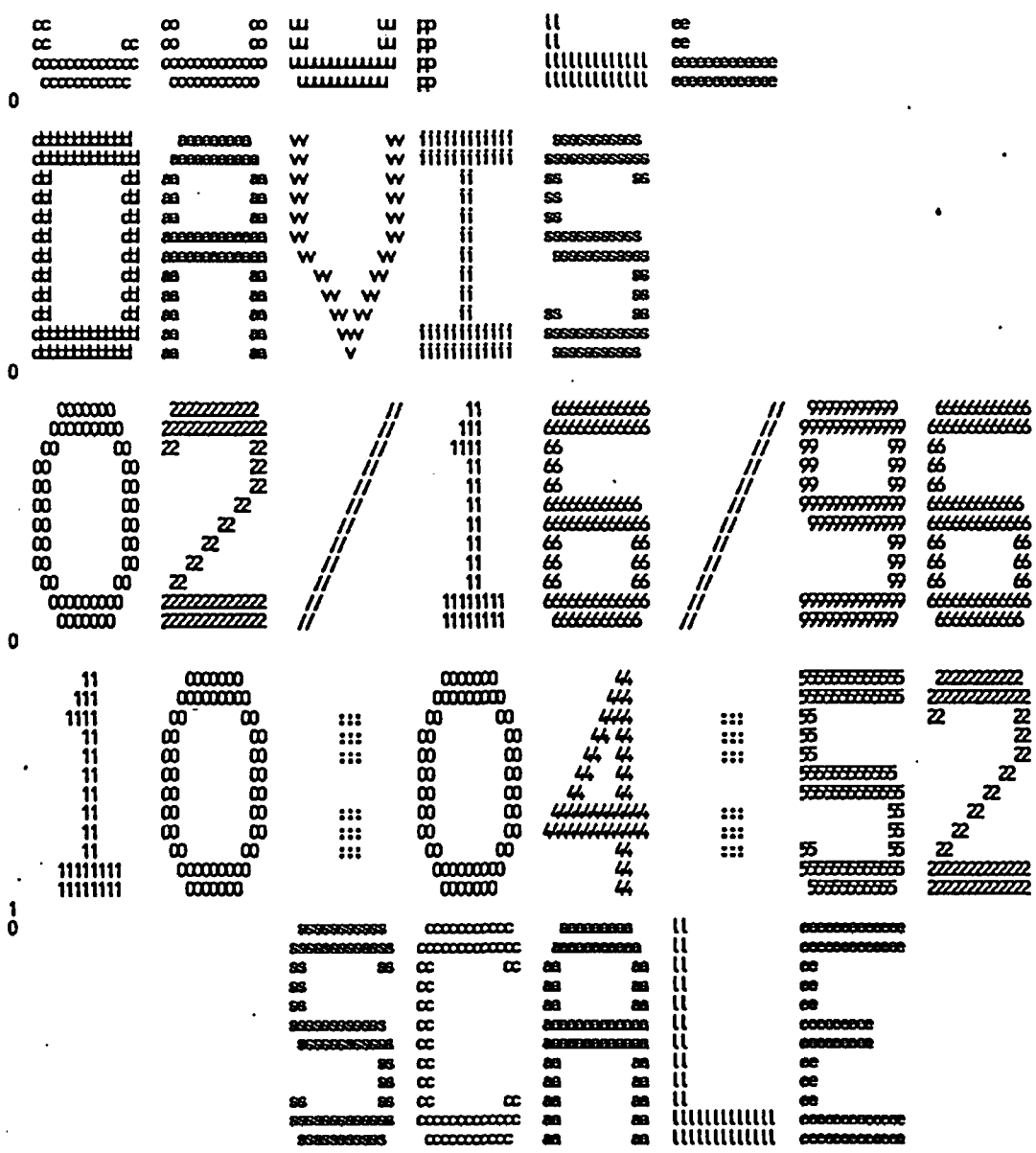
INFORMATION ONLY



```
*************************************************************************
*************************************************************************
*************************************************************************
*****                                                              *****
*****              program verification information                *****
*****                                                              *****
*****              code system:    scale  version:    4.2          *****
*****                                                              *****
*************************************************************************
*************************************************************************
*****                                                              *****
*****                                                              *****
*****              program:  c0c005                                *****
*****                                                              *****
*****        creation date:  04/27/95                              *****
*****                                                              *****
*****              library:  /neutronics/scale/exe                 *****
*****                                                              *****
*****                                                              *****
*****   this is not a   scale  configuration controlled code      *****
*****                                                              *****
*****              jobname:  davis                                 *****
*****                                                              *****
*****    date of execution:  02/16/96                              *****
*****                                                              *****
*****    time of execution:  10:04:52                              *****
*****                                                              *****
*****                                                              *****
*************************************************************************
*************************************************************************
*************************************************************************
1
0      -1q array has       1 entries.
0       0q array has       1 entries.
0       0q array has       1 entries.
0       1q array has       1 entries.
0       1q array has       1 entries.
0       1q array has       1 entries.
0       1q array has       1 entries.
0       1q array has       1 entries.
0       2q array has       1 entries.
0         * core allocated to array-data (by -1$$ or default) was   200000 words. *
1          * broad 3-group flux weighting factors *
0
0               therm =    .5126
0               res   =    .4497
0               fast  =   3.4893
0 user requested (see jadd) that only the nuclide transitions presently included in
0 origen library be updated.
1cross sections, available from ampx (normalized to thermal flux), barns

                 10010 to  10020  2.85588E-01
                 10010 tot-cap    2.85588E-01
                 50100 to  40100  2.50160E-02
                 50100 to  10010  2.50160E-02
                 50100 to  40090  3.85350E-03
```

50100	to 10020	3.85350E-03
50100	to 30070	3.28386E+03
50100	to 20040	3.28404E+03
50100	to 10080	9.39263E-02
50100	tot-cap	3.28398E+03
50110	to 50100	1.11152E-05
50110	to 50120	4.34943E-03
50110	to 40110	1.41841E-06
50110	to 10010	1.41841E-06
50110	to 40090	1.26578E-05
50110	to 10080	1.26578E-05
50110	to 30080	1.65242E-04
50110	to 20040	1.65242E-04
50110	tot-cap	4.53987E-03
80160	to 80170	1.52575E-04
80160	to 70160	9.72568E-05
80160	to 10010	9.72568E-05
80160	to 70150	1.83423E-05
80160	to 10020	1.83423E-05
80160	to 60130	2.69575E-02
80160	to 20040	2.69575E-02
80160	to 80161	4.26530E-03
80160	tot-cap	2.72256E-02
360830	to 360820	2.20799E-02
360830	to 360810	2.33108E-09
360830	to 360840	1.55894E+02
360830	to 350830	9.01086E-04
360830	to 10010	9.01086E-04
360830	to 350820	7.29238E-06
360830	to 10020	7.29238E-06
360830	to 350810	2.54882E-06
360830	to 10030	2.54882E-06
360830	to 340810	4.12506E-08
360830	to 20030	4.12506E-08
360830	to 340800	4.84378E-05
360830	to 20040	4.84378E-05
360830	tot-cap	1.55917E+02
360850	to 360860	1.41363E+00
360850	tot-cap	1.41363E+00
380900	to 380910	6.34958E-01
380900	tot-cap	6.34958E-01
390890	to 390900	9.98628E-01
390890	tot-cap	9.98628E-01
400930	to 400940	1.37832E+01
400930	tot-cap	1.37832E+01
400940	to 400950	1.90769E-01
400940	tot-cap	1.90769E-01
400950	to 400960	2.28487E+00
400950	tot-cap	2.28487E+00
410940	to 410950	3.94339E+01
410940	tot-cap	3.94339E+01
420950	to 420960	3.86075E+01
420950	tot-cap	3.86075E+01
430930	to 430980	6.69235E-03
430930	to 431000	9.06183E+01
430930	tot-cap	9.06250E+01
441010	to 441020	2.89488E+01
441010	tot-cap	2.89488E+01
441060	to 441070	8.90233E-01
441060	tot-cap	8.90233E-01

451030 to 451020	2.42626E-05
451030 to 451040	3.50205E+02
451030 tot-cap	3.50209E+02
451050 to 451060	8.21154E+05
451050 tot-cap	8.21154E+05
461050 to 461060	3.46009E+01
461050 tot-cap	3.46009E+01
461080 to 461090	6.99666E+01
461080 tot-cap	6.99666E+01
471090 to 471080	5.64211E-05
471090 to 471100	3.75733E+02
471090 to 461090	3.18502E-04
471090 to 10010	3.18502E-04
471090 to 451060	2.64343E-04
471090 to 20040	2.64343E-04
471090 to 471091	6.56022E-01
471090 tot-cap	3.75740E+02
511240 to 511250	1.23092E+01
511240 tot-cap	1.23093E+01
541310 to 541300	6.84125E-02
541310 to 541290	1.43052E-05
541310 to 541320	2.57092E+02
541310 to 531310	4.09207E-05
541310 to 10010	4.09207E-05
541310 to 531300	5.73707E-07
541310 to 10020	5.73707E-07
541310 to 531290	5.88275E-07
541310 to 10030	5.88275E-07
541310 to 521280	1.91871E-05
541310 to 20040	1.91871E-05
541310 tot-cap	2.57161E+02
541320 to 541310	1.10517E-02
541320 to 541300	2.34395E-05
541320 to 541330	9.44700E-01
541320 to 531320	8.41414E-06
541320 to 10010	8.41414E-06
541320 to 531310	3.56199E-07
541320 to 10020	3.56199E-07
541320 to 531300	4.79622E-08
541320 to 10030	4.79622E-08
541320 to 521290	1.03868E-06
541320 to 20040	1.03868E-06
541320 tot-cap	9.55788E-01
541350 to 541360	1.47549E+06
541350 tot-cap	1.47549E+06
541360 to 541350	1.89047E-02
541360 to 541340	5.77395E-05
541360 to 541370	1.24662E-01
541360 to 531360	3.49088E-07
541360 to 10010	3.49088E-07
541360 to 531350	1.29964E-07
541360 to 10020	1.29964E-07
541360 to 531340	2.93612E-08
541360 to 10030	2.93612E-08
541360 to 521330	2.92831E-07
541360 to 20040	2.92831E-07
541360 tot-cap	1.43626E-01
551330 to 551320	8.85275E-05
551330 to 551340	1.05525E+02
551330 to 541330	9.52659E-04

551330 to 10010	9.52659E-04
551330 to 531300	1.51250E-05
551330 to 20040	1.51250E-05
551330 tot-cap	1.02533E+02
551340 to 551350	1.30526E+02
551340 tot-cap	1.30526E+02
551350 to 551360	2.19227E+01
551350 tot-cap	2.19227E+01
551370 to 551380	2.34914E-01
551370 tot-cap	2.34914E-01
561360 to 561370	9.22416E-01
561360 tot-cap	9.22416E-01
571390 to 571400	8.04501E+00
571390 tot-cap	8.04501E+00
581440 to 581450	1.25978E+00
581440 tot-cap	1.25978E+00
591410 to 591400	6.34364E-03
591410 to 591390	1.82268E-06
591410 to 571370	2.72050E-06
591410 to 20040	5.61475E-05
591410 to 581400	1.93316E-05
591410 to 10010	5.48838E-05
591410 to 591420	1.20027E+01
591410 to 581410	5.17146E-05
591410 to 10020	1.61624E-05
591410 to 581390	1.69699E-06
591410 to 10030	1.69699E-06
591410 to 571390	1.63694E-03
591410 to 20030	1.63694E-03
591410 to 571380	5.34270E-05
591410 tot-cap	1.20091E+01
591430 to 591440	9.95397E+01
591430 tot-cap	9.95397E+01
601430 to 601420	9.70131E-02
601430 to 601410	9.90631E-06
601430 to 581390	2.12888E-05
601430 to 20040	5.94627E-04
601430 to 591420	4.14677E-06
601430 to 10010	4.25411E-05
601430 to 601440	2.00228E+02
601430 to 591430	4.09788E-05
601430 to 10020	2.58648E-06
601430 to 591410	3.72623E-06
601430 to 10030	3.72623E-06
601430 to 581410	1.78834E-03
601430 to 20030	1.78834E-03
601430 to 581400	5.73388E-04
601430 tot-cap	2.00825E+02
601450 to 601440	1.24403E-01
601450 to 601430	1.26481E-04
601450 to 581410	8.90192E-06
601450 to 20040	2.22403E-04
601450 to 591440	2.37587E-06
601450 to 10010	1.54304E-05
601450 to 601460	7.95926E+01
601450 to 591450	1.44827E-05
601450 to 10020	1.42819E-06
601450 to 591430	2.25157E-06
601450 to 10030	2.25157E-06
601450 to 581430	4.58420E-09

601450 to 20030	4.58420E-09
601450 to 581420	2.13506E-04
601450 tot-cap	7.97175E+01
601470 to 601480	1.93197E+02
601470 tot-cap	1.93197E+02
611470 to 611460	3.40804E-02
611470 to 611450	1.06336E-04
611470 to 591430	9.41178E-06
611470 to 20040	8.70684E-05
611470 to 601460	1.30198E-05
611470 to 10010	2.96031E-05
611470 to 611480	5.90057E+02
611470 to 601470	2.63975E-05
611470 to 10020	9.80754E-06
611470 to 601450	3.70296E-06
611470 to 10030	3.70296E-06
611470 to 591450	5.56751E-09
611470 to 20030	5.56751E-09
611470 to 591440	7.76567E-05
611470 tot-cap	5.90092E+02
611480 to 611490	1.20917E+04
611480 tot-cap	1.20917E+04
621470 to 621460	8.89080E-02
621470 to 621450	8.00533E-03
621470 to 601430	6.87305E-05
621470 to 20040	1.30955E-03
621470 to 611460	1.61345E-04
621470 to 10010	2.29758E-04
621470 to 621480	2.37921E+02
621470 to 611470	2.02560E-04
621470 to 10020	1.34146E-04
621470 to 611450	1.44042E-04
621470 to 10030	1.44042E-04
621470 to 601450	6.62765E-06
621470 to 20030	6.62765E-06
621470 to 601440	1.24082E-03
621470 to 621471	1.71350E+00
621470 tot-cap	2.38080E+02
621490 to 621480	5.03405E-02
621490 to 621470	3.99051E-05
621490 to 621500	4.52520E+04
621490 to 611490	5.10998E-04
621490 to 10010	5.10998E-04
621490 to 601460	5.10998E-04
621490 to 20040	5.10998E-04
621490 tot-cap	4.52520E+04
621500 to 621510	1.35845E+02
621500 tot-cap	1.35845E+02
621510 to 621500	1.67358E-01
621510 to 621490	1.50152E-04
621510 to 601470	1.67830E-05
621510 to 20040	1.30450E-04
621510 to 611500	2.05602E-06
621510 to 10010	1.59581E-05
621510 to 621520	4.98487E+03
621510 to 611510	1.47080E-05
621510 to 10020	7.99870E-07
621510 to 611490	1.45371E-06
621510 to 10030	1.45371E-06
621510 to 601490	1.49760E-09

621510	to 20030	1.49760E-09
621510	to 601480	1.13668E-04
621510	tot-cap	4.98503E+03
621520	to 621510	2.01070E-02
621520	to 621500	1.35864E-04
621520	to 601480	3.03558E-06
621520	to 20040	1.26060E-05
621520	to 611510	8.70916E-07
621520	to 10010	2.57005E-06
621520	to 621530	7.34953E+02
621520	to 611520	2.28300E-06
621520	to 10020	5.83965E-07
621520	to 611500	1.51849E-07
621520	to 10030	1.51849E-07
621520	to 601500	4.60190E-10
621520	to 20030	4.60190E-10
621520	to 601490	9.57046E-06
621520	tot-cap	7.34973E+02
631530	to 631520	1.95286E-02
631530	to 631510	2.91625E-05
631530	to 611490	4.53018E-05
631530	to 20040	6.61191E-04
631530	to 621520	8.16303E-06
631530	to 10010	6.84505E-05
631530	to 631540	6.29703E+02
631530	to 621530	6.56649E-05
631530	to 10020	5.37765E-06
631530	to 621510	1.20554E-06
631530	to 10030	1.20554E-06
631530	to 611510	2.75607E-03
631530	to 20030	2.75607E-03
631530	to 611500	6.15889E-04
631530	tot-cap	6.29725E+02
631540	to 631530	3.12180E-02
631540	to 631520	1.12145E-05
631540	to 611500	1.05041E-10
631540	to 20040	7.95581E-04
631540	to 621530	2.45459E-06
631540	to 10010	1.30034E-03
631540	to 631550	1.07871E+03
631540	to 621540	1.30024E-03
631540	to 10020	2.45329E-06
631540	to 621520	4.15495E-06
631540	to 10030	4.15495E-06
631540	to 611520	1.76198E-03
631540	to 20030	1.76198E-03
631540	to 611510	7.95581E-04
631540	tot-cap	1.07874E+03
631550	to 631540	2.56319E-02
631550	to 631530	7.17750E-05
631550	to 611510	1.93124E-06
631550	to 20040	9.50444E-06
631550	to 621540	3.91376E-06
631550	to 10010	8.20598E-06
631550	to 631560	2.56940E+03
631550	to 621550	6.30167E-06
631550	to 10020	2.00945E-06
631550	to 621530	6.65198E-07
631550	to 10030	6.65198E-07
631550	to 611530	1.50770E-10

631550	to 20080	1.50770E-10
631550	to 611520	7.57520E-06
631550	tot-cap	2.56943E+03
641550	to 641560	1.71533E+04
641550	tot-cap	1.71533E+04
922340	to 922330	6.71520E-03
922340	fission	4.59102E+00
922340	nu-sigf	1.20725E+01
922340	to 922320	9.73665E-05
922340	to 922350	1.89714E+02
922340	to 922341	3.07043E+00
922340	tot-cap	1.94312E+02
922350	to 922340	3.09974E-02
922350	fission	3.64309E+02
922350	nu-sigf	8.82275E+02
922350	to 922330	2.93301E-05
922350	to 922360	8.71018E+01
922350	to 922351	8.73287E-02
922350	tot-cap	4.51442E+02
922360	to 922350	3.42088E-02
922360	fission	1.97200E+00
922360	nu-sigf	5.41556E+00
922360	to 922340	4.55888E-04
922360	to 922370	7.20735E+01
922360	to 922361	3.35905E+00
922360	tot-cap	7.40810E+01
922380	to 922370	6.83171E-02
922380	fission	9.89546E-01
922380	nu-sigf	2.78747E+00
922380	to 922360	4.41539E-04
922380	to 922390	8.69045E+00
922380	tot-cap	9.74876E+00
932370	to 932360	1.55753E-02
932370	fission	5.32347E+00
932370	nu-sigf	1.60371E+01
932370	to 932350	5.95861E-05
932370	to 932380	3.04246E+02
932370	to 932371	7.87315E-01
932370	tot-cap	3.07586E+02
942380	to 942370	2.50851E-03
942380	fission	2.28012E+01
942380	nu-sigf	6.46745E+01
942380	to 942360	1.40109E-05
942380	to 942390	2.67456E+02
942380	to 942381	3.08822E+00
942380	tot-cap	2.90360E+02
942390	to 942380	1.32440E-02
942390	fission	8.33475E+02
942390	nu-sigf	2.39654E+03
942390	to 942370	2.25568E-05
942390	to 942360	2.23609E-08
942390	to 942400	4.65602E+02
942390	tot-cap	1.29909E+03
942400	to 942390	6.23485E-03
942400	fission	6.00277E+00
942400	nu-sigf	1.88168E+01
942400	to 942380	6.08425E-05
942400	to 942410	1.30940E+03
942400	tot-cap	1.31541E+03
942410	to 942400	7.85761E-02

