confidence level

---

the final estimated combined collision/absorption/track-length keff = .93357 with an estimated standard deviation of .00080

the estimated 68, 95, & 99 percent keff confidence intervals are .93277 to .93437, .93197 to .93517, and .93145 to .93569

the estimated collision/absorption neutron removal lifetime = 9.33E-05 seconds with an estimated standard deviation of 2.08E-07

---

the estimated average keffs, one standard deviations, and 68, 95, and 99 percent confidence intervals are:

keff estimator	keff	standard deviation	68% confidence	95% confidence	99% confidence	corr
collision	.93359	.00119	.93240 to .93477	.93122 to .93595	.93045 to .93672	
absorption	.93356	.00108	.93248 to .93465	.93141 to .93572	.93070 to .93642	
track length	.93358	.00118	.93240 to .93477	.93122 to .93594	.93045 to .93671	
col/absorp	.93357	.00081	.93276 to .93439	.93196 to .93519	.93143 to .93572	.0189
abs/trk len	.93357	.00080	.93277 to .93437	.93198 to .93517	.93146 to .93569	-.0083
col/trk len	.93358	.00119	.93240 to .93477	.93122 to .93595	.93045 to .93672	.9826
col/abs/trk len	.93357	.00080	.93277 to .93437	.93197 to .93517	.93145 to .93569	

```
1mcnp     version 4a    ld=10/01/93                          08/29/96 23:06:12
 ******************************************************************************                probid =   08/29/96 23:06:12
 inp=sp40e1y outp=sp40e1y0

     1-        Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1y) 1000 Years  600K
     2-        C    Calico Hills Tuff 1.5095 g/cc  .40 porosity -  sphere surrounded by tuff
     3-        C    Water and UO2 offset each other in porous space / H2O @ 500k no fp
     4-        C     CELL SPECIFICATIONS
     5-        C     INNER WATER REGION
     6-        1     1  7.48783-2   -1   IMP:N=1
     7-        2     2  8.38290-2  1 -2  IMP:N=1
     8-        C     OUTSIDE WORLD
     9-        3     0  2   IMP:N=0
    10-
    11-        C     SURFACE SPECIFICATIONS
    12-        1     SO  140       $ INNER FUEL ZONE
    13-        2     SO  200       $ TUFF REFLECTOR
    14-
    15-        MODE  N
    16-        KCODE  4000 1. 30 130
    17-        C     KSRC   0 0 1  0 0 10  0 0 -20  0 0 29  0 20 5  0 0 -5  -10 0 -10
    18-        C       0 -5 -20 -10 0 -13 0 -10 14 0 0 -15 -10 -5  -16 5 5 0 10 10 17
    19-        C      MATERIAL SPECIFICATIONS
    20-        c        32 (x .776 at 265 C) vol% water in calico Hills tuff - 8 vol% UO2
    21-        c        3.0% Original Enrichment/ 20 GWD/MT decayed to Uranium isotopes
    22-        c       1000 yr critical
    23-        m1    92233.50c   7.1050E-10
    24-              92234.50c   4.8749E-07
    25-              92235.53c   3.8398E-05
    26-              92236.50c   9.3098E-06
    27-              92238.53c   1.9289E-03
    28-              93237.50c   2.2324E-06
    29-              94238.50c   1.2260E-09
    30-              94239.55c   2.5206E-07
    31-              94240.50c   1.1983E-09
    32-                 1001.53c 1.6549-2
    33-                 8016.53c 4.0446-2
    34-                11023.50c 3.9366-4
    35-                12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
    36-                19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
    37-        mt1     lwtr.03t
    38-        c        40 (x .99 at 50 C) vol% water in calico Hills tuff
    39-        m2       1001.53c 2.6477-2   8016.53c 4.1448-2  11023.50c 3.9366-4
    40-                12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
    41-                19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
    42-        mt2     lwtr.02t
    43-        PRINT
1     initial source from file   srctp

 original number of points                          3886
    points not in any cell                  0
    points in cells of zero importance      0
    points in void cells                    0
    points in ambiguous cells               0
 total points rejected                                 0
 points remaining                                   3886
 points after expansion or contraction              4000
 nominal source size                                4000

 initial guess for k(eff.)                      1.000000
```

cycles to skip before tallying 30

number of keff cycles that can be stored 260

total fission nubar data are being used.

warning. lwtr.02t and lwtr.03t are both called for.