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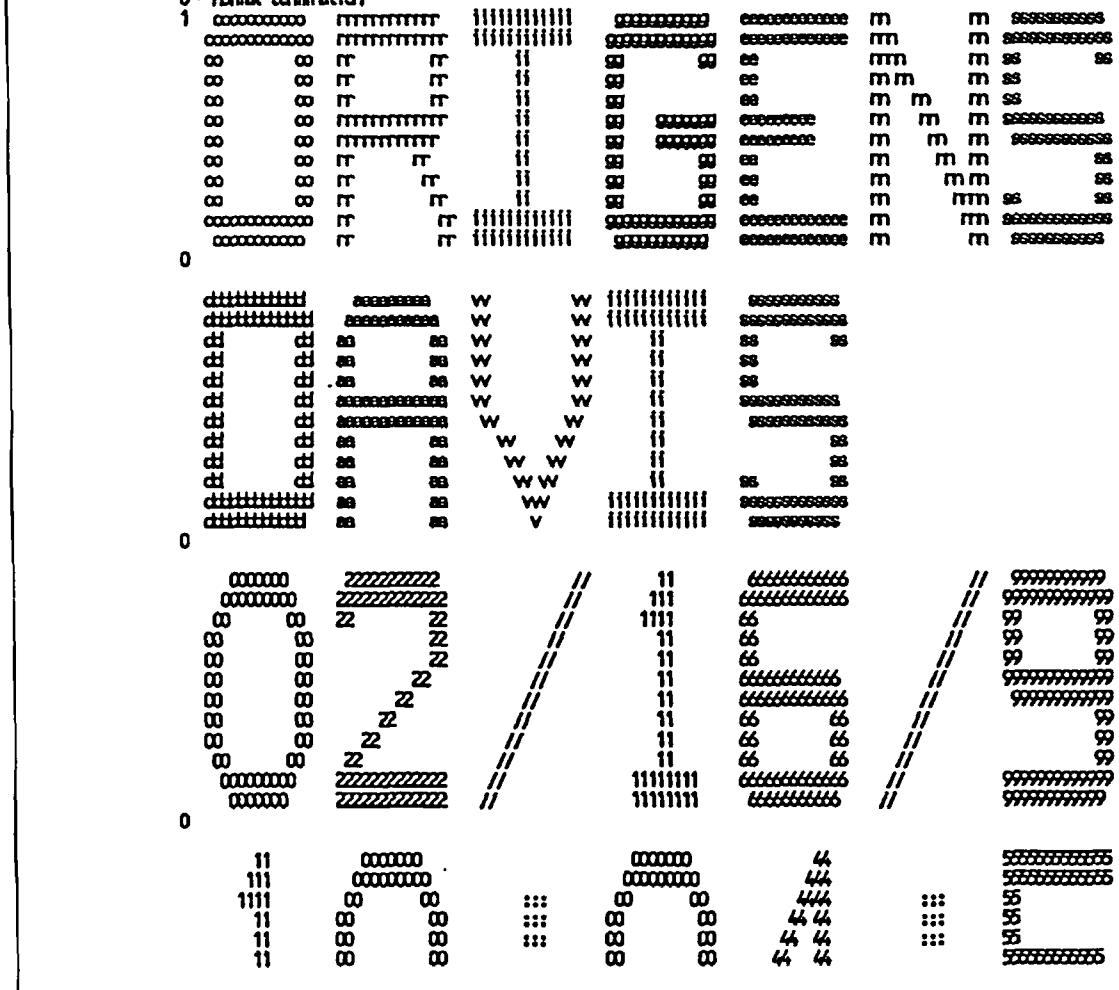
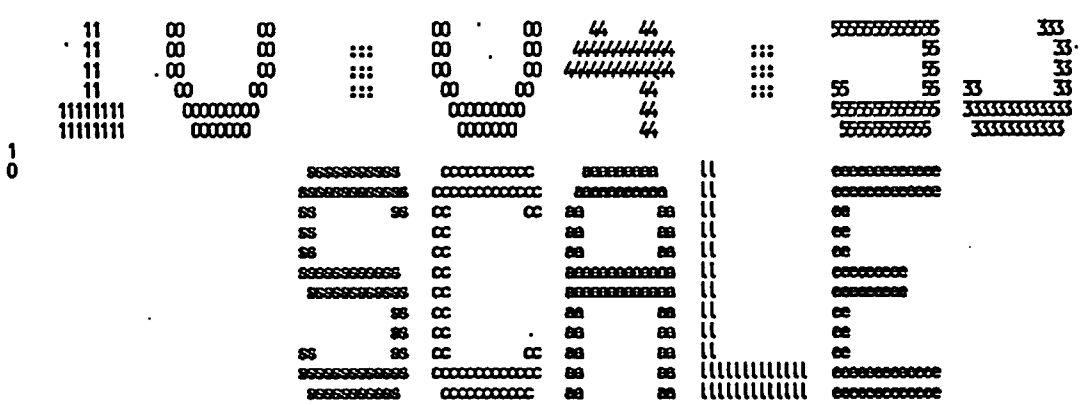
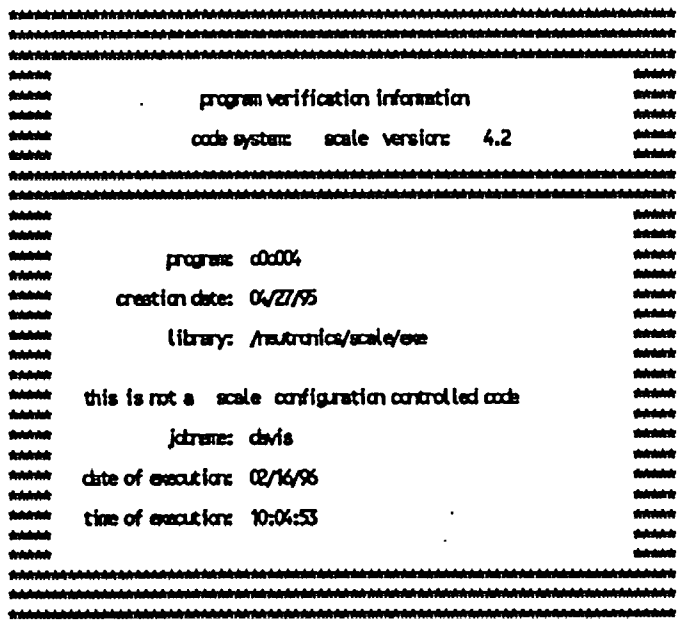
                    942410 fission    8.97827E+02
                    942410 nu-sigf    2.63446E+03
                    942410 to 942390  1.30185E-04
                    942410 to 942420  2.92690E+02
                    942410 tot-cap    1.19060E+03
                    942420 to 942410  2.54158E-02
                    942420 fission    4.61698E+00
                    942420 nu-sigf    1.44685E+01
                    942420 to 942400  3.08991E-04
                    942420 to 942430  3.36161E+02
                    942420 tot-cap    3.40804E+02
                    952410 fission    1.26157E+01
                    952410 nu-sigf    4.08103E+01
                    952410 to 952420  1.01243E+03
                    952410 tot-cap    1.02505E+03
                    952430 fission    3.56483E+00
                    952430 nu-sigf    1.19874E+01
                    952430 to 952440  4.26547E+02
                    952430 tot-cap    4.30111E+02
                    962440 to 962430  6.10822E-03
                    962440 fission    1.57846E+01
                    962440 nu-sigf    5.29118E+01
                    962440 to 962420  6.09135E-05
                    962440 to 962450  1.44666E+02
                    962440 to 962441  3.93822E+00
                    962440 tot-cap    1.60446E+02
Othe reaction  50100 to  30070 was not used, because  50100 is not in library., (in subr pool)
                                        in the search of library number 3
Othe reaction  50100 to  40090 was not used, because  50100 is not in library., (in subr pool)
                                        in the search of library number 3
Othe reaction  50110 to  40090 was not used, because  50110 is not in library., (in subr pool)
                                        in the search of library number 3
Othe reaction  50100 to  40100 was not used, because  50100 is not in library., (in subr pool)
                                        in the search of library number 3
Othe reaction  80160 to  80161 was not used, because  80161 is not in library., (in subr pool)
Othe reaction 621470 to 621471 was not used, because 621471 is not in library., (in subr pool)
Othe fission product transitions for  922340 were not used.  library fissile nuclides are
   922330  922350  942410  922380  942390
Ouse substitute nuclide in block 8 data.  or, update with new fission yield data.
Othe reaction  922340 to  922341 was not used, because  922341 is not in library., (in subr pool)
Othe reaction  922350 to  922351 was not used, because  922351 is not in library., (in subr pool)
Othe fission product transitions for  922360 were not used.  library fissile nuclides are
   922330  922350  942410  922380  942390
Ouse substitute nuclide in block 8 data.  or, update with new fission yield data.
Othe reaction  922360 to  922361 was not used, because  922361 is not in library., (in subr pool)
Othe fission product transitions for  952370 were not used.  library fissile nuclides are
   922330  922350  942410  922380  942390
Ouse substitute nuclide in block 8 data.  or, update with new fission yield data.
Othe reaction  952370 to  952371 was not used, because  952371 is not in library., (in subr pool)
Othe fission product transitions for  942380 were not used.  library fissile nuclides are
   922330  922350  942410  922380  942390
Ouse substitute nuclide in block 8 data.  or, update with new fission yield data.
Othe reaction  942380 to  942381 was not used, because  942381 is not in library., (in subr pool)
Othe fission product transitions for  942400 were not used.  library fissile nuclides are
   922330  922350  942410  922380  942390
Ouse substitute nuclide in block 8 data.  or, update with new fission yield data.
Othe fission product transitions for  942420 were not used.  library fissile nuclides are
   922330  922350  942410  922380  942390
Ouse substitute nuclide in block 8 data.  or, update with new fission yield data.
Othe fission product transitions for  952410 were not used.  library fissile nuclides are
```

922330 922350 942410 922380 942390
0use substitute nuclide in block 8 data. or, update with new fission yield data.
0the fission product transitions for 952430 were not used. library fissile nuclides are
922330 922350 942410 922380 942390
0use substitute nuclide in block 8 data. or, update with new fission yield data.
0the fission product transitions for 962440 were not used. library fissile nuclides are
922330 922350 942410 922380 942390
0use substitute nuclide in block 8 data. or, update with new fission yield data.
0the reaction 962440 to 962441 was not used, because 962441 is not in library., (in subr pool)
1
0 case completed. date, 2/16/1996
0 * normal termination *








```
1
0     -1q array has     1 entries.
0      0q array has     1 entries.
0      0q array has     1 entries.
0      0q array has     1 entries.
```

```
0       0q array has       1 entries.
0        dbl. prec. machine word applied has, at least, a 16 significant figure accuracy.
0            short-lived split test fraction, qm =    9.1188E-04
0            half-norm of matrix used, anm =    7.0000E+00
0            4-place-accuracy-retention ratio, ratio4 =    6.4516E-13
0       1q array has      20 entries.
0       3q array has       1 entries.
0       3q array has       1 entries.
0       3q array has       1 entries.
0       4q array has       1 entries.
0      5+q array has      12 entries.
1library information...

         cross-section data taken from position number  1 of library on unit 15.

         pass   7
         pass   1
         pass   0
         *scale-system control module sas2 library*
         used a time-dependent neutron spectrum, for each of the above passes
           pass 0 applies start-up fuel densities
           pass n applies mid time densities of nth library interval
         first library updated was...
         pass   1
         pass   0
         *scale-system control module sas2 library*
         used a time-dependent neutron spectrum, for each of the above passes
           pass 0 applies start-up fuel densities
           pass n applies mid time densities of nth library interval
         first library updated was...
         ************************************************************************
         *                                                                      *
         *          prelim iwr origen-s binary working library--id = 1143       *
         *        made from modified card-image origen-s libraries of scale 4.2 *
         *      data from the light element, actinide, and fission product libraries *
         *       decay data, including gamma and total energy, are from endf/b-vi *
         *                                                                      *
         *     neutron flux spectrum factors and cross sections were produced from *
         *    the "presas2" case updating all nuclides on the scale "burnup" library *
         *                                                                      *
         *                fission product yields are from endf/b-v              *
         *                                                                      *
         *             photon libraries use an 18-energy-group structure        *
         *            the photon data are from the master photon data base,     *
         *             produced to include bremsstrahlung from us2 matrix       *
         *                                                                      *
         *       see information above this box (if present) for later updates  *
         *                                                                      *
         ************************************************************************
         *                                                                      *
0        ************************************************************************
0                .other identification and sizes of library.
0                 data set name:  ft15f001
0               2/16/1996    date library was produced
0                    1697    total number of nuclides in library
                      689    number of light-element nuclides
                      129    number of actinide nuclides
                      879    number of fission product nuclides
0                    7585    number of nonzero off-diagonal matrix elements
0        ************************************************************************
```

1

sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 1

power= 8.466E-03mw, burnup=2.0318E-02mwd, flux= 1.62E+13n/cm**2-sec

0 nuclide concentrations, gram atoms

basis = converted to atoms/(barn-cm)

	charge	1000.1 d	1040.1 d	1080.1 d	1120.1 d	1120.2 d	1160.2 d	1200.2 d
he 4	6.33E-08	7.46E-08	8.72E-08	1.01E-07	1.17E-07	1.17E-07	1.34E-07	1.54E-07
u230	1.33E-20	1.51E-20	1.69E-20	1.89E-20	2.09E-20	2.09E-20	2.31E-20	2.55E-20
u231	2.58E-19	2.94E-19	3.27E-19	3.63E-19	3.99E-19	3.98E-19	4.40E-19	4.83E-19
u232	3.37E-12	3.78E-12	4.18E-12	4.63E-12	5.10E-12	5.10E-12	5.61E-12	6.15E-12
u233	4.10E-11	4.22E-11	4.32E-11	4.42E-11	4.52E-11	4.52E-11	4.61E-11	4.70E-11
u234	4.37E-06	4.33E-06	4.28E-06	4.24E-06	4.19E-06	4.19E-06	4.15E-06	4.11E-06
u235	3.83E-04	3.74E-04	3.64E-04	3.55E-04	3.47E-04	3.47E-04	3.38E-04	3.29E-04
u236	5.84E-05	6.00E-05	6.16E-05	6.31E-05	6.45E-05	6.45E-05	6.59E-05	6.73E-05
u237	7.61E-08	7.84E-08	8.01E-08	8.18E-08	8.34E-08	8.30E-08	8.50E-08	8.66E-08
u238	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.18E-02	2.17E-02	2.17E-02
u239	1.19E-09	6.19E-09	6.21E-09	6.22E-09	6.23E-09	9.22E-10	6.24E-09	6.26E-09
u240	.00E+00	7.72E-32	1.16E-31	1.72E-31	2.50E-31	2.50E-31	3.60E-31	5.10E-31
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	8.52E-14	9.34E-14	1.02E-13	1.10E-13	1.19E-13	1.19E-13	1.28E-13	1.38E-13
np236m	8.68E-14	9.67E-14	1.02E-13	1.08E-13	1.14E-13	1.10E-13	1.20E-13	1.26E-13
np236	8.76E-12	9.76E-12	1.08E-11	1.19E-11	1.30E-11	1.30E-11	1.42E-11	1.55E-11
np237	4.21E-06	4.45E-06	4.70E-06	4.95E-06	5.20E-06	5.20E-06	5.46E-06	5.71E-06
np238	5.32E-09	5.75E-09	6.08E-09	6.42E-09	6.76E-09	6.66E-09	7.11E-09	7.46E-09
np239	8.77E-07	8.94E-07	8.96E-07	8.98E-07	9.00E-07	8.93E-07	9.01E-07	9.03E-07
np240m	.00E+00	6.59E-34	9.91E-34	1.47E-33	2.14E-33	2.14E-33	3.07E-33	4.35E-33
np240	8.77E-12	1.68E-11	1.68E-11	1.69E-11	1.70E-11	8.24E-12	1.71E-11	1.72E-11
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	9.84E-12	1.09E-11	1.19E-11	1.30E-11	1.42E-11	1.42E-11	1.54E-11	1.66E-11
pu237	3.41E-13	3.68E-13	3.89E-13	4.12E-13	4.35E-13	4.35E-13	4.59E-13	4.84E-13
pu238	6.64E-07	7.35E-07	8.10E-07	8.90E-07	9.74E-07	9.74E-07	1.06E-06	1.14E-06
pu239	1.13E-04	1.15E-04	1.17E-04	1.19E-04	1.21E-04	1.21E-04	1.23E-04	1.24E-04
pu240	2.36E-05	2.47E-05	2.59E-05	2.70E-05	2.81E-05	2.81E-05	2.92E-05	3.03E-05
pu241	1.29E-05	1.37E-05	1.46E-05	1.54E-05	1.63E-05	1.63E-05	1.72E-05	1.81E-05
pu242	1.62E-06	1.81E-06	2.00E-06	2.21E-06	2.43E-06	2.44E-06	2.67E-06	2.91E-06
pu243	1.97E-10	2.52E-10	2.80E-10	3.10E-10	3.42E-10	2.94E-10	3.75E-10	4.11E-10
pu244	2.51E-21	3.84E-21	5.78E-21	8.56E-21	1.25E-20	1.25E-20	1.79E-20	2.54E-20
pu245	1.70E-27	2.77E-27	4.17E-27	6.19E-27	9.08E-27	8.42E-27	1.30E-26	1.85E-26
pu246	7.11E-30	1.10E-29	1.67E-29	2.51E-29	3.69E-29	3.68E-29	5.35E-29	7.66E-29
am239	6.83E-18	8.13E-18	8.96E-18	9.83E-18	1.07E-17	1.01E-17	1.17E-17	1.28E-17
am240	3.08E-15	3.52E-15	3.88E-15	4.26E-15	4.66E-15	4.58E-15	5.08E-15	5.48E-15
am241	4.23E-07	4.68E-07	5.15E-07	5.63E-07	6.13E-07	6.13E-07	6.68E-07	7.18E-07
am242m	9.56E-09	1.07E-08	1.20E-08	1.33E-08	1.47E-08	1.47E-08	1.62E-08	1.77E-08
am242	4.63E-10	5.32E-10	5.86E-10	6.43E-10	7.02E-10	6.70E-10	7.63E-10	8.26E-10
am243	1.66E-07	1.94E-07	2.25E-07	2.60E-07	2.97E-07	2.98E-07	3.39E-07	3.84E-07
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	5.56E-11	6.99E-11	8.13E-11	9.40E-11	1.08E-10	1.00E-10	1.23E-10	1.40E-10
am245	1.52E-25	2.31E-25	3.46E-25	5.09E-25	7.36E-25	7.36E-25	1.05E-24	1.47E-24
am246	.00E+00	2.75E-32	4.18E-32	6.28E-32	9.22E-32	9.21E-32	1.34E-31	1.92E-31
cm241	8.64E-18	1.05E-17	1.25E-17	1.47E-17	1.71E-17	1.71E-17	1.98E-17	2.28E-17
cm242	5.40E-08	6.13E-08	6.90E-08	7.73E-08	8.61E-08	8.61E-08	9.53E-08	1.05E-07
cm243	9.35E-10	1.11E-09	1.30E-09	1.51E-09	1.74E-09	1.74E-09	2.00E-09	2.27E-09
cm244	1.76E-08	2.16E-08	2.63E-08	3.17E-08	3.79E-08	3.79E-08	4.50E-08	5.30E-08
cm245	4.09E-10	5.22E-10	6.58E-10	8.21E-10	1.01E-09	1.01E-09	1.24E-09	1.51E-09
cm246	1.90E-11	2.53E-11	3.34E-11	4.36E-11	5.63E-11	5.63E-11	7.19E-11	9.10E-11
cm247	1.49E-13	2.09E-13	2.88E-13	3.91E-13	5.24E-13	5.24E-13	6.94E-13	9.10E-13

1

sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 2

power= 8.466E-03mw, burnup=2.0318E-02mwd, flux= 1.62E+13n/cm**2-sec

0 nuclide concentrations, gram atoms

INFORMATION ONLY

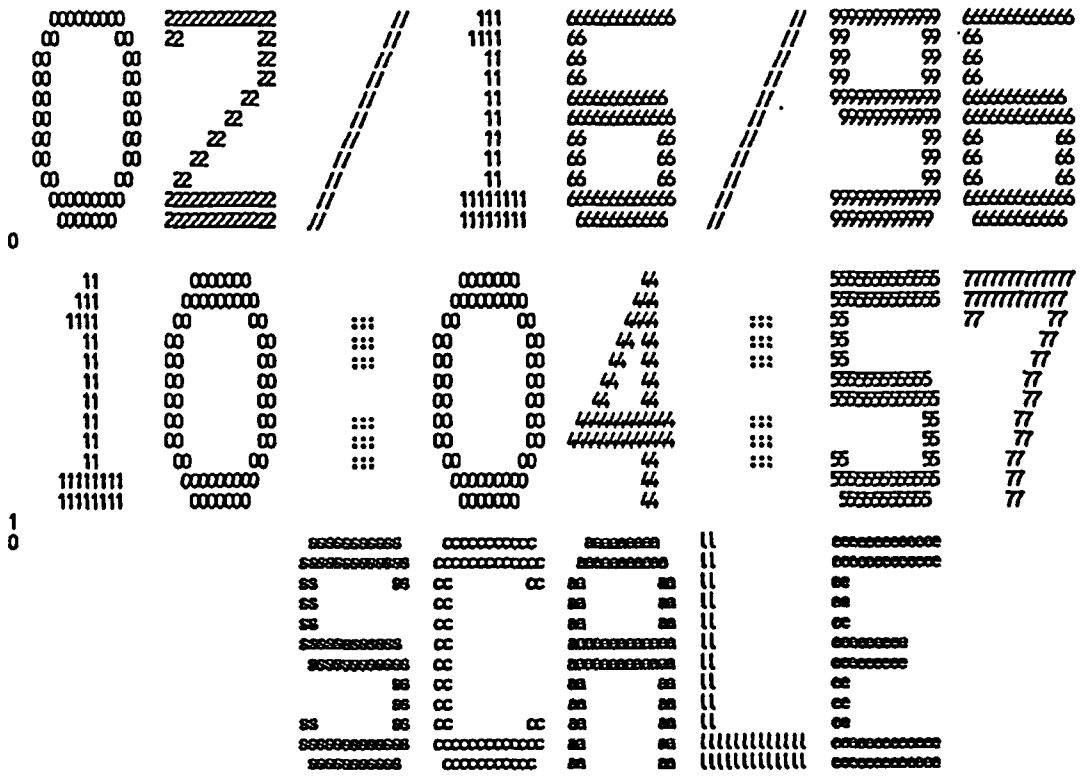
```
                                   basis = converted to atoms/(barn-cm)
           charge  1000.1 d  1040.1 d  1080.1 d  1120.1 d  1120.2 d  1160.2 d  1200.2 d
     cm248 5.32E-15 7.82E-15 1.13E-14 1.60E-14 2.25E-14 2.25E-14 3.11E-14 4.26E-14
     cm249 2.02E-20 5.47E-20 7.92E-20 1.13E-19 1.59E-19 7.88E-20 2.20E-19 3.01E-19
     cm250 6.68E-24 1.03E-23 1.56E-23 2.33E-23 3.41E-23 3.41E-23 4.92E-23 7.02E-23
     cm251  .00E+00 2.47E-31 3.78E-31 5.61E-31 8.25E-31 5.72E-32 1.19E-30 1.71E-30
    totals 2.26E-02 2.26E-02 2.26E-02 2.26E-02 2.23E-02 2.23E-02 2.23E-02 2.23E-02
0     flux          1.61E+13 1.61E+13 1.62E+13 1.62E+13  .00E+00 1.63E+13 1.63E+13
0  .results on logical unit no. 71, position  1, for time step  7, subcase 1. (run position 1, case position 1)
   title: sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
0  .results on logical unit no. 71, position  2, for time step  5, subcase 1. (run position 1, case position 1)
   title: sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
0  .results on logical unit no. 71, position  3, for time step  4, subcase 1. (run position 1, case position 1)
   title: sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
0     .terminated logical unit no. 71 with zero flag record.
1  * normal termination of execution *
0                                        table of contents for material tables
0                                          case or subcase printed       page

                                                   1                1
0ndset         33
           15          4          1         27          6          0          0          0          0          0
            0          0          0          0          0          0         -1       1698        690        130
          880       7935          0          5         99          2         16         96         18         18
           18          0         71
0       56q array has      2 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       57q array has      3 entries.
0        1q array has     20 entries.
0        1q array has     10 entries.
     l90   97376
     l116  60826
     l32   33663 nudata (library) storage size
     l44   33734
     l103  79953
0       58q array has      4 entries.
0       60q array has      7 entries.
0       58q array has      7 entries.
0       66q array has      1 entries.
0       73q array has   1697 entries.
0       74q array has   1697 entries.
0       75q array has   1697 entries.
     l140  66991
     used    101044 in size    200000
0jcpt          12
            0          0          0          0          0          0          0          0          0          0
            0          0
0therm          4
  5.125936E-01 4.497346E-01 3.488829E+00 1.000000E-31
0ncn            5
         7935         20          6         18       1697
0nmn           19
            7          7          0          0          1          1          0          0          0          0
           21        100       1697          4          3         74          4          1          0
0tconst         5
```

```
  8.640000E+04 9.601346E+02  .000000E+00  .000000E+00 1.000000E-08
0mzero         4
          0          689          129          879
0pow           3
   .000000E+00  .000000E+00  .000000E+00
0 lirp         9
          6          0          51          26          2          3000          1000          1697          94
 n-gamma, fission and total mev/fission =                7.4172E+00     1.9683E+02     2.0425E+02
 start of interval flux =         1.60782E+13
 n-gamma, fission and total mev/fission =                7.4945E+00     1.9691E+02     2.0440E+02
 start of interval flux =         1.61169E+13
 n-gamma, fission and total mev/fission =                7.5889E+00     1.9698E+02     2.0457E+02
 start of interval flux =         1.61552E+13
 n-gamma, fission and total mev/fission =                7.6825E+00     1.9705E+02     2.0473E+02
 start of interval flux =         1.61953E+13
 start of interval flux =          .00000E+00
 n-gamma, fission and total mev/fission =                7.7959E+00     1.9712E+02     2.0492E+02
 start of interval flux =         1.62348E+13
 n-gamma, fission and total mev/fission =                7.8675E+00     1.9719E+02     2.0506E+02
 start of interval flux =         1.62804E+13
0 case or subcase    1  sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
0       56q array has     20 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has     20 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has     20 entries.
0       56q array has     20 entries.
0requested parm=halt8,skipcellwt,skipshipdata
   pass= 8, exec halts after pass  8
1  bbbbbbbbbbb    oooooooooo   m         m                 aaaaaaaaa    mm         mm  iiiiiiiiiiii    2222222222
   bbbbbbbbbbbb  oooooooooooo  mm        m                aaaaaaaaaaa   mmm       mmm  iiiiiiiiiiii   222222222222
   bb        bb  oo        oo  mmm       m               aa         aa  mmmm     mmmm       ii        22          22
   bb        bb  oo        oo  mm m      m               aa         aa  mm mm   mm mm       ii                    22
   bb        bb  oo        oo  m   m     m               aa         aa  mm  mm mm  mm       ii                   22
   bbbbbbbbbbb   oo        oo  m    m    m  ------------ aaaaaaaaaaaaa  mm   mmm   mm       ii                 22
   bbbbbbbbbbb   oo        oo  m     m   m  ------------ aaaaaaaaaaaaa  mm    m    mm       ii               22
   bb        bb  oo        oo  m      m  m               aa         aa  mm         mm       ii             22
   bb        bb  oo        oo  m       mm                aa         aa  mm         mm       ii           22
   bb        bb  oo        oo  m       mmm               aa         aa  mm         mm       ii         22
   bbbbbbbbbbbb  oooooooooooo  m        mm               aa         aa  mm         mm  iiiiiiiiiiii   222222222222
   bbbbbbbbbbb    oooooooooo   m         m               aa         aa  mm         mm  iiiiiiiiiiii   222222222222
0

   ddddddddddd    aaaaaaaaa    w          w  iiiiiiiiiiii    ssssssssss
   dddddddddddd  aaaaaaaaaaa   w          w  iiiiiiiiiiii   ssssssssssss
   dd        dd  aa       aa   w          w       ii        ss        ss
   dd        dd  aa       aa   w          w       ii        ss
   dd        dd  aa       aa   w          w       ii        ss
   dd        dd  aaaaaaaaaaaa  w          w       ii        ssssssssssss
   dd        dd  aaaaaaaaaaaa   w        w        ii         ssssssssssss
   dd        dd  aa       aa     w      w         ii                   ss
   dd        dd  aa       aa      w    w          ii                   ss
   dd        dd  aa       aa       w  w           ii        ss         ss
   dddddddddddd  aa       aa        ww       iiiiiiiiiiii   ssssssssssss
   ddddddddddd   aa       aa        v        iiiiiiiiiiii    ssssssssss
0

      0000000      2222222222          //       11       666666666666          //   9999999999     66666666666
```



program verification information

code system: scale version: 4.2

program: c0c08

creation date: 04/27/95

library: /nsutronics/scale/exe

```
*****                                                          *****
*****                                                          *****
*****    this is not a  scale  configuration controlled code   *****
*****                                                          *****
*****             jobname:  davis                              *****
*****                                                          *****
*****    date of execution:  02/16/96                          *****
*****                                                          *****
*****    time of execution:  10:04:57                          *****
*****                                                          *****
*****                                                          *****
********************************************************************
********************************************************************
********************************************************************
1
0      -1q array has      1 entries.
0       0q array has      4 entries.
0       1q array has      6 entries.
0       2q array has      2 entries.
1logical assignments
0master library   12
 working library   0
 scratch file     18
 new library       1
0p r o b l e m   d e s c r i p t i o n
0igr--geometry (0/1/2/3--inf med/slab/cyl/sphere              2
0izm--number of zones or material regions                     4
0ms--mixing table length                                     66
0ibl--shielded cross section edit option (0/1--no/yes)        0
0ibr--bondarenko factor edit option (0/1--no/yes)             0
0issopt--dancoff factor option                                0
0convergence criterion    1.00000E-03
0geometry correction factor for wigner rational approximation  1.350E+00
0       3q array has     66 entries.
0       4q array has     66 entries.
0       5q array has     66 entries.
0       6q array has      4 entries.
0       7q array has      4 entries.
0       8q array has      4 entries.
0       9q array has      4 entries.
0      10q array has     66 entries.
0      11q array has      4 entries.
0m i x i n g   t a b l e
0entry  mixture   isotope   number density   new identifier
    1      1       92235     3.29451E-04          92235
    2      1       92234     4.10648E-06          92234
    3      1       92236     6.72906E-05          92236
    4      1       92238     2.17326E-02          92238
    5      1        8016     4.55359E-02           8016
    6      3        8016     2.09710E-02              6
    7      1       36083     1.81372E-06          36083
    8      1       36085     8.71779E-07          36085
    9      1       38090     2.00600E-05          38090
   10      1       39089     1.64607E-05          39089
   11      1       42095     2.30516E-05          42095
   12      1       40093     1.64590E-05          40093
   13      1       40094     2.61240E-05          40094
   14      1       40095     1.92652E-06          40095
   15      1       41094     1.43208E-11          41094
   16      1       43099     2.55495E-05          43099
```

17	1	45103	1.43117E-05	45103
18	1	45105	2.51927E-08	45105
19	1	44101	2.36761E-05	44101
20	1	44106	3.50872E-06	44106
21	1	46105	1.03319E-05	46105
22	1	46108	3.17250E-06	46108
23	1	47109	2.13200E-06	47109
24	1	51124	4.69872E-10	51124
25	1	54131	1.14853E-05	54131
26	1	54132	2.33195E-05	54132
27	1	54135	6.64007E-09	54135
28	1	54136	4.51578E-05	54136
29	1	55134	1.63057E-06	55134
30	1	55135	1.43530E-05	55135
31	1	55137	2.77063E-05	55137
32	1	56136	3.51878E-07	56136
33	1	57139	2.73806E-05	57139
34	1	59141	2.40560E-05	59141
35	1	59143	3.60032E-07	59143
36	1	58144	6.94065E-06	58144
37	1	60143	2.05000E-05	60143
38	1	60145	1.54707E-05	60145
39	1	61147	4.51202E-06	61147
40	1	61148	1.36867E-08	61148
41	1	60147	1.28577E-07	60147
42	1	62147	2.20336E-06	62147
43	1	62149	9.06657E-08	62149
44	1	62150	5.84210E-06	62150
45	1	62151	4.61651E-07	62151
46	1	62152	2.70573E-06	62152
47	1	64155	3.60027E-09	64155
48	1	63153	1.87279E-06	63153
49	1	63154	4.84438E-07	63154
50	1	63155	2.11219E-07	63155
51	2	40802	4.25156E-02	40802
52	3	1001	4.19420E-02	1001
53	3	5010	3.81515E-06	5010
54	3	5011	1.54886E-05	5011
55	1	55133	2.80248E-05	55133
56	1	95237	5.71129E-06	95237
57	1	94238	1.15608E-06	94238
58	1	94239	1.24276E-04	94239
59	1	94240	3.02952E-05	94240
60	1	94241	1.81183E-05	94241
61	1	94242	2.91035E-06	94242
62	1	95241	7.18357E-07	95241
63	1	95243	3.83515E-07	95243
64	1	96244	5.30179E-08	96244
65	1	999	1.00000E-20	999
66	4	999	1.00000E-20	66

Ogeometry and material description

Ozone	mixture	outer dimension	temperature	extra xs	type (0/1--fuel/mod)
1	1	4.68122E-01	9.75000E+02	9.05864E-01	0
2	4	4.78790E-01	2.93000E+02	5.49010E-01	0
3	2	5.46100E-01	6.50000E+02	.00000E+00	0
4	3	8.13968E-01	6.07600E+02	.00000E+00	0

7711 locations of 200000 available are required to make a new master containing the self-shielded values
Ono nuclides in your problem have bondarenko factor data**bonsai will copy from logical 12 to logical 1
Ocopy 999 1/v cross sectio from log 12 to log 18 bondarenko trigger 0
Ocopy 999 1/v cross sectio from log 18 to log 1 bondarenko trigger 0

```
Copy     999  1/v cross sectio from lag 18 to lag  1   bondarenko trigger 0
Copy    1001   hydrogen        from lag 12 to lag  1   bondarenko trigger 0
Copy    5010  b-10 1273 218gp  from lag 12 to lag  1   bondarenko trigger 0
Copy    5011   boron-11        from lag 12 to lag  1   bondarenko trigger 0
Copy    8016   oxygen-16       from lag 12 to lag 18   bondarenko trigger 0
Copy    8016   oxygen-16       from lag 18 to lag  1   bondarenko trigger 0
Copy    8016   oxygen-16       from lag 18 to lag  1   bondarenko trigger 0
Copy   36083   kr-83           from lag 12 to lag  1   bondarenko trigger 0
Copy   36085   kr-85           from lag 12 to lag  1   bondarenko trigger 0
Copy   38090   sr-90           from lag 12 to lag  1   bondarenko trigger 0
Copy   39089    y-89           from lag 12 to lag  1   bondarenko trigger 0
Copy   40093   zr-93           from lag 12 to lag  1   bondarenko trigger 0
Copy   40094   zr-94           from lag 12 to lag  1   bondarenko trigger 0
Copy   40095   zr-95           from lag 12 to lag  1   bondarenko trigger 0
Copy   40302   zircalloy       from lag 12 to lag  1   bondarenko trigger 0
Copy   41094   nb-94           from lag 12 to lag  1   bondarenko trigger 0
Copy   42095   mo-95           from lag 12 to lag  1   bondarenko trigger 0
Copy   43099   tc-99           from lag 12 to lag  1   bondarenko trigger 0
Copy   44101   ru-101          from lag 12 to lag  1   bondarenko trigger 0
Copy   44106   ru-106          from lag 12 to lag  1   bondarenko trigger 0
Copy   45103   rh-103          from lag 12 to lag  1   bondarenko trigger 0
Copy   45105   rh-105          from lag 12 to lag  1   bondarenko trigger 0
Copy   46105   pd-105          from lag 12 to lag  1   bondarenko trigger 0
Copy   46108   pd-108          from lag 12 to lag  1   bondarenko trigger 0
Copy   47109   silver-109      from lag 12 to lag  1   bondarenko trigger 0
Copy   51124   sb-124          from lag 12 to lag  1   bondarenko trigger 0
Copy   54131   xe-131          from lag 12 to lag  1   bondarenko trigger 0
Copy   54132   xe-132          from lag 12 to lag  1   bondarenko trigger 0
Copy   54135   xenon-135       from lag 12 to lag  1   bondarenko trigger 0
Copy   54136   xe-136          from lag 12 to lag  1   bondarenko trigger 0
Copy   55133   cesium-133      from lag 12 to lag  1   bondarenko trigger 0
Copy   55134   cs-134          from lag 12 to lag  1   bondarenko trigger 0
Copy   55135   cs-135          from lag 12 to lag  1   bondarenko trigger 0
Copy   55137   cs-137          from lag 12 to lag  1   bondarenko trigger 0
Copy   56136   ba-136          from lag 12 to lag  1   bondarenko trigger 0
Copy   57139   la-139          from lag 12 to lag  1   bondarenko trigger 0
Copy   58144   ce-144          from lag 12 to lag  1   bondarenko trigger 0
Copy   59141   pr-141          from lag 12 to lag  1   bondarenko trigger 0
Copy   59143   pr-143          from lag 12 to lag  1   bondarenko trigger 0
Copy   60143   nd-143          from lag 12 to lag  1   bondarenko trigger 0
Copy   60145   nd-145          from lag 12 to lag  1   bondarenko trigger 0
Copy   60147   nd-147          from lag 12 to lag  1   bondarenko trigger 0
Copy   61147   pm-147          from lag 12 to lag  1   bondarenko trigger 0
Copy   61148   pm-148          from lag 12 to lag  1   bondarenko trigger 0
Copy   62147   sm-147          from lag 12 to lag  1   bondarenko trigger 0
Copy   62149   sm-149          from lag 12 to lag  1   bondarenko trigger 0
Copy   62150   sm-150          from lag 12 to lag  1   bondarenko trigger 0
Copy   62151   sm-151          from lag 12 to lag  1   bondarenko trigger 0
Copy   62152   sm-152          from lag 12 to lag  1   bondarenko trigger 0
Copy   63153   eu-153          from lag 12 to lag  1   bondarenko trigger 0
Copy   63154   eu-154          from lag 12 to lag  1   bondarenko trigger 0
Copy   63155   eu-155          from lag 12 to lag  1   bondarenko trigger 0
Copy   64155   gd-155          from lag 12 to lag  1   bondarenko trigger 0
Copy   92234  u-234 1043 sigp  from lag 12 to lag  1   bondarenko trigger 0
Copy   92235   uranium-235     from lag 12 to lag  1   bondarenko trigger 0
Copy   92236  u-236 1163 sigp  from lag 12 to lag  1   bondarenko trigger 0
Copy   92238   uranium-238     from lag 12 to lag  1   bondarenko trigger 0
Copy   93237   neptunium-237   from lag 12 to lag  1   bondarenko trigger 0
Copy   94238  pu-238 1060 sigp from lag 12 to lag  1   bondarenko trigger 0
Copy   94239   plutonium-239   from lag 12 to lag  1   bondarenko trigger 0
```

```
0copy     94240  plutonium-240   from log 12 to log  1   bondarenko trigger 0
0copy     94241  plutonium-241   from log 12 to log  1   bondarenko trigger 0
0copy     94242  plutonium-242   from log 12 to log  1   bondarenko trigger 0
0copy     95241  am-241 1056 sigp from log 12 to log  1   bondarenko trigger 0
0copy     95243  am-243 1057 218 from log 12 to log  1   bondarenko trigger 0
0copy     96244  curium-244      from log 12 to log  1   bondarenko trigger 0
1     scale 4.2 - 27 group neutron burnup library
        based on endf-b version 4 data with endf-b version 5 fission products
           compiled for nrc      1/27/89
              last updated       9/16/93
                 l.m.petrie   -   ornl
         tape id                          4321        number of nuclides                66
         number of neutron groups           27        number of gamma groups             0
         first thermal group                15        logical unit                       1
                                  table of contents
       1/v cross sections normalized to 1.0 at 0.0253 ev                          id      999
       1/v cross sections normalized to 1.0 at 0.0253 ev                          id       66
        hydrogen      endf/b-iv mat 1269/thrm1002    updated 10/13/89             id     1001
       b-10 1273 218grp 042375 p-3 293k                                           id     5010
        boron-11      endf/b-iv mat 1160             updated 10/13/89             id     5011
        oxygen-16     endf/b-iv mat 1276             updated 10/13/89             id     8016
        oxygen-16     endf/b-iv mat 1276             updated 10/13/89             id        6
        kr-83         mt=102,103,103,105,106,107     updated 10/13/89             id    36083
        kr-85            mt= 102                                                  id    36085
        sr-90         mt=102                         updated 10/13/89             id    38090
         y-89         mt=102                         updated 10/13/89             id    39089
        zr-93            mt=  102                                                 id    40093
        zr-94         mt=102                         updated 10/13/89             id    40094
        zr-95         mt=102                         updated 10/13/89             id    40095
        zircalloy     endf/b-iv mat 1284             updated 10/13/89             id    40302
        nb-94         mt=102                         updated 10/13/89             id    41094
        mo-95         mt=102                         updated 10/13/89             id    42095
        tc-99         mt=102                         updated 10/13/89             id    43099
        ru-101        mt=102                         updated 10/13/89             id    44101
        ru-106        mt=102                         updated 10/13/89             id    44106
        rh-103        mt=102                         updated 10/13/89             id    45103
        rh-105           mt=  102                                                 id    45105
        pd-105        mt=102                         updated 10/13/89             id    46105
        pd-108        mt=102                         updated 10/13/89             id    46108
        silver-109    endf/b-iv mat 1139             updated 10/13/89             id    47109
        sb-124        mt=102                         updated 10/13/89             id    51124
        xe-131        mt=102,103,104,105,106         updated 10/13/89             id    54131
        xe-132        mt=102,103,104,105,106         updated 10/13/89             id    54132
        xenon-135     endf/b-iv mat 1294             updated 10/13/89             id    54135
        xe-136           mt=  102, 103, 104, 105, 107                             id    54136
        cesium-133    endf/b-iv mat 1141             updated 10/13/89             id    55133
        cs-134        mt=102                         updated 10/13/89             id    55134
        cs-135           mt=  102                                                 id    55135
        cs-137        mt=102                         updated 10/13/89             id    55137
        ba-136        mt=102                         updated 10/13/89             id    56136
        la-139        mt=102                         updated 10/13/89             id    57139
        ce-144           mt=  102                                                 id    58144
        pr-141        mt=102,103,104,105,106,107     updated 10/13/89             id    59141
        pr-143        mt=102                         updated 10/13/89             id    59143
        nd-143        mt=102                         updated 10/13/89             id    60143
        nd-145        mt=102                         updated 10/13/89             id    60145
        nd-147        mt=102                         updated 10/13/89             id    60147
        pm-147        mt=102                         updated 10/13/89             id    61147
        pm-148           mt=  102                                                 id    61148
        sm-147        endf/b-v fission product       updated 10/13/89             id    62147
```