1material composition print table 40

material number	component nuclide, atom fraction							
1	92233,	.00000	92234,	.00001	92235,	.00051	92236,	.00012
	92238,	.02576	93237,	.00003	94238,	.00000	94239,	.00000
	94240,	.00000	1001,	.22101	8016,	.54016	11023,	.00526
	12000,	.00309	13027,	.03482	14000,	.15233	19000,	.00742
	20000,	.00761	26000,	.00187				
associated thermal s(a,b) data sets:			lwtr.03t					
2	1001,	.31585	8016,	.49444	11023,	.00470	12000,	.00276
	13027,	.03110	14000,	.13606	19000,	.00663	20000,	.00679
	26000,	.00167						
associated thermal s(a,b) data sets:			lwtr.02t					

material number	component nuclide, mass fraction							
1	92233,	.00000	92234,	.00007	92235,	.00567	92236,	.00138
	92238,	.28834	93237,	.00033	94238,	.00000	94239,	.00004
	94240,	.00000	1001,	.01047	8016,	.40624	11023,	.00568
	12000,	.00353	13027,	.04417	14000,	.20116	19000,	.01365
	20000,	.01433	26000,	.00492				
2	1001,	.02326	8016,	.57779	11023,	.00789	12000,	.00490
	13027,	.06130	14000,	.27919	19000,	.01894	20000,	.01989
	26000,	.00683						

1cell volumes and masses print table 50

	cell	atom density	gram density	input volume	calculated volume	mass	pieces	reason volume not calculated
1	1	7.48783E-02	2.64439E+00	.00000E+00	1.14940E+07	3.03948E+07	1	
2	2	8.38290E-02	1.90533E+00	.00000E+00	2.20163E+07	4.19483E+07	1	
3	3	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	0	infinite

1problem summary

run terminated when 130 kcode cycles were done.

+ 08/30/96 01:03:50

Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1y) 1000 Years 600K probid = 08/29/96 23:06:12

0

neutron creation	tracks	weight (per source particle)	energy	neutron loss	tracks	weight (per source particle)	energy
source	519879	1.0002E+00	2.0295E+00	escape	143	1.4537E-04	1.3409E-04
				energy cutoff	0	0.	0.
				time cutoff	0	0.	0.
weight window	0	0.	0.	weight window	0	0.	0.

cell importance	0	0.	0.	cell importance	0	0.	0.
weight cutoff	0	6.3554E-02	4.0956E-05	weight cutoff	520045	6.3956E-02	3.4808E-05
energy importance	0	0.	0.	energy importance	0	0.	0.
dxtran	0	0.	0.	dxtran	0	0.	0.
forced collisions	0	0.	0.	forced collisions	0	0.	0.
exp. transform	0	0.	0.	exp. transform	0	0.	0.
upscattering	0	0.	3.3603E-07	downscattering	0	0.	1.9260E+00
				capture	0	6.1583E-01	6.2745E-02
(n,xn)	617	9.1000E-04	6.6890E-04	loss to (n,xn)	308	4.5424E-04	3.7825E-03
fission	0	0.	0.	loss to fission	0	3.8431E-01	3.7476E-02
total	520496	1.0647E+00	2.0302E+00	total	520496	1.0647E+00	2.0302E+00

number of neutrons banked	309	average lifetime, shakes		cutoffs
neutron tracks per source particle	1.0012E+00	escape	3.4660E+04	tco 1.0000E+34
neutron collisions per source particle	7.9209E+01	capture	9.4506E+03	eco .0000E+00
total neutron collisions	41179192	capture or escape	9.4543E+03	wc1 -5.0000E-01
net multiplication	1.0005E+00 .0000	any termination	1.0292E+04	wc2 -2.5000E-01

computer time so far in this run	117.53 minutes	maximum number ever in bank	2
computer time in mcrun	117.48 minutes	bank overflows to backup file	0
source particles per minute	4.4253E+03	field length	0
random numbers generated	477822584	most random numbers used was	10822 in history 272095

range of sampled source weights = 9.3414E-01 to 1.0689E+00

1neutron activity in each cell print table 126

cell		tracks entering	population	collisions	collisions * weight (per history)	number weighted energy	flux weighted energy	average track weight (relative)	average track mfp (cm)
1	1	600222	520188	33940512	4.7813E+01	3.1479E-04	5.0778E-01	8.0371E-01	2.5126E+00
2	2	103684	49573	7238680	7.3886E+00	4.6662E-05	2.0187E-01	5.7994E-01	1.3171E+00
total		703906	569761	41179192	5.5202E+01				