```
         sm-149      mt=102,103,107                updated 10/13/89          id    62149
         sm-150      mt=102                        updated 10/13/89          id    62150
         sm-151      mt=102,103,104,105,106,107    updated 10/13/89          id    62151
         sm-152      mt=102,103,104,105,106,107    updated 10/13/89          id    62152
         eu-153      mt=102,103,104,105,106,107    updated 10/13/89          id    63153
         eu-154      mt=102,103,104,105,106,107    updated 10/13/89          id    63154
         eu-155      mt=102,103,104,105,106,107    updated 10/13/89          id    63155
         gd-155      mt=102                        updated 10/13/89          id    64155
        u-234 1043 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                  id    92234
         uranium-235    endf/b-iv mat 1261         updated 10/13/89          id    92235
        u-236 1163 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                  id    92236
         uranium-238    endf/b-iv mat 1262         updated 10/13/89          id    92238
         neptunium-237  endf/b-iv mat 1263         updated 10/13/89          id    93237
        pu-238 1050 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                 id    94238
         plutonium-239  endf/b-iv mat 1264         updated 10/13/89          id    94239
         plutonium-240  endf/b-iv mat 1265         updated 10/13/89          id    94240
         plutonium-241  endf/b-iv mat 1266         updated 10/13/89          id    94241
         plutonium-242  endf/b-iv mat 1161         updated 10/13/89          id    94242
        am-241 1056 sigo=5+4 newxlacs 218ngp p-3 293k                        id    95241
        am-243 1057 218 gp wt f-1/e-m 090376 p3 293k                         id    95243
         curium-244     endf/b-iv mat 1162         updated 10/13/89          id    96244
0          tape copy used       0 i/o's, and took      .00 seconds
1               m          m iiiiiiiiiiii  tttttttttttt    aaaaaaaaaa   ww          ww ll
                mm         m iiiiiiiiiiii  tttttttttttt   aaaaaaaaaaaa  ww          ww ll
                mmm        m      ii            tt        aa        aa  ww          ww ll
                mm m       m      ii            tt        aa        aa  ww          ww ll
                m  m       m      ii            tt        aa        aa  ww          ww ll
                m   m      m      ii            tt        aaaaaaaaaaaa  ww    w     ww ll
                m    m     m      ii            tt        aaaaaaaaaaaa  ww   www    ww ll
                m     m    m      ii            tt        aa        aa  ww  ww ww   ww ll
                m      m   m      ii            tt        aa        aa  ww ww   ww  ww ll
                m       mmm       ii            tt        aa        aa  wwww     wwww ll
                m        mm  iiiiiiiiiiii       tt        aa        aa  www       www llllllllllll
                m         m  iiiiiiiiiiii       tt        aa        aa  ww         ww llllllllllll
0
   ddddddddddd    aaaaaaaaaa   w          w  iiiiiiiiiiii   sssssssssss
   dddddddddddd  aaaaaaaaaaaa  w          w  iiiiiiiiiiii  ssssssssssss
   dd        dd  aa        aa  w          w       ii       ss        ss
   dd        dd  aa        aa  w          w       ii       ss
   dd        dd  aa        aa  w          w       ii       ss
   dd        dd  aaaaaaaaaaaa  w          w       ii       sssssssssss
   dd        dd  aaaaaaaaaaaa   w        w        ii        sssssssssss
   dd        dd  aa        aa    w      w         ii                 ss
   dd        dd  aa        aa     w    w          ii                 ss
   dd        dd  aa        aa      w  w           ii       ss        ss
   dddddddddddd  aa        aa       ww       iiiiiiiiiiii  ssssssssssss
   ddddddddddd   aa        aa       v        iiiiiiiiiiii   sssssssssss
0
     00000000    2222222222          //      11     666666666666        //  99999999999   666666666666
    0000000000  222222222222        //      111     666666666666       //  999999999999   666666666666
   00        00 22        22       //      1111     66                //   99        99   66
   00        00           22      //         11     66               //    99        99   66
   00        00          22      //          11     66666666666     //     999999999999   66666666666
   00        00         22      //           11     666666666666   //       99999999999   666666666666
   00        00        22      //            11     66        66  //                 99   66        66
   00        00       22      //             11     66        66 //                  99   66        66
   00        00      22      //              11     66        66//                   99   66        66
```

INFORMATION ONLY

```
    000000000  222222222222  //          11111111  666666666666  //     999999999999  666666666666
     0000000   222222222222 //           11111111   6666666666  //      99999999999    6666666666
0
         11     0000000                 0000000           44           555555555555   8888888888
        111    000000000               000000000         444           555555555555  888888888888
       1111   00     00       :::     00     00         4444      :::  55            88        88
         11   00     00       :::     00     00        44 44      :::  55            88        88
         11   00     00       :::     00     00       44  44      :::  55            88        88
         11   00     00               00     00      44   44           55555555555    8888888888
         11   00     00               00     00     44    44           555555555555   8888888888
         11   00     00       :::     00     00    44444444444    :::            55  88        88
         11   00     00       :::     00     00    44444444444    :::            55  88        88
         11   00     00       :::     00     00           44      :::  55        55  88        88
   11111111    000000000               000000000          44           555555555555  888888888888
   11111111     0000000                 0000000           44            5555555555    8888888888
1
0
                        ssssssssss   cccccccccc    aaaaaaaa    ll          eeeeeeeeeeee
                       ssssssssssss cccccccccccc  aaaaaaaaaa   ll          eeeeeeeeeeee
                       ss        ss cc        cc aa        aa  ll          ee
                       ss           cc           aa        aa  ll          ee
                       ss           cc           aa        aa  ll          ee
                       sssssssssss  cc           aaaaaaaaaaaa  ll          eeeeeeee
                        sssssssssss cc           aaaaaaaaaaaa  ll          eeeeeeee
                                 ss cc           aa        aa  ll          ee
                                 ss cc           aa        aa  ll          ee
                       ss        ss cc        cc aa        aa  ll          ee
                       ssssssssssss cccccccccccc aa        aa  llllllllllll eeeeeeeeeeee
                        ssssssssss   cccccccccc  aa        aa  llllllllllll eeeeeeeeeeee


            ******************************************************************************
            ******************************************************************************
            ******************************************************************************
            *****                                                                   *****
            *****                  program verification information                 *****
            *****                                                                   *****
            *****                  code system:   scale  version:   4.2             *****
            *****                                                                   *****
            ******************************************************************************
            ******************************************************************************
            *****                                                                   *****
            *****                                                                   *****
            *****                  program:  c0c002                                 *****
            *****                                                                   *****
            *****            creation date:  04/27/95                               *****
            *****                                                                   *****
            *****                  library:  /neutronics/scale/exe                  *****
            *****                                                                   *****
            *****                                                                   *****
            *****      this is not a   scale  configuration controlled code         *****
            *****                                                                   *****
            *****                  jobname:  davis                                  *****
            *****                                                                   *****
            *****        date of execution:  02/16/96                               *****
            *****                                                                   *****
            *****        time of execution:  10:04:58                               *****
```

```
                         *****                                                    *****
                         *****                                                    *****
                         **********************************************************************
                         **********************************************************************
                         **********************************************************************
1
0       -1q array has      1 entries.
0        0q array has      9 entries.
0        1q array has     12 entries.
0select 65 nuclides from the master  library on logical  1
        0 nuclides from the working library on logical  2
        0 nuclides from the working library on logical  3
          to create the new working library on logical  4

       61 resonance calculations have been requested
        0 output option for ampx formatted cross section data.
0the storage allocated for this case is 200000 words
0        2q array has     65 entries.
0        3q array has    915 entries.
0        4q array has     65 entries.
0 general information concerning cross section library
    tape identification number                 4321
    number of nuclides on tape                   66
    number of neutron energy groups              27
    first thermal neutron energy group           15
    number of gamma energy groups                 0
0   direct access unit number  9 requires 117 blocks of length  1484 words
- xsdrn tape   4321
                          scale 4.2 - 27 group neutron burnup library
                            based on endf-b version 4 data with endf-b version 5 fission products
                                 compiled for nrc       1/27/89
                                   last updated         9/16/93
                                      l.m.petrie   -    ornl
0 nuclides from xsdrn tape
     1    1/v cross sections normalized to 1.0 at 0.0253 ev                                999
     2     hydrogen      endf/b-iv mat 1269/thrm1002    updated 10/13/89                1001
     3    b-10 1273 218grp 042375 p-3 293k                                               5010
     4     boron-11      endf/b-iv mat 1160             updated 10/13/89                5011
     5     oxygen-16     endf/b-iv mat 1276             updated 10/13/89                8016
     6     oxygen-16     endf/b-iv mat 1276             updated 10/13/89                   6
     7     kr-83         mt=102,103,103,105,106,107     updated 10/13/89               36083
     8     kr-85           mt=  102                                                   36085
     9     sr-90         mt=102                         updated 10/13/89               38090
    10      y-89         mt=102                         updated 10/13/89               39089
    11     zr-93           mt=  102                                                   40093
    12     zr-94         mt=102                         updated 10/13/89               40094
    13     zr-95         mt=102                         updated 10/13/89               40095
    14     zircalloy     endf/b-iv mat 1284             updated 10/13/89               40302
    15     nb-94         mt=102                         updated 10/13/89               41094
    16     mo-95         mt=102                         updated 10/13/89               42095
    17     tc-99         mt=102                         updated 10/13/89               43099
    18     ru-101        mt=102                         updated 10/13/89               44101
    19     ru-106        mt=102                         updated 10/13/89               44106
    20     rh-103        mt=102                         updated 10/13/89               45103
    21     rh-105          mt=  102                                                   45105
    22     pd-105        mt=102                         updated 10/13/89               46105
    23     pd-108        mt=102                         updated 10/13/89               46108
    24     silver-109    endf/b-iv mat 1139             updated 10/13/89               47109
    25     sb-124        mt=102                         updated 10/13/89               51124
    26     xe-131        mt=102,103,104,105,106         updated 10/13/89               54131
```

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```
   27   xe-132          mt=102,103,104,105,106          updated 10/13/89              54132
   28   xenon-135       endf/b-iv mat 1294              updated 10/13/89              54135
   29   xe-136            mt= 102, 103, 104, 105, 107                                 54136
   30   cesium-133      endf/b-iv mat 1141              updated 10/13/89              55133
   31   cs-134          mt=102                          updated 10/13/89              55134
   32   cs-135            mt= 102                                                     55135
   33   cs-137          mt=102                          updated 10/13/89              55137
   34   ba-136          mt=102                          updated 10/13/89              56136
   35   la-139          mt=102                          updated 10/13/89              57139
   36   ce-144            mt= 102                                                     58144
   37   pr-141          mt=102,103,104,105,106,107      updated 10/13/89              59141
   38   pr-143          mt=102                          updated 10/13/89              59143
   39   nd-143          mt=102                          updated 10/13/89              60143
   40   nd-145          mt=102                          updated 10/13/89              60145
   41   nd-147          mt=102                          updated 10/13/89              60147
   42   pm-147          mt=102                          updated 10/13/89              61147
   43   pm-148            mt= 102                                                     61148
   44   sm-147          endf/b-v fission product        updated 10/13/89              62147
   45   sm-149          mt=102,103,107                  updated 10/13/89              62149
   46   sm-150          mt=102                          updated 10/13/89              62150
   47   sm-151          mt=102,103,104,105,106,107      updated 10/13/89              62151
   48   sm-152          mt=102,103,104,105,106,107      updated 10/13/89              62152
   49   eu-153          mt=102,103,104,105,106,107      updated 10/13/89              63153
   50   eu-154          mt=102,103,104,105,106,107      updated 10/13/89              63154
   51   eu-155          mt=102,103,104,105,106,107      updated 10/13/89              63155
   52   gd-155          mt=102                          updated 10/13/89              64155
   53   u-234 1043 sigp=5+4 reslacs p-3 293k f-1/e-mt(1.+5)                           92234
   54    uranium-235    endf/b-iv mat 1261              updated 10/13/89              92235
   55   u-236 1163 sigp=5+4 reslacs p-3 293k f-1/e-mt(1.+5)                           92236
   56    uranium-238    endf/b-iv mat 1262              updated 10/13/89              92238
   57    neptunium-237  endf/b-iv mat 1263              updated 10/13/89              93237
   58   pu-238 1050 sigp=5+4 reslacs p-3 293k f-1/e-mt(1.+5)                          94238
   59    plutonium-239  endf/b-iv mat 1264              updated 10/13/89              94239
   60    plutonium-240  endf/b-iv mat 1265              updated 10/13/89              94240
   61    plutonium-241  endf/b-iv mat 1266              updated 10/13/89              94241
   62    plutonium-242  endf/b-iv mat 1161              updated 10/13/89              94242
   63   am-241 1056 sigp=5+4 reslacs 218grp p-3 293k                                  95241
   64   am-243 1057 218 grp mt f-1/e-mt 09375 p3 293k                                 95243
   65    curium-244     endf/b-iv mat 1162              updated 10/13/89              96244
01/v cross sections normalized to 1.0 at 0.0253 ev                          999   temperature=  975.00
0 hydrogen        endf/b-iv mat 1269/thrm1002   updated 10/13/89          1001   temperature=  607.60
                        thermal scattering matrix number  2 at a temperature of   550.00 was selected.
0b-10 1273 218grp 04375 p-3 293k                                           5010   temperature=  607.60
                        thermal scattering matrix number  2 at a temperature of   550.00 was selected.
0 boron-11        endf/b-iv mat 1160            updated 10/13/89          5011   temperature=  607.60
                        thermal scattering matrix number  2 at a temperature of   550.00 was selected.
0 oxygen-16       endf/b-iv mat 1276            updated 10/13/89          8016   temperature=  975.00
0 oxygen-16       endf/b-iv mat 1276            updated 10/13/89             6   temperature=  607.60
0 kr-83           mt=102,103,103,105,106,107    updated 10/13/89         36083   temperature=  975.00
0resonance data for this nuclide
0mass number (a)          =   82.202          temperature(kelvin)      =  975.000
0potential scatter sigma  =    7.004          lumped nuclear density   = 1.813724E-06
0spin factor (g)          =  4988.190          lump dimension (a-bar)   = 4.681220E-01
0dimer radius             =  .0000000E+00      dancoff correction (c)   = 3.429926E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1  =   15.995          sigma(per absorber atom)= 9.414866E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2  =  237.933          sigma(per absorber atom)= 1.050455E+05
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
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INFORMATION ONLY

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0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs         res fiss        res scat
  11      -2.72682E-03     .000000E+00    -3.44412E-03
  12       2.16301E-02     .000000E+00     9.88422E-03
  13      -5.91653E-01     .000000E+00    -1.76624E-01
  14       4.78368E-05     .000000E+00    -1.72614E-05
0excess resonance integrals
0                resolved
0absorption      1.44590E+02
 fission          .00000E+00
- elapsed time    .00 min.
0 kr-85          mt= 102                                          36085    temperature= 975.00
0 sr-90          mt=102                  updated 10/13/89         38090    temperature= 975.00
0 y-89           mt=102                  updated 10/13/89         39089    temperature= 975.00
0resonance data for this nuclide
0mass number (a)          =   88.142        temperature(kelvin)      =  975.000
0potential scatter sigma  =    3.644        lumped nuclear density   = 1.6460750E-05
0spin factor (g)          =   78.664        lump dimension (a-bar)   = 4.6812201E-01
0inner radius             =  .0000000E+00   dancoff correction (c)   = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1      =   15.995        sigma(per absorber atom)= 1.0373749E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2      =  237.953        sigma(per absorber atom)= 1.1573869E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs         res fiss        res scat
   9      -4.96415E-06     .000000E+00    -4.07030E-04
  10      -1.01082E-04     .000000E+00    -2.85109E-04
0excess resonance integrals
0                resolved
0absorption      1.46353E-01
 fission          .00000E+00
- elapsed time    .00 min.
0 zr-93          mt= 102                                          40093    temperature= 975.00
0 zr-94          mt=102                  updated 10/13/89         40094    temperature= 975.00
0resonance data for this nuclide
0mass number (a)          =   93.100        temperature(kelvin)      =  975.000
0potential scatter sigma  =    3.779        lumped nuclear density   = 2.6126020E-05
0spin factor (g)          =  180.853        lump dimension (a-bar)   = 4.6812201E-01
0inner radius             =  .0000000E+00   dancoff correction (c)   = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1      =   15.995        sigma(per absorber atom)= 6.5365015E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2      =  237.953        sigma(per absorber atom)= 7.2926973E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs         res fiss        res scat
   8      -1.71581E-06     .000000E+00    -1.60805E-03
   9      -5.11455E-05     .000000E+00    -4.52140E-03
0excess resonance integrals
0                resolved
0absorption      3.43462E-02
 fission          .00000E+00
- elapsed time    .00 min.
0 zr-95          mt=102                  updated 10/13/89         40095    temperature= 975.00
0 zircalloy      endf/b-iv mat 1284      updated 10/13/89         40302    temperature= 650.00
0resonance data for this nuclide
0mass number (a)          =   90.436        temperature(kelvin)      =  650.000
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0potential scatter sigma =    6.385          lumped nuclear density   = 4.251560E-02
0spin factor (g)         =    1.079          lump dimension (a-bar)   = 5.461000E-01
0inner radius            = 4.787899E-01      dancoff correction (c)   = 5.036463E-01
0the absorber will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
   8     -1.780592E-03    .000000E+00   -1.286907E+00
   9     -5.883373E-02    .000000E+00   -2.695297E+00
  10     -6.959985E-02    .000000E+00   -1.601321E+00
  11     -1.883957E-01    .000000E+00   -7.920912E-01
0excess resonance integrals
0                resolved
0absorption     2.28539E-01
 fission        .00000E+00
- elapsed time   .02 min.
0 rb-94        mt=102                  updated 10/13/89          41094    temperature=  975.00
0resonance data for this nuclide
0mass number (a)         =   93.101          temperature(kelvin)      =  975.000
0potential scatter sigma =    3.779          lumped nuclear density   = 1.432078lE-11
0spin factor (g)         = 43808.801          lump dimension (a-bar)   = 4.681220lE-01
0inner radius            = .0000000E+00       dancoff correction (c)   = 3.426926lE-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1     =   15.995          sigma(per absorber atom)= 1.192591OE+10
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2     =  237.953          sigma(per absorber atom)= 1.330536OE+10
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
  13      1.043053E-02    .000000E+00    9.253249E-04
  14      9.836727E-03    .000000E+00   -4.064839E-04
0excess resonance integrals
0                resolved
0absorption     9.15001E+01
 fission        .00000E+00
- elapsed time   .02 min.
0 mo-95        mt=102                  updated 10/13/89          42095    temperature=  975.00
0resonance data for this nuclide
0mass number (a)         =   96.091          temperature(kelvin)      =  975.000
0potential scatter sigma =    3.806          lumped nuclear density   = 2.305161lE-05
0spin factor (g)         =  607.724          lump dimension (a-bar)   = 4.681220lE-01
0inner radius            = .0000000E+00       dancoff correction (c)   = 3.426926lE-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1     =   15.995          sigma(per absorber atom)= 7.407710OE+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2     =  237.953          sigma(per absorber atom)= 8.264693E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
  10     -4.875015E-03    .000000E+00   -2.926810E-02
  11     -9.137521E-03    .000000E+00   -1.501381E-02
  12     -6.216746E+00    .000000E+00   -7.138883E+00
  13      1.560822E-04    .000000E+00   -1.886280E-05
0excess resonance integrals
0                resolved
0absorption     9.55450E+01
 fission        .00000E+00
- elapsed time   .03 min.
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0 tc-99        mt=102                    updated 10/13/89          43099    temperature=  975.00
0resonance data for this nuclide
0mass number (a)          =   98.150          temperature(kelvin)      =  975.000
0potential scatter sigma  =    6.000          lumped nuclear density   = 2.554956E-05
0spin factor (g)          =  4527.940          lump dimension (a-bar)   = 4.681220E-01
0inner radius             =  .0000000E+00      dancoff correction (c)   = 3.426926E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1      =   15.995           sigma(per absorber atom)= 6.683496E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2      =  257.933           sigma(per absorber atom)= 7.456698E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs        res fiss       res scat
  11      -3.297395E-02     .000000E+00   -1.552925E-02
  12      -8.767703E-03     .000000E+00   -3.101466E-04
  13      -5.338088E-01     .000000E+00   -2.808330E-02
  14      -1.126903E+01     .000000E+00   -3.591854E-01
  15       1.069416E-02     .000000E+00   -5.378884E-04
  16       4.835891E-03     .000000E+00   -2.801828E-04
  17       2.074195E-04     .000000E+00   -1.191841E-05
0excess resonance integrals
0                resolved
0absorption     3.1969E+02
 fission         .0000E+00
- elapsed time    .03 min.
0 ru-101       mt=102                    updated 10/13/89          44101    temperature=  975.00
0resonance data for this nuclide
0mass number (a)          =  100.089          temperature(kelvin)      =  975.000
0potential scatter sigma  =    3.955          lumped nuclear density   = 2.367612E-05
0spin factor (g)          = 8785.290          lump dimension (a-bar)   = 4.681220E-01
0inner radius             =  .0000000E+00      dancoff correction (c)   = 3.426926E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1      =   15.995           sigma(per absorber atom)= 7.212516E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2      =  257.933           sigma(per absorber atom)= 8.046696E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs        res fiss       res scat
  11      -3.694152E-02     .000000E+00   -3.706604E-03
  12      -2.101600E-01     .000000E+00   -5.001156E-02
  13      -6.353251E-01     .000000E+00   -1.710328E-02
  14       2.367621E-04     .000000E+00   -4.135463E-05
0excess resonance integrals
0                resolved
0absorption     7.8955E+01
 fission         .0000E+00
- elapsed time    .03 min.
0 ru-106       mt=102                    updated 10/13/89          44106    temperature=  975.00
0 rh-103       mt=102                    updated 10/13/89          45103    temperature=  975.00
0resonance data for this nuclide
0mass number (a)          =  102.021          temperature(kelvin)      =  975.000
0potential scatter sigma  =    5.403          lumped nuclear density   = 1.431172E-05
0spin factor (g)          =     .500          lump dimension (a-bar)   = 4.681220E-01
0inner radius             =  .0000000E+00      dancoff correction (c)   = 3.426926E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1      =   15.995           sigma(per absorber atom)= 1.193457E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2      =  257.933           sigma(per absorber atom)= 1.331178E+04
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0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs          res fiss        res scat
   9      1.204389E-03     .000000E+00     1.788869E-03
  10     -5.018506E-03     .000000E+00    -6.849820E-03
  11     -2.882715E-02     .000000E+00    -2.528439E-02
  12     -4.875087E-04     .000000E+00    -2.801735E-05
  13      .000000E+00      .000000E+00      .000000E+00
  14      .000000E+00      .000000E+00      .000000E+00
  15      2.245639E-01     .000000E+00     3.170446E-03
  16      2.830610E+01     .000000E+00    -8.509585E-02
  17     -1.880681E+02     .000000E+00    -1.789714E-01
  18      8.646072E+01     .000000E+00     2.602341E-01
  19      1.139143E+01     .000000E+00    -1.224586E-03
  20      1.079305E+00     .000000E+00    -2.404856E-03
  21      2.165706E-01     .000000E+00     1.925355E-03
  22      2.583927E-01     .000000E+00     2.928545E-03
  23     -9.878527E-02     .000000E+00     1.798742E-03
0excess resonance integrals
0                  resolved
0absorption      1.13329E+03
 fission          .00000E+00
-  elapsed time    .07 min.
0 rh-105          mt= 102                                          45105    temperature=   975.00
0 pd-105        mt=102                        updated 10/13/89     46105    temperature=   975.00
0resonance data for this nuclide
0mass number (a)          =   104.004        temperature(kelvin)      =   975.000
0potential scatter sigma  =     4.069        lumped nuclear density   = 1.0331927E-05
0spin factor (g)          = 15210.000        lump dimension (a-bar)   = 4.6812201E-01
0inner radius             =  .0000000E+00    dancoff correction (c)   = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =    15.995             sigma(per absorber atom)= 1.6527381E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   237.983             sigma(per absorber atom)= 1.8439402E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs          res fiss        res scat
  12     -6.809954E-02     .000000E+00    -2.334454E-03
  13     -7.998243E-02     .000000E+00    -1.860649E-03
  14      7.754399E-04     .000000E+00    -8.104906E-05
0excess resonance integrals
0                  resolved
0absorption      6.11507E+01
 fission          .00000E+00
-  elapsed time    .07 min.
0 pd-108        mt=102                        updated 10/13/89     46108    temperature=   975.00
0resonance data for this nuclide
0mass number (a)          =   106.977        temperature(kelvin)      =   975.000
0potential scatter sigma  =     4.146        lumped nuclear density   = 3.1724992E-06
0spin factor (g)          = 21175.100        lump dimension (a-bar)   = 4.6812201E-01
0inner radius             =  .0000000E+00    dancoff correction (c)   = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =    15.995             sigma(per absorber atom)= 5.3824973E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   237.983             sigma(per absorber atom)= 6.0051887E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
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0group      res abs        res fiss       res scat
  11     1.169765E-04   .000000E+00   3.530660E-04
  12    -2.857494E+00   .000000E+00  -2.103978E+00
  13     6.680858E-03   .000000E+00   1.885999E-03
  14     8.560859E-02   .000000E+00  -3.210489E-05
  15    -1.841547E-01   .000000E+00   8.083373E-05
  16     2.946591E-04   .000000E+00  -9.255674E-06
0excess resonance integrals
0                 resolved
0absorption     2.10595E+02
 fission         .00000E+00
-  elapsed time    .07 min.
0 silver-109     endf/b-iv mat 1139          updated 10/13/89          47109     temperature=   975.00
0resonance data for this nuclide
0mass number (a)           =    107.969            temperature(kelvin)        =   975.000
0potential scatter sigma   =      4.988            lumped nuclear density     = 2.1320018E-06
0spin factor (g)           =   1441.870            lump dimension (a-bar)     = 4.6812201E-01
0inner radius              =  .0000000E+00         dancoff correction (c)     = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =     15.995            sigma(per absorber atom)= 8.0093602E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =    237.983            sigma(per absorber atom)= 8.9859484E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
  10    -2.564913E-04   .000000E+00  -2.992681E-04
  11    -9.998984E-03   .000000E+00  -7.288188E-03
  12    -7.463597E-01   .000000E+00  -3.687714E-02
  13     7.666948E-01   .000000E+00   3.380718E-02
  14    -2.031872E+01   .000000E+00  -1.884823E+00
0excess resonance integrals
0                 resolved
0absorption     1.37614E+03
 fission         .00000E+00
-  elapsed time    .08 min.
0 sb-124         mt=102                      updated 10/13/89          51124     temperature=   975.00
0 xe-131         mt=102,103,104,105,106      updated 10/13/89          54131     temperature=   975.00
0resonance data for this nuclide
0mass number (a)           =    129.781            temperature(kelvin)        =   975.000
0potential scatter sigma   =      4.301            lumped nuclear density     = 1.1485298E-05
0spin factor (g)           =    246.825            lump dimension (a-bar)     = 4.6812201E-01
0inner radius              =  .0000000E+00         dancoff correction (c)     = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =     15.995            sigma(per absorber atom)= 1.4867684E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =    237.983            sigma(per absorber atom)= 1.6587699E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
   9    -3.839524E-06   .000000E+00  -3.538854E-05
  10    -2.589499E-04   .000000E+00  -2.257703E-04
  11    -3.124803E-03   .000000E+00  -2.320908E-03
  12    -5.929664E-02   .000000E+00  -5.519651E-03
  13    -8.836818E+01   .000000E+00  -2.070617E+02
  14     1.039511E-02   .000000E+00   1.456956E-02
0excess resonance integrals
0                 resolved
0absorption     7.37500E+02
```

```
 fission          .00000E+00
- elapsed time    .08 min.
0 xe-132         mt=102,103,104,105,106        updated 10/13/89          54132    temperature= 975.00
0resonance data for this nuclide
0mass number (a)          =  130.771          temperature(kelvin)     =  975.000
0potential scatter sigma  =    4.301          lumped nuclear density  = 2.3319530E-05
0spin factor (g)          =  675.859          lump dimension (a-bar)  = 4.6812201E-01
0inner radius             = .0000000E+00      dancoff correction (c)  = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =   15.995            sigma(per absorber atom)= 7.3226045E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =  237.933            sigma(per absorber atom)= 8.1697432E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs        res fiss       res scat
   9     -3.613186E-05    .000000E+00   -1.677534E-04
  10     -1.091632E-02    .000000E+00   -1.389546E-01
  11      3.338928E-03    .000000E+00   -9.226723E-07
0excess resonance integrals
0                resolved
0absorption     9.65781E-01
 fission          .00000E+00
- elapsed time    .08 min.
0 xenon-135      endf/b-iv mat 1294            updated 10/13/89          54135    temperature= 975.00
0 xe-136           mt=  102, 103, 104, 105, 107                          54136    temperature= 975.00
0 cesium-133     endf/b-iv mat 1141            updated 10/13/89          55133    temperature= 975.00
0resonance data for this nuclide
0mass number (a)          =  131.764          temperature(kelvin)     =  975.000
0potential scatter sigma  =    7.100          lumped nuclear density  = 2.8034819E-05
0spin factor (g)          =  374.437          lump dimension (a-bar)  = 4.6812201E-01
0inner radius             = .0000000E+00      dancoff correction (c)  = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =   15.995            sigma(per absorber atom)= 6.0931592E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =  238.051            sigma(per absorber atom)= 6.5357119E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs        res fiss       res scat
   9     -7.626997E-05    .000000E+00   -5.370492E-04
  10     -3.880109E-03    .000000E+00   -7.411718E-03
  11     -1.434303E-01    .000000E+00   -2.506073E-01
  12     -2.228179E-01    .000000E+00   -3.098573E-02
  13     -3.706751E-01    .000000E+00   -2.016849E-02
  14     -1.585101E+01    .000000E+00   -6.935894E-01
  15      5.617684E-03    .000000E+00   -4.040337E-04
  16      2.777807E-03    .000000E+00   -2.215017E-04
  17      2.352259E-03    .000000E+00   -1.830746E-04
  18      2.215079E-03    .000000E+00   -1.679863E-04
  19      1.317512E-03    .000000E+00   -9.681352E-05
0excess resonance integrals
0                resolved
0absorption     3.46055E+02
 fission          .00000E+00
- elapsed time    .10 min.
0 cs-134         mt=102                        updated 10/13/89          55134    temperature= 975.00
0 cs-135           mt=  102                                              55135    temperature= 975.00
0 cs-137         mt=102                        updated 10/13/89          55137    temperature= 975.00
0 ba-136         mt=102                        updated 10/13/89          56136    temperature= 975.00
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0resonance data for this nuclide
0mass number (a)          =   134.737          temperature(kelvin)      =   975.000
0potential scatter sigma  =     4.835          lumped nuclear density   = 3.5187762E-07
0spin factor (g)          =  1247.690          lump dimension (a-bar)   = 4.6812201E-01
0inner radius             =  .0000000E+00      dancoff correction (c)   = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1      =    15.995          sigma(per absorber atom)= 4.8528150E+05
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2      =   237.953          sigma(per absorber atom)= 5.4142288E+05
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group        res abs          res fiss         res scat
  10      8.53073E-07      .000000E+00      3.48619E-07
  11     -4.36440E-05      .000000E+00     -3.64374E-05
0excess resonance integrals
0                resolved
0absorption     1.38465E+00
 fission        .00000E+00
- elapsed time   .12 min.
0 la-139        mt=102                   updated 10/13/89          57139    temperature=  975.00
0resonance data for this nuclide
0mass number (a)          =   137.713          temperature(kelvin)      =   975.000
0potential scatter sigma  =     4.906          lumped nuclear density   = 2.7388562E-05
0spin factor (g)          =   145.855          lump dimension (a-bar)   = 4.6812201E-01
0inner radius             =  .0000000E+00      dancoff correction (c)   = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1      =    15.995          sigma(per absorber atom)= 6.2347080E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2      =   237.953          sigma(per absorber atom)= 6.9559903E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group        res abs          res fiss         res scat
   9     -3.69330E-05      .000000E+00     -3.09229E-03
  10     -5.13348E-04      .000000E+00     -2.74312E-02
  11      .000000E+00      .000000E+00      .000000E+00
  12     -9.34835E-02      .000000E+00     -5.64309E-02
0excess resonance integrals
0                resolved
0absorption     8.03615E+00
 fission        .00000E+00
- elapsed time   .12 min.
0 ce-144        mt=  102                                                 58144    temperature=  975.00
0 pr-141        mt=102,103,104,105,106,107   updated 10/13/89            59141    temperature=  975.00
0resonance data for this nuclide
0mass number (a)          =   139.697          temperature(kelvin)      =   975.000
0potential scatter sigma  =     4.953          lumped nuclear density   = 2.4055988E-05
0spin factor (g)          =  1026.500          lump dimension (a-bar)   = 4.6812201E-01
0inner radius             =  .0000000E+00      dancoff correction (c)   = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1      =    15.995          sigma(per absorber atom)= 7.0984277E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2      =   237.953          sigma(per absorber atom)= 7.9196523E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group        res abs          res fiss         res scat
  10     -9.36646E-03      .000000E+00     -3.18222E-01
  11     -1.52115E-01      .000000E+00     -2.02333E+00
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  12     -3.555179E-03     .000000E+00   -3.483960E-04
0excess resonance integrals
0                resolved
0absorption      1.20251E+01
 fission          .00000E+00
- elapsed time    .12 min.
0 pr-143         mt=152                    updated 10/13/89          59143    temperature=  975.00
0 nd-143         mt=102                    updated 10/13/89          60143    temperature=  975.00
0resonance data for this nuclide
0mass number (a)          =   141.682          temperature(kelvin)     =   975.000
0potential scatter sigma  =     5.000          lumped nuclear density  = 2.049999E-05
0spin factor (g)          =  1964.860          lump dimension (a-bar)  = 4.681220E-01
0inner radius             =  .0000000E+00      dancoff correction (c)  = 3.426926E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1      =    15.995          sigma(per absorber atom)= 8.329742E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2      =   257.933          sigma(per absorber atom)= 9.295394E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs          res fiss         res scat
  10     -2.012659E-04     .000000E+00   -1.244567E-04
  11     -4.714201E-01     .000000E+00   -5.472325E+00
  12     -3.134185E-01     .000000E+00   -1.541217E-01
0excess resonance integrals
0                resolved
0absorption      5.05055E+01
 fission          .00000E+00
- elapsed time    .12 min.
0 nd-145         mt=102                    updated 10/13/89          60145    temperature=  975.00
0resonance data for this nuclide
0mass number (a)          =   143.668          temperature(kelvin)     =   975.000
0potential scatter sigma  =     5.047          lumped nuclear density  = 1.547073E-05
0spin factor (g)          =  1007.250          lump dimension (a-bar)  = 4.681220E-01
0inner radius             =  .0000000E+00      dancoff correction (c)  = 3.426926E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1      =    15.995          sigma(per absorber atom)= 1.103759E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2      =   257.933          sigma(per absorber atom)= 1.251451E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs          res fiss         res scat
  10     -6.324348E-03     .000000E+00   -9.915681E-02
  11     -9.467698E-02     .000000E+00   -2.868854E-01
  12     -2.238582E+00     .000000E+00   -1.408134E+01
  13      9.550272E-05     .000000E+00    2.048740E-04
  14     -2.098093E+00     .000000E+00   -5.512056E-02
  15      5.892251E-03     .000000E+00   -4.599468E-04
  16      1.326648E-03     .000000E+00   -1.651205E-04
  17      9.642470E-04     .000000E+00   -1.063907E-04
  18      8.539751E-04     .000000E+00   -9.313926E-05
  19      7.634095E-04     .000000E+00   -8.069685E-05
  20      2.839469E-05     .000000E+00   -2.920642E-06
0excess resonance integrals
0                resolved
0absorption      2.04663E+02
 fission          .00000E+00
- elapsed time    .13 min.
0 nd-147         mt=102                    updated 10/13/89          60147    temperature=  975.00
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0 pm-147          mt=102                          updated 10/13/89          61147     temperature=   975.00
0resonance data for this nuclide
0mass number (a)          =   145.653              temperature(kelvin)       =   975.000
0potential scatter sigma  =     5.093              lumped nuclear density    = 4.5120155E-06
0spin factor (g)          = 21589.500              lump dimension (a-bar)    = 4.6812201E-01
0inner radius             =  .0000000E+00          dancoff correction (c)    = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =     15.995             sigma(per absorber atom)= 3.7865547E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =    237.953             sigma(per absorber atom)= 4.2223832E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs         res fiss       res scat
  12     -2.273065E-01    .000000E+00   -7.274823E-02
  13     -5.826789E-02    .000000E+00   -3.273887E-03
  14     -1.005808E+02    .000000E+00   -4.320737E+01
  15      4.125411E-02    .000000E+00    6.973337E-03
  16      1.697908E-02    .000000E+00    1.746665E-03
  17      1.369737E-02    .000000E+00    1.150451E-03
  18      1.253792E-02    .000000E+00    9.649321E-04
  19      6.998680E-04    .000000E+00    5.069563E-05
0excess resonance integrals
0                  resolved
0absorption      1.99190E+03
 fission          .00000E+00
-  elapsed time    .13 min.
0 pm-148           mt=  102                                                  61148     temperature=   975.00
0 sm-147          endf/b-v fission product       updated 10/13/89          62147     temperature=   975.00
0resonance data for this nuclide
0mass number (a)          =   145.653              temperature(kelvin)       =   975.000
0potential scatter sigma  =     5.093              lumped nuclear density    = 2.2033623E-06
0spin factor (g)          =      .000              lump dimension (a-bar)    = 4.6812201E-01
0inner radius             =  .0000000E+00          dancoff correction (c)    = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =     15.995             sigma(per absorber atom)= 7.7499602E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =    237.953             sigma(per absorber atom)= 8.6465391E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs         res fiss       res scat
  11      2.531995E-01    .000000E+00    1.026770E+00
  12      6.925951E-01    .000000E+00   -1.801583E+00
  13     -5.105210E+00    .000000E+00   -3.361143E+00
  14     -6.485438E-01    .000000E+00   -9.227741E-03
  15      3.108576E-01    .000000E+00   -1.889560E-03
  16      7.287601E-03    .000000E+00   -3.738430E-04
  17      4.281461E-03    .000000E+00   -2.401664E-04
  18      3.510383E-03    .000000E+00   -1.997177E-04
  19      2.910569E-03    .000000E+00   -1.649473E-04
  20      8.434788E-04    .000000E+00   -4.626470E-05
0excess resonance integrals
0                  resolved
0absorption      7.19832E+02
 fission          .00000E+00
-  elapsed time    .15 min.
                        thermal scattering matrix number   3 at a temperature of    900.03 was selected.
0 sm-149          mt=102,103,107                  updated 10/13/89          62149     temperature=   975.00
0resonance data for this nuclide
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0mass number (a)          =   147.638          temperature(kelvin)      =   975.000
0potential scatter sigma  =     3.260          lumped nuclear density   = 9.0665708E-08
0spin factor (g)          = 10407.900          lump dimension (a-bar)   = 4.6812201E-01
0inner radius             =  .0000000E+00      dancoff correction (c)   = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =    15.995            sigma(per absorber atom)= 1.8833989E+06
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   237.933            sigma(per absorber atom)= 2.1012860E+06
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
  11     8.546572E-03   .000000E+00   3.071153E-02
  12    -5.606520E-02   .000000E+00  -1.834105E-01
  13     2.252520E-02   .000000E+00   2.740474E-03
  14    +1.121898E-03   .000000E+00  -8.399253E-03
0excess resonance integrals
0                  resolved
0absorption      8.04326E+02
 fission          .00000E+00
-  elapsed time    .15 min.
0 sm-150       mt=102                  updated 10/13/89           62150     temperature=   975.00
0resonance data for this nuclide
0mass number (a)          =   148.629          temperature(kelvin)      =   975.000
0potential scatter sigma  =     5.162          lumped nuclear density   = 5.8421019E-06
0spin factor (g)          =  4376.420          lump dimension (a-bar)   = 4.6812201E-01
0inner radius             =  .0000000E+00      dancoff correction (c)   = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =    15.995            sigma(per absorber atom)= 2.9229152E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   237.933            sigma(per absorber atom)= 3.2610619E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
  10    -1.916888E-03   .000000E+00  -1.862840E-02
  11    -4.404323E-02   .000000E+00  -4.970627E-01
  12    -1.437634E-01   .000000E+00  -4.344102E-02
  13    -9.971263E+00   .000000E+00  -7.865757E+00
  14     1.064415E-04   .000000E+00  -6.365839E-05
0excess resonance integrals
0                  resolved
0absorption      2.83489E+02
 fission          .00000E+00
-  elapsed time    .15 min.
0 sm-151       mt=102,103,104,105,106,107   updated 10/13/89      62151     temperature=   975.00
0resonance data for this nuclide
0mass number (a)          =   149.623          temperature(kelvin)      =   975.000
0potential scatter sigma  =     5.185          lumped nuclear density   = 4.6165064E-07
0spin factor (g)          = 75574.703          lump dimension (a-bar)   = 4.6812201E-01
0inner radius             =  .0000000E+00      dancoff correction (c)   = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =    15.995            sigma(per absorber atom)= 3.6988944E+05
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   237.933            sigma(per absorber atom)= 4.1268128E+05
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
  14    -2.664968E-01   .000000E+00  -2.407252E-02
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  15      1.48232E+01     .000000E+00    7.495161E-02
  16     -2.18458E+01     .000000E+00   -6.215366E-02
  17      1.73420E+02     .000000E+00    8.254912E-01
  18     -3.20866E+02     .000000E+00   -1.785959E+00
  19      6.25278E+01     .000000E+00    3.867234E-01
  20      1.14100E+00     .000000E+00   -1.381543E-04
  21     -7.11763E-02     .000000E+00    1.244101E-02
  22      6.95257E-02     .000000E+00    3.833917E-03
  23     -1.09192E-02     .000000E+00    3.374082E-04
0excess resonance integrals
0                resolved
0absorption      2.05581E+03
 fission          .0000E+00
- elapsed time    .17 min.
0 sm-152       mt=102,103,104,105,106,107    updated 10/13/89          62152    temperature=  975.00
0resonance data for this nuclide
0mass number (a)          =   150.615          temperature(kelvin)     =   975.000
0potential scatter sigma  =     5.208          lumped nuclear density  = 2.706728E-06
0spin factor (g)          =   863.594          lump dimension (a-bar)  = 4.681220E-01
0inner radius             =  .0000000E+00      dancoff correction (c)  = 3.426926E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1   =    15.995            sigma(per absorber atom)= 6.308712E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2   =   237.933            sigma(per absorber atom)= 7.088563E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group        res abs         res fiss        res scat
   9      2.402534E-06     .000000E+00    1.158422E-04
  10     -2.209686E-03     .000000E+00   -3.403435E-02
  11     -3.158748E-02     .000000E+00   -1.201679E-01
  12     -2.107841E-01     .000000E+00   -6.678880E-01
  13      4.146078E-02     .000000E+00    1.007926E-01
  14     -1.800018E+02     .000000E+00   -3.473057E+02
0excess resonance integrals
0                resolved
0absorption      2.67894E+03
 fission          .0000E+00
- elapsed time    .17 min.
0 eu-153       mt=102,103,104,105,106,107    updated 10/13/89          63153    temperature=  975.00
0resonance data for this nuclide
0mass number (a)          =   151.607          temperature(kelvin)     =   975.000
0potential scatter sigma  =     9.731          lumped nuclear density  = 1.827983E-06
0spin factor (g)          =  1226.900          lump dimension (a-bar)  = 4.681220E-01
0inner radius             =  .0000000E+00      dancoff correction (c)  = 3.426926E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1   =    15.995            sigma(per absorber atom)= 9.117911E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2   =   237.933            sigma(per absorber atom)= 1.017274E+05
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group        res abs         res fiss        res scat
  12     -3.151911E-01     .000000E+00   -6.169570E-02
  13     -2.597048E-01     .000000E+00   -1.150879E-02
  14     -1.181352E+00     .000000E+00   -6.071259E-03
  15     -4.179145E-02     .000000E+00   -6.054394E-02
  16     -3.307578E+00     .000000E+00    8.152518E-03
  17      1.505659E-01     .000000E+00   -3.437564E-03
  18      7.726792E-02     .000000E+00   -2.231180E-03
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  19      5.055416E-02     .000000E+00   -1.541084E-03
  20     -1.253808E-01     .000000E+00   -1.274912E-03
Oexcess resonance integrals
0                resolved
Oabsorption      1.352386E+03
 fission          .000000E+00
- elapsed time    .18 min.
0 eu-154        mt=102,103,104,105,106,107     updated 10/13/89          6315A    temperature=  975.00
Oresonance data for this nuclide
Omass number (a)          =   152.601            temperature(kelvin)     =  975.000
Opotential scatter sigma  =     9.731            lumped nuclear density  = 4.843383E-07
Ospin factor (g)          = 19135.801            lump dimension (a-bar)  = 4.681220E-01
Oinner radius             =  .000000E+00         dancoff correction (c)  = 3.426926E-01
Othe absorber will be treated by the nordheim integral method.
Omass of moderator-1   =   15.995                sigma(per absorber atom)= 3.524899E+05
Omoderator-1 will be treated by the nordheim integral method.
Omass of moderator-2   =  257.933                sigma(per absorber atom)= 3.952689E+05
Omoderator-2 will be treated by the nordheim integral method.
Othis resonance material will be treated as a 2-dimensional object.
Ovolume fraction of lump in cell used to account for spatial self-shielding=1.00000
Ogroup       res abs          res fiss         res scat
  12     -4.021110E-01     .000000E+00   -6.263666E-02
  13     -3.529810E-01     .000000E+00   -2.641439E-02
  14      2.707021E-01     .000000E+00    1.353824E-02
  15      2.154105E-02     .000000E+00    2.040740E-02
  16      7.005529E+00     .000000E+00    9.140816E-02
  17     -1.450002E+02     .000000E+00   -1.900890E+00
  18      1.130468E+02     .000000E+00    1.854371E+00
  19     -1.014953E+02     .000000E+00    1.187526E+00
Oexcess resonance integrals
0                resolved
Oabsorption      2.135296E+03
 fission          .000000E+00
- elapsed time    .18 min.
0 eu-155        mt=102,103,104,105,106,107     updated 10/13/89          63155    temperature=  975.00
0 gd-155        mt=102                         updated 10/13/89          64155    temperature=  975.00
Oresonance data for this nuclide
Omass number (a)          =   153.592            temperature(kelvin)     =  975.000
Opotential scatter sigma  =     5.277            lumped nuclear density  = 3.600273E-09
Ospin factor (g)          = 12700.100            lump dimension (a-bar)  = 4.681220E-01
Oinner radius             =  .000000E+00         dancoff correction (c)  = 3.426926E-01
Othe absorber will be treated by the nordheim integral method.
Omass of moderator-1   =   15.995                sigma(per absorber atom)= 4.742964E+07
Omoderator-1 will be treated by the nordheim integral method.
Omass of moderator-2   =  257.933                sigma(per absorber atom)= 5.291669E+07
Omoderator-2 will be treated by the nordheim integral method.
Othis resonance material will be treated as a 2-dimensional object.
Ovolume fraction of lump in cell used to account for spatial self-shielding=1.00000
Ogroup       res abs          res fiss         res scat
  12     -1.439572E+00     .000000E+00   -1.839546E-01
  13      1.540814E+00     .000000E+00    1.984648E-01
  14      2.186907E-01     .000000E+00    9.800664E-03
  15     -3.396920E-01     .000000E+00   -2.237280E-04
  16      1.477357E+00     .000000E+00   -4.148652E-03
  17      1.568659E-01     .000000E+00   -1.479108E-03
  18      9.605182E-02     .000000E+00   -1.078052E-03
  19      6.255395E-02     .000000E+00   -8.026944E-04
  20      1.670401E-02     .000000E+00    1.626967E-04
  21       .000000E+00     .000000E+00     .000000E+00
  22       .000000E+00     .000000E+00     .000000E+00
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  23      .000000E+00     .000000E+00     .000000E+00
  24      .000000E+00     .000000E+00     .000000E+00
  25     -2.128025E+03    .000000E+00    -1.622201E+00
  26     -5.206858E+03    .000000E+00     1.961556E+00
  27     -1.660053E+03    .000000E+00     7.392990E-01
0excess resonance integrals
0                resolved
0absorption     3.9699E+04
 fission          .0000E+00
- elapsed time    .20 min.
0u-234 1043 sigo=5+4 nreslocs p-3 293k f-1/e-m(1.+5)                    9234    temperature=  975.00
0resonance data for this nuclide
0mass number (a)        =   232.029          temperature(kelvin)     =   975.000
0potential scatter sigma =    10.021         lumped nuclear density  = 4.1064836E-06
0spin factor (g)        =  6948.450          lump dimension (a-bar)  = 4.6812201E-01
0inner radius           =  .0000000E+00      dancoff correction (c)  = 3.4269861E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =    15.995          sigma(per absorber atom)= 4.1582949E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   237.985          sigma(per absorber atom)= 4.6379598E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs         res fiss        res scat
  11     -1.961208E-02    .000000E+00    -5.722908E-02
  12     -1.601150E-01    .000000E+00    -6.698953E-02
  13      7.760650E-04    .000000E+00    -6.473847E-04
  14     -1.579265E+01    .000000E+00    -2.586928E+00
0excess resonance integrals
0                resolved
0absorption     5.8533E+02
 fission          .0000E+00
- elapsed time    .20 min.
0 uranium-235   endf/b-iv mat 1261          updated 10/13/89            9235    temperature=  975.00
0resonance data for this nuclide
0mass number (a)        =   233.025          temperature(kelvin)     =   975.000
0potential scatter sigma =    11.500         lumped nuclear density  = 3.2945091E-04
0spin factor (g)        = 15171.100          lump dimension (a-bar)  = 4.6812201E-01
0inner radius           =  .0000000E+00      dancoff correction (c)  = 3.4269861E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =    15.995          sigma(per absorber atom)= 5.1831604E+02
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   238.049          sigma(per absorber atom)= 5.5625993E+02
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group       res abs         res fiss        res scat
  12     -1.406618E+00    -8.762859E-01   -3.299534E-02
  13     -5.052756E+00    -2.519920E+00   -1.097110E-01
  14     -4.070005E+00    -2.511537E+00   -2.790143E-02
0excess resonance integrals
0                resolved
0absorption     2.1587E+02
 fission          1.2839E+02
- elapsed time    .22 min.
0u-236 1163 sigo=5+4 nreslocs p-3 293k f-1/e-m(1.+5)                    9236    temperature=  975.00
0resonance data for this nuclide
0mass number (a)        =   234.017          temperature(kelvin)     =   975.000
0potential scatter sigma =    10.995         lumped nuclear density  = 6.7250581E-05
0spin factor (g)        =  6528.490          lump dimension (a-bar)  = 4.6812201E-01
```