1keff results for: Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1y) 1000 Years 600K probid = 08/29/96 23:06:12

the initial fission neutron source distribution was read from the srctp file named srctp .
the criticality problem was scheduled to skip 30 cycles and run a total of 130 cycles with nominally 4000 neutrons per cycle.
this problem has run 30 inactive cycles with 120410 neutron histories and 100 active cycles with 399469 neutron histories.

this calculation has completed the requested number of keff cycles using a total of 519879 fission neutron source histories.
all cells with fissionable material were sampled and had fission neutron source points.

the results of the w test for normality applied to the individual collision, absorption, and track-length keff cycle values are:

the k(collision) cycle values appear normally distributed at the 95 percent confidence level
the k(absorption) cycle values appear normally distributed at the 95 percent confidence level
the k(trk length) cycle values appear normally distributed at the 95 percent confidence level

---

the final estimated combined collision/absorption/track-length keff = .94399 with an estimated standard deviation of .00088

the estimated 68, 95, & 99 percent keff confidence intervals are .94311 to .94487, .94224 to .94574, and .94167 to .94632

the estimated collision/absorption neutron removal lifetime = 9.44E-05 seconds with an estimated standard deviation of 1.91E-07

the estimated average keffs, one standard deviations, and 68, 95, and 99 percent confidence intervals are:

keff estimator	keff	standard deviation	68% confidence	95% confidence	99% confidence	corr
collision	.94424	.00128	.94296 to .94552	.94170 to .94679	.94087 to .94762	
absorption	.94381	.00113	.94268 to .94494	.94155 to .94607	.94082 to .94680	
track length	.94420	.00129	.94291 to .94550	.94163 to .94678	.94079 to .94762	
col/absorp	.94400	.00088	.94312 to .94488	.94225 to .94574	.94168 to .94631	.0573
abs/trk len	.94398	.00088	.94310 to .94486	.94223 to .94573	.94166 to .94630	.0497
col/trk len	.94424	.00128	.94295 to .94552	.94168 to .94679	.94084 to .94763	.9858
col/abs/trk len	.94399	.00088	.94311 to .94487	.94224 to .94574	.94167 to .94632	

```
1mcnp     version 4a    ld=10/01/93                              08/29/96 23:27:14
 ******************************************************************************                probid =   08/29/96 23:27:14
 inp=sp40e1z outp=sp40e1z0

    1-        Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1z) 1000 Years  600K
    2-        C    Calico Hills Tuff 1.5095 g/cc  .40 porosity -  sphere surrounded by tuff
    3-        C    Water and UO2 offset each other in porous space / H2O @ 500k no Pu239,U233
    4-        C     CELL SPECIFICATIONS
    5-        C     INNER WATER REGION
    6-        1     1  7.48781-2   -1   IMP:N=1
    7-        2     2  8.38290-2  1 -2  IMP:N=1
    8-        C     OUTSIDE WORLD
    9-        3     0  2   IMP:N=0
   10-
   11-        C     SURFACE SPECIFICATIONS
   12-        1     SO  140       $ INNER FUEL ZONE
   13-        2     SO  200       $ TUFF REFLECTOR
   14-
   15-        MODE  N
   16-        KCODE  4000 1. 30 130
   17-        C     KSRC   0 0 1  0 0 10  0 0 -20  0 0 29  0 20 5  0 0 -5  -10 0 -10
   18-        C       0 -5 -20 -10 0 -13 0 -10 14 0 0 -15 -10 -5  -16 5 5 0 10 10 17
   19-        C      MATERIAL SPECIFICATIONS
   20-        c        32 (x .776 at 265 C) vol% water in calico Hills tuff - 8 vol% UO2
   21-        c        3.0% Original Enrichment/ 20 GWD/MT decayed to Uranium isotopes
   22-        c       1000 yr critical
   23-        m1    62149.50c   2.0302E-09
   24-              62151.50c   1.9060E-10
   25-              60143.50c   2.0165E-08
   26-              45103.50c   1.0845E-08
   27-              63151.55c   1.2151E-09
   28-              64157.50c   1.1152E-11
   29-              64155.50c   9.4362E-11
   30-              48000.50c   3.2119E-10
   31-              54131.50c   9.9667E-09
   32-              55133.50c   2.3024E-08
   33-              43099.50c   2.0926E-08
   34-              62147.50c   7.7393E-09
   35-              62152.50c   1.0071E-09
   36-              60145.50c   1.3415E-08
   37-              42095.50c   2.2139E-08
   38-              92234.50c   4.8749E-07
   39-              92235.53c   3.8398E-05
   40-              92236.50c   9.3098E-06
   41-              92238.53c   1.9289E-03
   42-              93237.50c   2.2324E-06
   43-              94240.50c   1.1983E-09
   44-                 1001.53c 1.6549-2
   45-                 8016.53c 4.0446-2
   46-                11023.50c 3.9366-4
   47-                12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
   48-                19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
   49-        mt1     lwtr.03t
   50-        c        40 (x .99 at 50 C) vol% water in calico Hills tuff
   51-        m2       1001.53c 2.6477-2   8016.53c 4.1448-2  11023.50c 3.9366-4
   52-              12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
   53-              19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
   54-        mt2     lwtr.02t
   55-        PRINT
 1     initial source from file   srctp
```