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0inner radius          = .0000000E+00        dancoff correction (c)    = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1   =   15.995            sigma(per absorber atom)= 2.5376465E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2   =  237.954            sigma(per absorber atom)= 2.8307280E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
  11     -3.205253E-01    .000000E+00   -8.065267E-01
  12     -1.740610E+00    .000000E+00   -1.175568E+00
  13     -7.067173E-02    .000000E+00   -3.588744E-03
  14     -5.391120E+01    .000000E+00   -4.716531E+00
0excess resonance integrals
0              resolved
0absorption   2.6404.9E+02
 fission      .00000E+00
- elapsed time    .22 min.
0 uranium-238   endf/b-iv mat 1262          updated 10/13/89          92238    temperature=   975.00
0resonance data for this nuclide
0mass number (a)       =  236.006            temperature(kelvin)       =  975.000
0potential scatter sigma =  10.599           lumped nuclear density    = 2.1732379E-02
0spin factor (g)       =  656.527            lump dimension (a-bar)    = 4.6812201E-01
0inner radius          = .0000000E+00        dancoff correction (c)    = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1   =   15.995            sigma(per absorber atom)= 7.8573785E+00
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2   =  235.041            sigma(per absorber atom)= 3.3331647E-01
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
   9     -3.922767E-02    .000000E+00   -4.031110E-01
  10     -1.025260E+00   -1.739109E-05   -6.468191E+00
  11     -9.700805E+00    .000000E+00   -2.688294E+01
  12     -4.308446E+01    .000000E+00   -4.997449E+01
  13     -5.400053E+01    .000000E+00   -1.768741E+01
  14     -1.044746E+02    .000000E+00   -6.058397E+00
0excess resonance integrals
0              resolved
0absorption   1.8086.7E+01
 fission      5.0416.E-04
- elapsed time    .25 min.
0 neptunium-237  endf/b-iv mat 1263          updated 10/13/89          93237    temperature=   975.00
0resonance data for this nuclide
0mass number (a)       =  235.012            temperature(kelvin)       =  975.000
0potential scatter sigma =  10.500           lumped nuclear density    = 5.7112925E-06
0spin factor (g)       = 10100.800           lump dimension (a-bar)    = 4.6812201E-01
0inner radius          = .0000000E+00        dancoff correction (c)    = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1   =   15.995            sigma(per absorber atom)= 2.9898605E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2   =  238.051            sigma(per absorber atom)= 3.2070176E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
  11     -6.415946E-02   -2.341852E-06   -7.461254E-03
  12      2.260366E-03   -1.367187E-04    4.616411E-03
  13     -1.053958E-01    8.240857E-05   -4.853373E-03
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INFORMATION ONLY

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  14    -1.720739E-01  -2.041332E-05  -2.414718E-03
0excess resonance integrals
0                  resolved
0absorption        2.92790E+02
 fission           1.38500E-01
 - elapsed time    .27 min.
0pu-238 1050 sigo=5+4 rewxlacs p-3 298k f-1/e-m(1.+5)                           94238     temperature=   975.00
0resonance data for this nuclide
0mass number (a)            =   236.167            temperature(kelvin)        =   975.000
0potential scatter sigma    =    10.890            lumped nuclear density     = 1.1560305E-06
0spin factor (g)            = 13130.600            lump dimension (a-bar)     = 4.6812201E-01
0inner radius               =  .0000000E+00        dancoff correction (c)     = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =    15.995              sigma(per absorber atom)= 1.4771209E+05
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   238.051              sigma(per absorber atom)= 1.5844058E+05
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group        res abs        res fiss       res scat
  11    -7.587170E-03  -1.185391E-03  -7.182622E-03
  12    -5.238791E-03  -5.998517E-04  -2.438190E-03
  13     3.658336E-01   7.361796E-02  -1.347240E-02
  14    -3.832955E-01  -7.007144E-02   8.539291E-03
0excess resonance integrals
0                  resolved
0absorption        8.24762E+01
 fission           9.08013E+00
 - elapsed time    .27 min.
0 plutonium-239  endf/b-iv mat 1264          updated 10/13/89               94239     temperature=   975.00
0resonance data for this nuclide
0mass number (a)            =   236.999            temperature(kelvin)        =   975.000
0potential scatter sigma    =   ·10.200            lumped nuclear density     = 1.2427598E-04
0spin factor (g)            =  6435.710            lump dimension (a-bar)     = 4.6812201E-01
0inner radius               =  .0000000E+00        dancoff correction (c)     = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =    15.995              sigma(per absorber atom)= 1.3740361E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   238.051              sigma(per absorber atom)= 1.4738339E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group        res abs        res fiss       res scat
  11    -2.584350E-01  -1.041815E-01  -7.897274E-02
  12    -2.277330E+00  -8.551598E-01  -2.991308E-01
  13    -7.430213E+00  -4.370307E+00  -1.138121E-01
  14    -2.367054E+00  -1.260185E+00  -2.088679E-02
0excess resonance integrals
0                  resolved
0absorption        3.04900E+02
 fission           1.71368E+02
 - elapsed time    .28 min.
0 plutonium-240  endf/b-iv mat 1265          updated 10/13/89               94240     temperature=   975.00
0resonance data for this nuclide
0mass number (a)            =   237.992            temperature(kelvin)        =   975.000
0potential scatter sigma    =    10.599            lumped nuclear density     = 3.0295155E-05
0spin factor (g)            =   669.244            lump dimension (a-bar)     = 4.6812201E-01
0inner radius               =  .0000000E+00        dancoff correction (c)     = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1    =    15.995              sigma(per absorber atom)= 5.6369063E+03
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0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2   =   238.051          sigma(per absorber atom)= 6.046521E+03
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
   9     -7.751930E-05   -2.527774E-06   -3.998371E-04
  10     -7.247898E-03   -4.475637E-04   -3.306840E-02
  11     -2.280658E-01   -1.319958E-03   -3.029641E-01
  12     -3.118656E+00   -1.702781E-02   -2.983013E+00
  13     -3.913366E-01   -2.399544E-03   -2.851979E-02
  14      .000000E+00     .000000E+00     .000000E+00
  15      1.719984E-02    3.282560E-06    3.363419E-03
  16      2.579595E+00    4.923270E-04    3.156881E-01
  17      3.785474E+02    7.222978E-02    3.331965E+01
  18     -9.504828E+03   -1.814088E+00   -7.483503E+02
  19      4.425319E+02    8.445914E-02    3.632726E+01
  20     -9.435818E+01   -1.800868E-02    1.798456E+00
0excess resonance integrals
0              resolved
0absorption    3.823866E+03
 fission       1.731432E+00
- elapsed time    .30 min.
0 plutonium-241  endf/b-iv mat 1266          updated 10/13/89          9241     temperature=   975.00
0resonance data for this nuclide
0mass number (a)          =   238.978          temperature(kelvin)      =   975.000
0potential scatter sigma  =    10.589          lumped nuclear density   = 1.811828E-05
0spin factor (g)          = 1642.100          lump dimension (a-bar)   = 4.681220E-01
0inner radius             =  .000000E+00      dancoff correction (c)   = 3.426926E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1   =   15.995          sigma(per absorber atom)= 9.424717E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2   =   238.051          sigma(per absorber atom)= 1.010996E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
  12     -1.407894E-02   -1.332771E-02    5.022025E-04
  13     -1.183183E+00   -9.034095E-01   -3.408006E-02
  14     -1.202047E+00   -8.511612E-01   -3.678328E-03
  15      1.777264E-02    1.592212E-02   -4.605964E-04
0excess resonance integrals
0              resolved
0absorption    5.062532E+02
 fission       4.245977E+02
- elapsed time    .32 min.
0 plutonium-242  endf/b-iv mat 1161          updated 10/13/89          9242     temperature=   975.00
0resonance data for this nuclide
0mass number (a)          =   240.145          temperature(kelvin)      =   975.000
0potential scatter sigma  =    10.634          lumped nuclear density   = 2.910348E-06
0spin factor (g)          = 6606.710          lump dimension (a-bar)   = 4.681220E-01
0inner radius             =  .000000E+00      dancoff correction (c)   = 3.426926E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1   =   15.995          sigma(per absorber atom)= 5.857328E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2   =   238.051          sigma(per absorber atom)= 6.293479E+04
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs        res fiss       res scat
```

```
  11    -7.952340E-03    .000000E+00   -2.154490E-02
  12    -1.658367E-01    .000000E+00   -3.208174E-01
  13    -4.553379E-04    .000000E+00   -8.138200E-07
  14     8.100781E-02    .000000E+00    1.510768E-02
  15    -5.724017E+01    .000000E+00   -4.603442E+00
  16     4.034002E-02    .000000E+00   -3.439860E-03
  17     1.550333E-02    .000000E+00   -1.848019E-03
  18     1.112551E-02    .000000E+00   -1.430582E-03
Oexcess resonance integrals
0                 resolved
Oabsorption       1.07474E+03
 fission          .00000E+00
-  elapsed time    .32 min.
Oam-241 1056 sigp=5+4 newxlacs 218grp p-3 293k                          95241     temperature=   975.00
Oresonance data for this nuclide
Omass number (a)          =   238.950          temperature(kelvin)      =   975.000
Opotential scatter sigma  =     9.511          lumped nuclear density   = 7.183569E-07
Ospin factor (g)          = 82058.203          lump dimension (a-bar)   = 4.6812201E-01
Oinner radius             =   .0000000E+00     dancoff correction (c)   = 3.4269261E-01
Othe absorber will be treated by the nordheim integral method.
Omass of moderator-1    =    15.995            sigma(per absorber atom)= 2.3770869E+05
Omoderator-1 will be treated by the nordheim integral method.
Omass of moderator-2    =   238.051            sigma(per absorber atom)= 2.5497373E+05
Omoderator-2 will be treated by the nordheim integral method.
Othis resonance material will be treated as a 2-dimensional object.
Ovolume fraction of lump in cell used to account for spatial self-shielding=1.00000
Ogroup        res abs          res fiss         res scat
  13       4.803471E-01    1.205702E-02    4.248833E-03
  14      -4.924113E-01   -1.156366E-02   -5.801683E-03
Oexcess resonance integrals
0                 resolved
Oabsorption       1.93383E+02
 fission          1.07544E+00
-  elapsed time    .32 min.
Oam-243 1057 218 gp wt f-1/e-m 090376 p3 293k                           95243     temperature=   975.00
Oresonance data for this nuclide
Omass number (a)          =   240.940          temperature(kelvin)      =   975.000
Opotential scatter sigma  =     9.511          lumped nuclear density   = 3.8851467E-07
Ospin factor (g)          = 82052.602          lump dimension (a-bar)   = 4.6812201E-01
Oinner radius             =   .0000000E+00     dancoff correction (c)   = 3.4269261E-01
Othe absorber will be treated by the nordheim integral method.
Omass of moderator-1    =    15.995            sigma(per absorber atom)= 4.4524988E+05
Omoderator-1 will be treated by the nordheim integral method.
Omass of moderator-2    =   238.051            sigma(per absorber atom)= 4.7758834E+05
Omoderator-2 will be treated by the nordheim integral method.
Othis resonance material will be treated as a 2-dimensional object.
Ovolume fraction of lump in cell used to account for spatial self-shielding=1.00000
Ogroup        res abs          res fiss         res scat
  13      -1.088286E-02    .000000E+00     3.156997E-04
  14       1.681003E-03    .000000E+00    -7.395966E-05
Oexcess resonance integrals
0                 resolved
Oabsorption       1.60121E+02
 fission          .00000E+00
-  elapsed time    .32 min.
0 curium-244      endf/b-iv mat 1162          updated 10/13/89          96244     temperature=   975.00
Oresonance data for this nuclide
Omass number (a)          =   242.133          temperature(kelvin)      =   975.000
Opotential scatter sigma  =    10.320          lumped nuclear density   = 5.3017951E-08
Ospin factor (g)          =  5251.150          lump dimension (a-bar)   = 4.6812201E-01
```

0inner radius = .0000000E+00 dancoff correction (c) = 3.4269261E-01
0the absorber will be treated by the nordheim integral method.
0mass of moderator-1 = 15.995 sigma(per absorber atom)= 3.2207913E+06
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2 = 238.051 sigma(per absorber atom)= 3.4547208E+06
0moderator-2 will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000

0group	res abs	res fiss	res scat
11	9.779739E-05	2.721715E-06	8.773984E-05
12	1.566525E-04	1.130185E-05	-4.530439E-05
13	1.849928E-03	9.752654E-05	6.787102E-04
14	-1.728598E-01	-1.034203E-02	-5.648884E-02

0excess resonance integrals
0 resolved
0absorption 6.135832E+02
fission 3.540130E+01
- elapsed time .33 min.
- elapsed time .33 min.
1 this xsdrn working tape was created 02/16/96 at 10:04:59
the title of the parent case is as follows
scale 4.2 - 27 group neutron burnup library
based on endf-b version 4 data with endf-b version 5 fission products
compiled for nrc 1/27/89

tape id	4321	number of nuclides	65
number of neutron groups	27	number of gamma groups	0
first thermal group	15	logical unit	4

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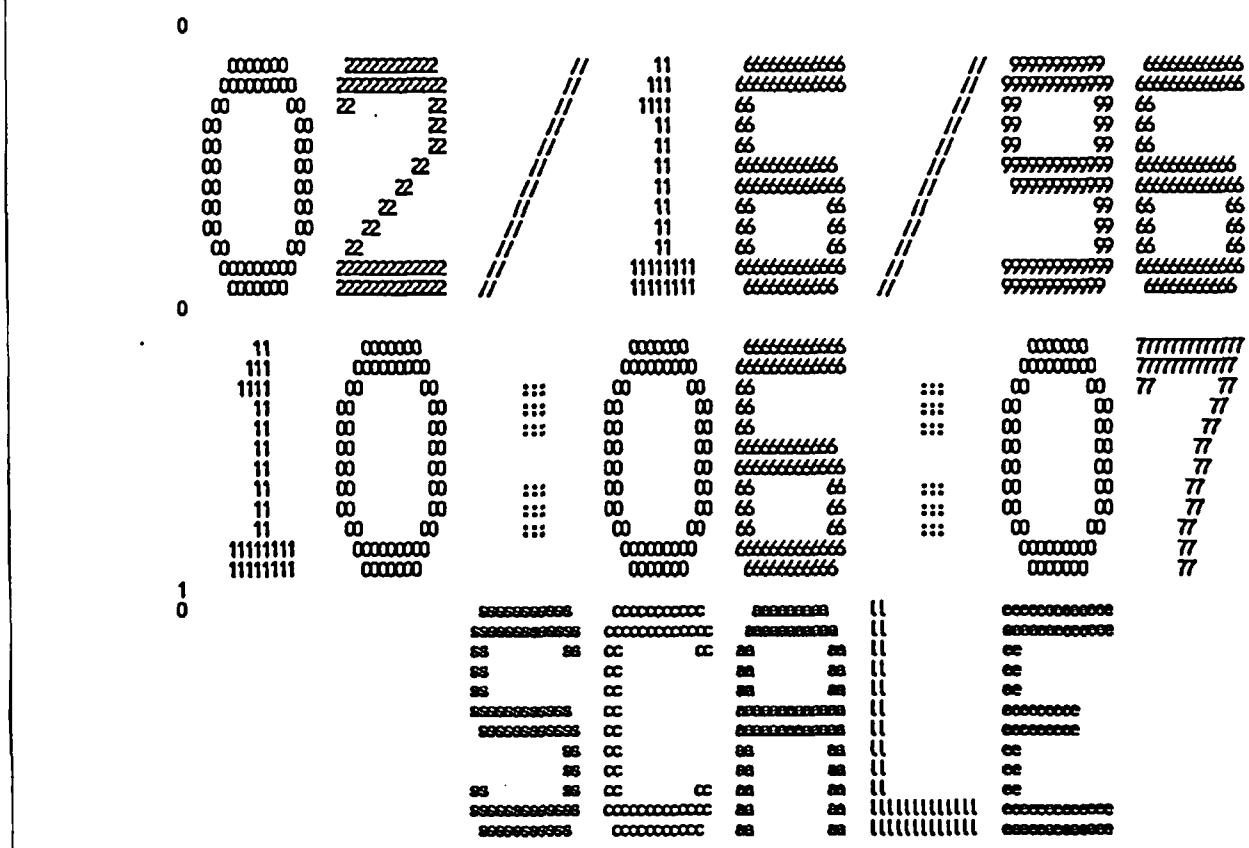
1/v cross sections normalized to 1.0 at 0.0253 ev			id	999
hydrogen	endf/b-iv mat 1269/thrml002	updated 10/13/89	id	1001
b-10 1273 218ngp 042395 p-3 295k			id	5010
boron-11	endf/b-iv mat 1160	updated 10/13/89	id	5011
oxygen-16	endf/b-iv mat 1276	updated 10/13/89	id	8016
oxygen-16	endf/b-iv mat 1276	updated 10/13/89	id	6
kr-83	mt=102,103,105,106,107	updated 10/13/89	id	36083
kr-85	mt= 102		id	36085
sr-90	mt=102	updated 10/13/89	id	38090
y-89	mt=102	updated 10/13/89	id	39089
zr-93	mt= 102		id	40093
zr-94	mt=102	updated 10/13/89	id	40094
zr-95	mt=102	updated 10/13/89	id	40095
zircalloy	endf/b-iv mat 1284	updated 10/13/89	id	40802
nb-94	mt=102	updated 10/13/89	id	41094
mo-95	mt=102	updated 10/13/89	id	42095
tc-99	mt=102	updated 10/13/89	id	43099
ru-101	mt=102	updated 10/13/89	id	44101
ru-106	mt=102	updated 10/13/89	id	44106
rh-103	mt=102	updated 10/13/89	id	45103
rh-105	mt= 102		id	45105
pd-105	mt=102	updated 10/13/89	id	46105
pd-108	mt=102	updated 10/13/89	id	46108
silver-109	endf/b-iv mat 1139	updated 10/13/89	id	47109
sb-124	mt=102	updated 10/13/89	id	51124
xe-131	mt=102,103,104,105,106	updated 10/13/89	id	54131
xe-132	mt=102,103,104,105,106	updated 10/13/89	id	54132
xenon-135	endf/b-iv mat 1254	updated 10/13/89	id	54135
xe-136	mt= 102, 103, 104, 105, 107		id	54136
cesium-133	endf/b-iv mat 1141	updated 10/13/89	id	55133
cs-134	mt=102	updated 10/13/89	id	55134
cs-135	mt= 102		id	55135

INFORMATION ONLY

```
         cs-137       mt=102                          updated 10/13/89        id    55137
         ba-136       mt=102                          updated 10/13/89        id    56136
         la-139       mt=102                          updated 10/13/89        id    57139
         ce-144          mt=  102                                             id    58144
         pr-141       mt=102,103,104,105,106,107      updated 10/13/89        id    59141
         pr-143       mt=102                          updated 10/13/89        id    59143
         nd-143       mt=102                          updated 10/13/89        id    60143
         nd-145       mt=102                          updated 10/13/89        id    60145
         nd-147       mt=102                          updated 10/13/89        id    60147
         pm-147       mt=102                          updated 10/13/89        id    61147
         pm-148          mt=  102                                             id    61148
         sm-147       endf/b-v fission product        updated 10/13/89        id    62147
         sm-149       mt=102,103,107                  updated 10/13/89        id    62149
         sm-150       mt=102                          updated 10/13/89        id    62150
         sm-151       mt=102,103,104,105,106,107      updated 10/13/89        id    62151
         sm-152       mt=102,103,104,105,106,107      updated 10/13/89        id    62152
         eu-153       mt=102,103,104,105,106,107      updated 10/13/89        id    63153
         eu-154       mt=102,103,104,105,106,107      updated 10/13/89        id    63154
         eu-155       mt=102,103,104,105,106,107      updated 10/13/89        id    63155
         gd-155       mt=102                          updated 10/13/89        id    64155
        u-234 1043 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                   id    92234
         uranium-235    endf/b-iv mat 1261            updated 10/13/89        id    92235
        u-236 1163 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                   id    92236
         uranium-238    endf/b-iv mat 1262            updated 10/13/89        id    92238
         neptunium-237  endf/b-iv mat 1263            updated 10/13/89        id    93237
        pu-238 1050 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                  id    94238
         plutonium-239  endf/b-iv mat 1264            updated 10/13/89        id    94239
         plutonium-240  endf/b-iv mat 1265            updated 10/13/89        id    94240
         plutonium-241  endf/b-iv mat 1266            updated 10/13/89        id    94241
         plutonium-242  endf/b-iv mat 1161            updated 10/13/89        id    94242
        am-241 1056 sigo=5+4 newxlacs 218ngp p-3 293k                         id    95241
        am-243 1057 218 gp wt f-1/e-m 090376 p3 293k                          id    95243
         curium-244     endf/b-iv mat 1162            updated 10/13/89        id    96244
0        tape copy used      0 i/o's, and took     .00 seconds
1 xx        xx  ssssssssss   dddddddddddd  rrrrrrrrrrr   nn        nn  pppppppppppp   mm          mm
   xx      xx  ssssssssssss  dddddddddddd  rrrrrrrrrrrr  nnn       nn  ppppppppppppp  mmm        mmm
    xx    xx   ss        ss  dd        dd  rr        rr  nnnn      nn  pp         pp  mmmm      mmmm
     xx  xx    ss            dd        dd  rr        rr  nn nn     nn  pp         pp  mm mm    mm mm
      xxxx     ss            dd        dd  rr        rr  nn  nn    nn  pp         pp  mm  mm  mm  mm
       xx      sssssssssss   dd        dd  rrrrrrrrrrrr  nn   nn   nn  ppppppppppppp  mm   mmmm   mm
       xx       sssssssssss  dd        dd  rrrrrrrrrrr   nn    nn  nn  pppppppppppp   mm    mm    mm
      xxxx               ss  dd        dd  rr    rr      nn     nn nn  pp             mm          mm
     xx  xx              ss  dd        dd  rr     rr     nn      nnnn  pp             mm          mm
    xx    xx   ss        ss  dd        dd  rr      rr    nn       nnn  pp             mm          mm
   xx      xx  ssssssssssss  dddddddddddd  rr       rr   nn        nn  pp             mm          mm
  xx        xx  ssssssssss   dddddddddddd  rr        rr  nn        nn  pp             mm          mm
0

  dddddddddddd    aaaaaaaa    vv        vv  iiiiiiiiiiii   ssssssssss
  dddddddddddd   aaaaaaaaaa   vv        vv  iiiiiiiiiiii  ssssssssssss
  dd        dd  aa        aa  vv        vv       ii       ss        ss
  dd        dd  aa        aa  vv        vv       ii       ss
  dd        dd  aa        aa  vv        vv       ii       ss
  dd        dd  aaaaaaaaaaaa  vv        vv       ii       sssssssssss
  dd        dd  aaaaaaaaaaaa   vv      vv        ii        sssssssssss
  dd        dd  aa        aa    vv    vv         ii                 ss
  dd        dd  aa        aa     vv  vv          ii                 ss
  dd        dd  aa        aa      vvvv           ii       ss        ss
  dddddddddddd  aa        aa       vv       iiiiiiiiiiii  ssssssssssss
  dddddddddddd  aa        aa       v        iiiiiiiiiiii   ssssssssss
```



program verification information

code system: scale version: 4.2

program: c0c001

```
                creation date:  04/27/95
                      library:  /neutronics/scale/exe

          this is not a  scale  configuration controlled code
                      jobname:  davis
          date of execution:  02/16/96
          time of execution:  10:06:07
1
                1200 d, sas2h: babcock wilcox 15x15, 3.00w%, 20gd/mtu burn high temp
0      -1q array has      1 entries.
0       1q array has     15 entries.
0       2q array has     10 entries.
0       3q array has     12 entries.
0       4q array has      9 entries.
0       5q array has     12 entries.
0direct access unit  9 requires    12 blocks of length  704 for cross section mixing.
1                1200 d, sas2h: babcock wilcox 15x15, 3.00w%, 20gd/mtu burn high temp
0general problem description data block
0                          general problem data

 ige  1/2/3 = plane/cylinder/sphere      2      isn  quadrature order              8
 iza  number of zones                    4      isct order of scattering           3
 in   number of special intervals       24      ievt 0/1/2/3/4/5/6=q/k/alpha/c/z/r/h  1
 ibl  0/1/2/3 = vacuum/refl/per/white    1      iim  inner iteration maximum      20
 ibr  right boundary condition           3      iom  outer iteration maximum      25
 mxx  number of mixtures                 3      iclc -1/0/n--flat res/sn/qpt       0
 ms   mixing table length               65      ith  0/1 = forward/adjoint        0
 iga  number of energy groups           27      iflu not used(always =gt0)         0
 nrg  number of neutron groups          27      iprt -2/-1/0/n=mixture xsec print  -2
 ngg  number of gamma groups             0      idl  0/1/2/3=no/prt rd/pch rt/both  53
 ifg  number of first thermal group     15      ipbt -1/0/1=none/fine/all bal. prt  0
0                          special options

 ifg  0/1 = none/weighting calculation   1      ipn  0/1/2 diff. coef. param       0
 iqm  volumetric sources (0/1=no/yes)    0      idfm 0/1 = none/density factors 39*  1
 ipm  boundary sources (0/1=no/yes)      0      iaz  0/n = none/n activities by zone  0
 ifn  0/1/2 = input 39*/34*/use last    53      ial  0/1=none/activities by interval  0
 tmx  maximum time (minutes)            10      ifct 0/1=no/yes upscatter scaling  0
 idt1 0/1/2/3=no/xsect/srce/flux--out    0      ipvt 0/1/2=no/k/alpha parametric arch  0
 isx  broad group fluxes                 0      isen outer iteration acceleration  0
 ibln activity data unit                 0      rtmd band rebalm parameter         0
 jbkl 0/1/2 buckling geometry            0
0                        weighting data (ifg=1)

 icon -1/0/1=cell/zone/region weight    -1      ihtf total xsect pnt in brd gp tables  3
 igmf number of broad groups            27      nsdf pnt g-g or file number        4
 itp  0/10/20/30/40 0/c/e/ac/a           0      nusf table length or max order     4
 igp  -2/-1/0/1=gated xsect print       -2      nscm extra 1-d x-sect positions    0
 iep  -1/n anisn xsect print            -1
0                        floating point parameters
```