original number of points		4072
points not in any cell	0	
points in cells of zero importance	0	
points in void cells	0	
points in ambiguous cells	0	
total points rejected		0
points remaining		4072
points after expansion or contraction		3995
nominal source size		4000
initial guess for k(eff.)		1.000000
cycles to skip before tallying		30
number of keff cycles that can be stored		260

total fission nubar data are being used.

warning. lwtr.02t and lwtr.03t are both called for.

print table 40

1material composition

material number	component nuclide, atom fraction							
1	62149,	.00000	62151,	.00000	60143,	.00000	45103,	.00000
	63151,	.00000	64157,	.00000	64155,	.00000	48000,	.00000
	54131,	.00000	55133,	.00000	43099,	.00000	62147,	.00000
	62152,	.00000	60145,	.00000	42095,	.00000	92234,	.00001
	92235,	.00051	92236,	.00012	92238,	.02576	93237,	.00003
	94240,	.00000	1001,	.22101	8016,	.54016	11023,	.00526
	12000,	.00309	13027,	.03482	14000,	.15233	19000,	.00742
	20000,	.00761	26000,	.00187				
associated thermal s(a,b) data sets:			lwtr.03t					
2	1001,	.31585	8016,	.49444	11023,	.00470	12000,	.00276
	13027,	.03110	14000,	.13606	19000,	.00663	20000,	.00679
	26000,	.00167						
associated thermal s(a,b) data sets:			lwtr.02t					

material number	component nuclide, mass fraction							
1	62149,	.00000	62151,	.00000	60143,	.00000	45103,	.00000
	63151,	.00000	64157,	.00000	64155,	.00000	48000,	.00000
	54131,	.00000	55133,	.00000	43099,	.00000	62147,	.00000
	62152,	.00000	60145,	.00000	42095,	.00000	92234,	.00007
	92235,	.00567	92236,	.00138	92238,	.28835	93237,	.00033
	94240,	.00000	1001,	.01047	8016,	.40626	11023,	.00568
	12000,	.00353	13027,	.04417	14000,	.20117	19000,	.01365
	20000,	.01433	26000,	.00492				
2	1001,	.02326	8016,	.57779	11023,	.00789	12000,	.00490
	13027,	.06130	14000,	.27919	19000,	.01894	20000,	.01989
	26000,	.00683						

print table 50

1cell volumes and masses

cell	atom	gram	input	calculated	reason volume

		density	density	volume	volume	mass	pieces	not calculated
1	1	7.48781E-02	2.64432E+00	.00000E+00	1.14940E+07	3.03939E+07	1	
2	2	8.38290E-02	1.90533E+00	.00000E+00	2.20163E+07	4.19483E+07	1	
3	3	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	0	infinite

1problem summary

run terminated when 130 kcode cycles were done.

+ 08/30/96 02:07:57

Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1z) 1000 Years 600K probid = 08/29/96 23:27:14

0

neutron creation	tracks	weight (per source particle)	energy (per source particle)	neutron loss	tracks	weight (per source particle)	energy (per source particle)
source	520651	9.9875E-01	2.0338E+00	escape	121	1.3229E-04	9.5317E-05
				energy cutoff	0	0.	0.
				time cutoff	0	0.	0.
weight window	0	0.	0.	weight window	0	0.	0.
cell importance	0	0.	0.	cell importance	0	0.	0.
weight cutoff	0	6.4212E-02	3.6000E-05	weight cutoff	520815	6.4324E-02	2.9960E-05
energy importance	0	0.	0.	energy importance	0	0.	0.
dxtran	0	0.	0.	dxtran	0	0.	0.
forced collisions	0	0.	0.	forced collisions	0	0.	0.
exp. transform	0	0.	0.	exp. transform	0	0.	0.
upscattering	0	0.	3.3894E-07	downscattering	0	0.	1.9301E+00
				capture	0	6.1794E-01	6.3167E-02
(n,xn)	570	8.4918E-04	6.1622E-04	loss to (n,xn)	285	4.2459E-04	3.4855E-03
fission	0	0.	0.	loss to fission	0	3.8099E-01	3.7578E-02
total	521221	1.0638E+00	2.0345E+00	total	521221	1.0638E+00	2.0345E+00

number of neutrons banked	285	average lifetime, shakes		cutoffs	
neutron tracks per source particle	1.0011E+00	escape	3.2924E+04	tco	1.0000E+34
neutron collisions per source particle	7.9735E+01	capture	9.5362E+03	eco	.0000E+00
total neutron collisions	41514025	capture or escape	9.5393E+03	wc1	-5.0000E-01
net multiplication	1.0004E+00 .0000	any termination	1.0394E+04	wc2	-2.5000E-01

computer time so far in this run	160.64 minutes	maximum number ever in bank	1
computer time in mcrun	160.58 minutes	bank overflows to backup file	0
source particles per minute	3.2424E+03	field length	0
random numbers generated	481148074	most random numbers used was	11622 in history 491370

range of sampled source weights = 9.3197E-01 to 1.0750E+00

1neutron activity in each cell print table 126

cell		tracks entering	population	collisions	collisions * weight (per history)	number weighted energy	flux weighted energy	average track weight (relative)	average track mfp (cm)
1	1	602847	520936	34127072	4.7895E+01	3.1399E-04	5.0852E-01	8.0207E-01	2.5127E+00
2	2	105896	50141	7386953	7.4968E+00	4.6151E-05	1.9946E-01	5.7737E-01	1.3134E+00
total		708743	571077	41514025	5.5391E+01				

1keff results for: Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40e1z) 1000 Years 600K probid = 08/29/96 23:27:14

the initial fission neutron source distribution was read from the srctp file named srctp .
the criticality problem was scheduled to skip 30 cycles and run a total of 130 cycles with nominally 4000 neutrons per cycle.
this problem has run 30 inactive cycles with 119671 neutron histories and 100 active cycles with 400980 neutron histories.

this calculation has completed the requested number of keff cycles using a total of 520651 fission neutron source histories.
all cells with fissionable material were sampled and had fission neutron source points.

the results of the w test for normality applied to the individual collision, absorption, and track-length keff cycle values are:

the k(collision) cycle values appear normally distributed at the 95 percent confidence level
the k(absorption) cycle values appear normally distributed at the 95 percent confidence level
the k(trk length) cycle values appear normally distributed at the 95 percent confidence level

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the final estimated combined collision/absorption/track-length keff = .93493 with an estimated standard deviation of .00078

the estimated 68, 95, & 99 percent keff confidence intervals are .93415 to .93572, .93337 to .93650, and .93286 to .93701

the estimated collision/absorption neutron removal lifetime = 9.56E-05 seconds with an estimated standard deviation of 2.07E-07

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the estimated average keffs, one standard deviations, and 68, 95, and 99 percent confidence intervals are:

keff estimator	keff	standard deviation	68% confidence	95% confidence	99% confidence	corr
collision	.93541	.00113	.93427 to .93654	.93315 to .93766	.93242 to .93839	
absorption	.93444	.00118	.93326 to .93562	.93209 to .93679	.93133 to .93755	
track length	.93544	.00117	.93427 to .93662	.93311 to .93778	.93234 to .93854	
col/absorp	.93494	.00078	.93416 to .93572	.93338 to .93650	.93287 to .93701	-.0919
abs/trk len	.93494	.00080	.93414 to .93574	.93335 to .93654	.93283 to .93706	-.0861
col/trk len	.93539	.00113	.93426 to .93653	.93314 to .93765	.93240 to .93838	.9801
col/abs/trk len	.93493	.00078	.93415 to .93572	.93337 to .93650	.93286 to .93701	

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1mcnp     version 4a    ld=10/01/93                    08/29/96 19:39:01
 ***************************************************************************          probid =   08/29/96 19:39:01
 inp=sp40g1y outp=sp40g1y0

    1-       Far-Field Consequence Study - 32% H2O/ 8% UO2 (sp40g1y) 10000 Years  600K
    2-       c    Calico Hills Tuff 1.5095 g/cc  .40 porosity -  sphere surrounded by tuff
    3-       C    Water and UO2 offset each other in porous space / H20 @ 500k no fp
    4-       C     CELL SPECIFICATIONS
    5-       C     INNER WATER REGION
    6-       1     1  7.48330-2   -1   IMP:N=1
    7-       2     2  8.38290-2  1 -2  IMP:N=1
    8-       C     OUTSIDE WORLD
    9-       3     0  2   IMP:N=0
   10-
   11-       C     SURFACE SPECIFICATIONS
   12-       1     SO  140       $ INNER FUEL ZONE
   13-       2     SO  200       $ TUFF REFLECTOR
   14-
   15-       MODE  N
   16-       KCODE  4000 1. 30 130
   17-       C      KSRC   0 0 1  0 0 10  0 0 -20  0 0 29  0 20 5  0 0 -5  -10 0 -10
   18-       C         0 -5 -20 -10 0 -13 0 -10 14 0 0 -15 -10 -5  -16 5 5 0 10 10 17
   19-       C      MATERIAL SPECIFICATIONS
   20-       c        32 (x .776 at 265 C) vol% water in calico Hills tuff - 8 vol% UO2
   21-       c        3.0% Original Enrichment/ 20 GWD/MT decayed to Uranium isotopes
   22-       c       10000 yr critical
   23-       m1     92233.50c   6.6328E-09
   24-              92234.50c   6.0552E-07
   25-              92235.53c   3.9787E-05
   26-              92236.50c   1.0899E-05
   27-              92238.53c   2.1513E-03
   28-              93237.50c   2.4587E-06
   29-              94238.50c   1.1952E-09
   30-              94239.55c   1.9793E-06
   31-              94240.50c   7.0065E-08
   32-                 1001.53c 1.6059-2
   33-                 8016.53c 4.0662-2
   34-                11023.50c 3.9366-4
   35-                12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
   36-                19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
   37-       mt1      lwtr.03t
   38-       c         40 (x .99 at 50 C) vol% water in calico Hills tuff
   39-       m2        1001.53c 2.6477-2   8016.53c 4.1448-2  11023.50c 3.9366-4
   40-                12000.50c 2.3128-4  13027.50c 2.6070-3  14000.50c 1.1406-2
   41-                19000.50c 5.5591-4  20000.50c 5.6949-4  26000.55c 1.4037-4
   42-       mt2      lwtr.02t
   43-       PRINT
1     initial source from file   srctp

 original number of points                          4023
    points not in any cell                      0
    points in cells of zero importance          0
    points in void cells                        0
    points in ambiguous cells                   0
 total points rejected                                 0
 points remaining                                   4023
 points after expansion or contraction              4001
 nominal source size                                4000

 initial guess for k(eff.)                      1.000000
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