```
eps  overall convergence       1.00000E-04     dy   cyl/pla ht for buckling     .00000E+00
ptc  point convergence         1.00000E-04     dz   plane depth for buckling    .00000E+00
xnf  normalization factor      1.00000E+00     vac  void streaming correction   .00000E+00
ev   eigenvalue guess           .00000E+00     pv   ipvt=1/2--k/alpha          1.00000E+00
evm  eigenvalue modifier        .00000E+00     eql  ev change eps for search   1.00000E-03
bf   buckling factor=1.420892  1.42089E+00     xnpm new param mod for search   7.50000E-01
     this case will require       2535 locations for mixing
     this case has been allocated 200000 locations
1                   1200 d, sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
0       13q array has      65 entries.
0       14q array has      65 entries.
0       15q array has      65 entries.
0                                  data block 2 (mixing table, etc.)
```

0	nuclides on tape	cccc identification	mixture	mixing table component	atom density	extra xsect id's
1	999		1	92235	3.29451E-04	
2	1001		1	92234	4.10648E-06	
3	5010		1	92236	6.72908E-05	
4	5011		1	92238	2.17534E-02	
5	8016		1	8016	4.55389E-02	
6	6		3	6	2.09710E-02	
7	36083		1	36083	1.81372E-06	
8	36085		1	36085	8.71779E-07	
9	38090		1	38090	2.00600E-05	
10	39089		1	39089	1.64607E-05	
11	40093		1	42095	2.30516E-05	
12	40094		1	40093	1.64590E-05	
13	40095		1	40094	2.61240E-05	
14	40302		1	40095	1.92652E-06	
15	41094		1	41094	1.43208E-11	
16	42095		1	43099	2.55495E-05	
17	43099		1	45103	1.43117E-05	
18	44101		1	45105	2.51927E-08	
19	44106		1	44101	2.36761E-05	
20	45103		1	44106	3.50872E-06	
21	45105		1	46105	1.03319E-05	
22	46105		1	46108	3.17250E-06	
23	46108		1	47109	2.13200E-06	
24	47109		1	51124	4.69572E-10	
25	51124		1	54131	1.14853E-05	
26	54131		1	54132	2.33195E-05	
27	54132		1	54135	6.64007E-09	
28	54135		1	54136	4.51576E-05	
29	54136		1	55134	1.63067E-06	
30	55133		1	55135	1.43530E-05	
31	55134		1	55137	2.77063E-05	
32	55135		1	56136	3.51878E-07	
33	55137		1	57139	2.73886E-05	
34	56136		1	59141	2.40560E-05	
35	57139		1	59143	3.60082E-07	
36	58144		1	58144	6.94065E-06	
37	59141		1	60143	2.05000E-05	
38	59143		1	60145	1.54707E-05	
39	60143		1	61147	4.51202E-06	
40	60145		1	61148	1.36887E-08	
41	60147		1	60147	1.28677E-07	
42	61147		1	62147	2.20336E-06	
43	61148		1	62149	9.06657E-08	
44	62147		1	62150	5.84210E-06	

45	62149	1	62151	4.61651E-07
46	62150	1	62152	2.70673E-06
47	62151	1	64155	3.60027E-09
48	62152	1	63153	1.87279E-06
49	63153	1	63154	4.84438E-07
50	63154	1	63155	2.11219E-07
51	63155	2	40802	4.25156E-02
52	64155	3	1001	4.19420E-02
53	92234	3	5010	3.85615E-06
54	92235	3	5011	1.54884E-05
55	92236	1	55133	2.80248E-05
56	92238	1	95237	5.71129E-06
57	95237	1	94238	1.15603E-06
58	94238	1	94239	1.24278E-04
59	94239	1	94240	3.03952E-05
60	94240	1	94241	1.81188E-05
61	94241	1	94242	2.91035E-06
62	94242	1	95241	7.18357E-07
63	95241	1	95243	3.85615E-07
64	95243	1	96244	5.30175E-08
65	96244	1	999	1.00000E-20

- elapsed time .00 min.
0 21649 locations will be used
0 35q array has 25 entries.
0 36q array has 24 entries.
0 38q array has 24 entries.
0 39q array has 4 entries.
0 40q array has 4 entries.
0 47q array has 27 entries.
0 51q array has 27 entries.
1 1200 d, sas2h: babcock wilcox 15x15, 3.00w/o, 20gwd/mtu burn high temp

neutron group parameters

0 gp	energy boundaries	lethargy boundaries	weighted velocities	broad gp numbers	calc type	group band	right albedo	left albedo
1	2.00000E+07	-6.93147E-01	4.60581E+09	1	0	1	1.00000E+00	
2	6.43400E+06	4.40969E-01	2.88737E+09	2	0	2	1.00000E+00	
3	3.00000E+06	1.20397E+00	2.12201E+09	3	0	3	1.00000E+00	
4	1.85000E+06	1.68740E+00	1.75673E+09	4	0	4	1.00000E+00	
5	1.40000E+06	1.96611E+00	1.46535E+09	5	0	5	1.00000E+00	
6	9.00000E+05	2.40795E+00	1.06520E+09	6	0	6	1.00000E+00	
7	4.00000E+05	3.21888E+00	6.07557E+08	7	0	7	1.00000E+00	
8	1.00000E+05	4.60517E+00	2.72615E+08	8	0	8	1.00000E+00	
9	1.70000E+04	6.37703E+00	1.13526E+08	9	0	9	1.00000E+00	
10	3.00000E+03	8.11173E+00	4.82126E+07	10	0	10	1.00000E+00	
11	5.50000E+02	9.80618E+00	2.05946E+07	11	0	11	1.00000E+00	
12	1.00000E+02	1.15129E+01	1.01036E+07	12	0	12	1.00000E+00	
13	3.00000E+01	1.27169E+01	5.69595E+06	13	0	13	1.00000E+00	
14	1.00000E+01	1.38155E+01	3.20957E+06	14	0	14	1.00000E+00	
15	3.04995E+00	1.50030E+01	2.10601E+06	15	0	15	1.00000E+00	
16	1.77000E+00	1.55471E+01	1.70522E+06	16	0	16	1.00000E+00	
17	1.29999E+00	1.58557E+01	1.52545E+06	17	0	17	1.00000E+00	
18	1.12999E+00	1.59959E+01	1.42867E+06	18	0	18	1.00000E+00	
19	1.00000E+00	1.61181E+01	1.31002E+06	19	0	19	1.00000E+00	
20	8.00000E-01	1.63412E+01	9.05898E+05	20	0	20	1.00000E+00	
21	4.00000E-01	1.70544E+01	8.17974E+05	21	0	21	1.00000E+00	
22	3.25000E-01	1.72620E+01	6.90070E+05	22	0	22	1.00000E+00	
23	2.25000E-01	1.76098E+01	4.86935E+05	23	0	23	1.00000E+00	
24	9.99999E-02	1.84207E+01	3.57766E+05	24	0	24	1.00000E+00	
25	5.00000E-02	1.91139E+01	2.71895E+05	25	0	25	1.00000E+00	
26	3.00000E-02	1.96247E+01	1.87283E+05	26	0	26	1.00000E+00	

27	1.00000E-02	2.07235E+01	8.85201E+04	27	0	27	1.00000E+00
28	1.00000E-05	2.76310E+01					

1 1200 d, sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp

0

	mixture by zone	order p(l) by zone	activity table matl no.	reaction	quadrature constants weights	directions	refl direc	wt x cos
1	1	3			0	-2.79004E-01	3	0
2	1	3			5.06143E-02	-1.97285E-01	3	-9.98548E-03
3	2	3			5.06143E-02	1.97285E-01	2	9.98548E-03
4	3	3			0	-6.04419E-01	8	0
5					5.59953E-02	-5.58410E-01	8	-3.10450E-02
6					5.59953E-02	-2.31301E-01	7	-1.28598E-02
7					5.59953E-02	2.31301E-01	6	1.28598E-02
8					5.59953E-02	5.58410E-01	5	3.10450E-02
9					0	-8.50774E-01	16	0
10					5.22844E-02	-8.21784E-01	15	-4.29665E-02
11					5.22844E-02	-6.01588E-01	14	-3.14537E-02
12					5.22844E-02	-2.20195E-01	13	-1.15128E-02
13					5.22844E-02	2.20195E-01	12	1.15128E-02
14					5.22844E-02	6.01588E-01	11	3.14537E-02
15					5.22844E-02	8.21784E-01	10	4.29665E-02
16					0	-9.83032E-01	24	0
17					4.53355E-02	-9.64143E-01	24	-4.37059E-02
18					4.53355E-02	-8.17361E-01	23	-3.70655E-02
19					4.53355E-02	-5.46143E-01	22	-2.47597E-02
20					4.53355E-02	-1.91780E-01	21	-8.69444E-03
21					4.53355E-02	1.91780E-01	20	8.69444E-03
22					4.53355E-02	5.46143E-01	19	2.47597E-02
23					4.53355E-02	8.17361E-01	18	3.70655E-02
24					4.53355E-02	9.64143E-01	17	4.37059E-02

0constants for p(3) scattering

0angl	set 1	set 2	set 3	set 4	set 5
1	-2.79004E-01	8.83235E-01	6.74143E-02	-6.16919E-01	-1.71701E-02
2	-1.97285E-01	8.83235E-01	.00000E+00	-4.36228E-01	1.21411E-02
3	1.97285E-01	8.83235E-01	.00000E+00	4.36228E-01	-1.21411E-02
4	-6.04419E-01	4.52016E-01	3.16379E-01	-8.04435E-01	-1.74564E-01
5	-5.58410E-01	4.52016E-01	2.23714E-01	-7.43201E-01	-6.68028E-02
6	-2.31301E-01	4.52016E-01	-2.23713E-01	-3.07844E-01	1.61278E-01
7	2.31301E-01	4.52016E-01	-2.23713E-01	3.07844E-01	-1.61278E-01
8	5.58410E-01	4.52016E-01	2.23713E-01	7.43201E-01	6.68028E-02
9	-8.50774E-01	-8.57235E-02	6.26863E-01	-1.98656E-01	-4.86635E-01
10	-8.21784E-01	-8.57235E-02	5.42862E-01	-1.91694E-01	-3.44245E-01
11	-6.01588E-01	-8.57235E-02	.00000E+00	-1.40530E-01	3.44244E-01
12	-2.20195E-01	-8.57235E-02	-5.42862E-01	-5.13643E-02	3.44245E-01
13	2.20195E-01	-8.57235E-02	-5.42862E-01	5.13643E-02	-3.44245E-01
14	6.01588E-01	-8.57235E-02	.00000E+00	1.40530E-01	-3.44245E-01
15	8.21784E-01	-8.57235E-02	5.42862E-01	1.91694E-01	3.44245E-01
16	-9.83032E-01	-4.46528E-01	8.36885E-01	5.00705E-01	-7.51005E-01
17	-9.64143E-01	-4.46528E-01	7.73181E-01	4.91083E-01	-6.24438E-01
18	-8.17361E-01	-4.46528E-01	3.20862E-01	4.16920E-01	1.46514E-01
19	-5.46143E-01	-4.46528E-01	-3.20862E-01	2.78176E-01	7.36575E-01
20	-1.91780E-01	-4.46528E-01	-7.73181E-01	9.76834E-02	4.17256E-01
21	1.91780E-01	-4.46528E-01	-7.73181E-01	-9.76834E-02	-4.17256E-01
22	5.46143E-01	-4.46528E-01	-3.20862E-01	-2.78176E-01	-7.36575E-01
23	8.17361E-01	-4.46528E-01	3.20862E-01	-4.16920E-01	-1.46514E-01
24	9.64143E-01	-4.46528E-01	7.73181E-01	-4.91083E-01	6.24438E-01

1 int	radii	mid pts	zone no.	areas	volumes	dens fact	radius mod	spec(int)
1	0	1.29561E-02	1	0	2.10506E-05	1.00000E+00	0	
2	2.59102E-02	4.33406E-02	1	1.62798E-01	9.48318E-03	1.00000E+00	0	
3	6.07710E-02	8.75100E-02	1	3.81835E-01	2.94045E-02	1.00000E+00	0	
4	1.14249E-01	1.74155E-01	1	7.17848E-01	1.31104E-01	1.00000E+00	0	

5	2.34061E-01	2.93967E-01	1	1.47065E+00	2.2129E-01	1.00000E+00
6	3.53873E-01	3.80612E-01	1	2.22345E+00	1.2785E-01	1.00000E+00
7	4.07351E-01	4.24781E-01	1	2.55946E+00	9.3042E-02	1.00000E+00
8	4.42212E-01	4.55167E-01	1	2.77850E+00	7.4100E-02	1.00000E+00
9	4.68122E-01	4.68814E-01	2	2.94130E+00	4.0794E-03	0
10	4.69507E-01	4.77481E-01	2	2.95000E+00	1.1698E-02	0
11	4.73456E-01	4.75431E-01	2	2.97481E+00	1.1798E-02	0
12	4.77405E-01	4.78098E-01	2	2.99962E+00	4.1602E-03	0
13	4.78790E-01	4.83159E-01	3	3.00833E+00	2.6526E-02	1.00000E+00
14	4.87528E-01	4.99987E-01	3	3.06325E+00	7.8276E-02	1.00000E+00
15	5.12445E-01	5.24903E-01	3	3.21979E+00	8.2177E-02	1.00000E+00
16	5.37362E-01	5.41731E-01	3	3.37634E+00	2.9742E-02	1.00000E+00
17	5.46100E-01	5.53513E-01	4	3.43125E+00	5.1563E-02	1.00000E+00
18	5.60926E-01	5.70900E-01	4	3.52440E+00	7.1554E-02	1.00000E+00
19	5.80874E-01	5.96175E-01	4	3.64974E+00	1.1462E-01	1.00000E+00
20	6.11475E-01	6.45755E-01	4	3.84201E+00	2.7816E-01	1.00000E+00
21	6.80034E-01	7.14313E-01	4	4.27278E+00	3.0770E-01	1.00000E+00
22	7.48592E-01	7.63892E-01	4	4.70354E+00	1.4687E-01	1.00000E+00
23	7.79193E-01	7.89167E-01	4	4.89582E+00	9.8911E-02	1.00000E+00
24	7.99141E-01	8.06554E-01	4	5.02115E+00	7.5135E-02	1.00000E+00
25	8.13968E-01			5.11431E+00		

- elapsed time .00 min.

outer iter	inner iters	1 - balance	eigenvalue	1 - source ratio	1 - scatter ratio	1 - upscat ratio	search parameter	time (min)
1	101	1.1178E-05	9.9899E-01	6.4988E-03	1.0000E+00	2.5215E-03	.0000E+00	.0000
2	149	-8.3369E-06	9.9840E-01	2.4313E-04	7.9806E-04	2.4534E-04	.0000E+00	.0000
3	181	1.4407E-05	9.9809E-01	2.8046E-05	6.7994E-05	4.5728E-05	.0000E+00	.0000

grp	to grp	inner iters	nfd int.	max. flux difference	nsf int.	max. scale factor	coarse mesh
1	1	1	1	5.7309E-08	24	1.0000E+00	1
2	2	1	2	5.5145E-08	24	1.0000E+00	1
3	3	1	1	6.0170E-08	24	1.0000E+00	1
4	4	1	1	6.0879E-08	24	1.0000E+00	1
5	5	1	1	6.9865E-08	24	1.0000E+00	1
6	6	1	1	4.7742E-08	24	1.0000E+00	1
7	7	1	24	1.3731E-07	24	1.0000E+00	1
8	8	1	24	1.6267E-08	24	1.0000E+00	1
9	9	1	24	4.1881E-08	24	1.0000E+00	1
10	10	1	24	4.6740E-08	24	1.0000E+00	1
11	11	1	24	5.1189E-08	24	1.0000E+00	1
12	12	1	24	9.3584E-08	24	1.0000E+00	1
13	13	1	24	1.0054E-07	24	1.0000E+00	1
14	14	1	24	7.2521E-08	24	1.0000E+00	1
15	15	1	24	5.2711E-06	24	1.0000E+00	1
16	16	1	24	6.6765E-06	24	1.0000E+00	1
17	17	1	18	2.2695E-06	24	1.0000E+00	1
18	18	1	19	4.8534E-06	24	1.0000E+00	2
19	19	1	18	2.1696E-06	24	1.0000E+00	1
20	20	1	24	5.3508E-06	24	1.0000E+00	1
21	21	1	18	2.7014E-06	24	1.0000E+00	1
22	22	1	24	3.6251E-06	24	1.0000E+00	1
23	23	1	24	7.4256E-06	24	9.9999E-01	1
24	24	1	24	1.5545E-06	24	9.9999E-01	1
25	25	1	24	2.1047E-06	24	9.9999E-01	1
26	26	1	21	1.9717E-06	24	9.9998E-01	2
27	27	1	2	6.1760E-06	24	9.9999E-01	2

4	208	4.5702E-07	9.9522E-01	4.6773E-06	1.2575E-05	1.0670E-05	.0000E+00	.0000

final monitor lambda 9.9522E-01 production/absorption 9.9523E-01 angular flux on 16

- elapsed time .00 min.

1 1200 d, sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp

0 int.	zone	number	radius	int. midpoint	area	volume	prod density
1	1		.00000E+00	1.29551E-02	.00000E+00	2.10906E-03	2.89726E-03
2	1		2.59102E-02	4.33406E-02	1.62798E-01	9.49518E-03	1.30851E-02
3	1		6.07710E-02	8.75100E-02	3.81835E-01	2.94045E-02	4.04558E-02
4	1		1.14249E-01	1.74155E-01	7.17848E-01	1.31104E-01	1.82221E-01
5	1		2.34061E-01	2.98967E-01	1.47065E+00	2.21259E-01	3.15358E-01
6	1		3.53873E-01	3.80612E-01	2.22345E+00	1.27800E-01	1.87310E-01
7	1		4.07351E-01	4.24781E-01	2.55946E+00	9.30429E-02	1.39080E-01
8	1		4.42212E-01	4.55167E-01	2.77850E+00	7.41004E-02	1.12871E-01
9	2		4.68122E-01	4.68814E-01	2.94130E+00	4.07944E-03	.00000E+00
10	2		4.69507E-01	4.71481E-01	2.95000E+00	1.16988E-02	.00000E+00
11	2		4.73456E-01	4.75431E-01	2.97481E+00	1.17968E-02	.00000E+00
12	2		4.77405E-01	4.78088E-01	2.99962E+00	4.16023E-03	.00000E+00
13	3		4.78790E-01	4.83159E-01	3.03833E+00	2.65268E-02	.00000E+00
14	3		4.87528E-01	4.99987E-01	3.06525E+00	7.82768E-02	.00000E+00
15	3		5.12445E-01	5.24003E-01	3.21979E+00	8.21777E-02	.00000E+00
16	3		5.37362E-01	5.41731E-01	3.37634E+00	2.97427E-02	.00000E+00
17	4		5.46100E-01	5.53513E-01	3.43125E+00	5.15631E-02	.00000E+00
18	4		5.60926E-01	5.70900E-01	3.52440E+00	7.15548E-02	.00000E+00
19	4		5.80874E-01	5.96175E-01	3.64974E+00	1.14628E-01	.00000E+00
20	4		6.11475E-01	6.45755E-01	3.84207E+00	2.78169E-01	.00000E+00
21	4		6.80034E-01	7.14313E-01	4.27278E+00	3.07700E-01	.00000E+00
22	4		7.48592E-01	7.68893E-01	4.70854E+00	1.46875E-01	.00000E+00
23	4		7.79192E-01	7.88167E-01	4.86582E+00	9.89114E-02	.00000E+00
24	4		7.99141E-01	8.05554E-01	5.02115E+00	7.51357E-02	.00000E+00
25			8.13968E-01		5.11431E+00		

1 1200 d, sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp

0 total flux

0 int.	grp. 1	grp. 2	grp. 3	grp. 4	grp. 5	grp. 6	grp. 7	grp. 8
1	1.85788E-01	1.34704E+00	1.68091E+00	1.04528E+00	1.57842E+00	3.05225E+00	2.90647E+00	2.08282E+00
2	1.85854E-01	1.34788E+00	1.69174E+00	1.04578E+00	1.57912E+00	3.05355E+00	2.90713E+00	2.08339E+00
3	1.85797E-01	1.34706E+00	1.69098E+00	1.04531E+00	1.57854E+00	3.05195E+00	2.90611E+00	2.08259E+00
4	1.83388E-01	1.34279E+00	1.68555E+00	1.04202E+00	1.57311E+00	3.02153E+00	2.85984E+00	2.08163E+00
5	1.82330E-01	1.33178E+00	1.67175E+00	1.03368E+00	1.55992E+00	2.99570E+00	2.88639E+00	2.07901E+00
6	1.81106E-01	1.31920E+00	1.65618E+00	1.02436E+00	1.54530E+00	2.96738E+00	2.85753E+00	2.07611E+00
7	1.80125E-01	1.30852E+00	1.64414E+00	1.01722E+00	1.53425E+00	2.94646E+00	2.85518E+00	2.07392E+00
8	1.79149E-01	1.29966E+00	1.63256E+00	1.01047E+00	1.52395E+00	2.92734E+00	2.84400E+00	2.07187E+00
9	1.78614E-01	1.29443E+00	1.62634E+00	1.00688E+00	1.51853E+00	2.91738E+00	2.83822E+00	2.07078E+00
10	1.78508E-01	1.29357E+00	1.62510E+00	1.00619E+00	1.51753E+00	2.91559E+00	2.83724E+00	2.07058E+00
11	1.78340E-01	1.29184E+00	1.62330E+00	1.00520E+00	1.51612E+00	2.91306E+00	2.83585E+00	2.07029E+00
12	1.78232E-01	1.29083E+00	1.62213E+00	1.00455E+00	1.51520E+00	2.91144E+00	2.83496E+00	2.07011E+00
13	1.78032E-01	1.28896E+00	1.61990E+00	1.00331E+00	1.51339E+00	2.90801E+00	2.83308E+00	2.06972E+00
14	1.77487E-01	1.28363E+00	1.61335E+00	9.99475E-01	1.50760E+00	2.89677E+00	2.82663E+00	2.06857E+00
15	1.76876E-01	1.27718E+00	1.60483E+00	9.94153E-01	1.49921E+00	2.88017E+00	2.81707E+00	2.06753E+00
16	1.76578E-01	1.27361E+00	1.59989E+00	9.90579E-01	1.49354E+00	2.86864E+00	2.81057E+00	2.06700E+00
17	1.76434E-01	1.27157E+00	1.59677E+00	9.88346E-01	1.48952E+00	2.86069E+00	2.80571E+00	2.06686E+00
18	1.76244E-01	1.26892E+00	1.59276E+00	9.85371E-01	1.48444E+00	2.85073E+00	2.79986E+00	2.06671E+00
19	1.76010E-01	1.26577E+00	1.58812E+00	9.82003E-01	1.47878E+00	2.83960E+00	2.79330E+00	2.06646E+00
20	1.75695E-01	1.26170E+00	1.58222E+00	9.77783E-01	1.47171E+00	2.82577E+00	2.78518E+00	2.06612E+00
21	1.75479E-01	1.25886E+00	1.57807E+00	9.74795E-01	1.46669E+00	2.81597E+00	2.77950E+00	2.06602E+00
22	1.75480E-01	1.25875E+00	1.57777E+00	9.74612E-01	1.46617E+00	2.81496E+00	2.77905E+00	2.06624E+00
23	1.75560E-01	1.25960E+00	1.57890E+00	9.75241E-01	1.46734E+00	2.81725E+00	2.78053E+00	2.06652E+00
24	1.75661E-01	1.26062E+00	1.58028E+00	9.76139E-01	1.46879E+00	2.82009E+00	2.78252E+00	2.06680E+00

0 int.	grp. 9	grp. 10	grp. 11	grp. 12	grp. 13	grp. 14	grp. 15	grp. 16
1	1.58987E+00	1.45085E+00	1.31088E+00	7.97797E-01	6.69819E-01	5.76649E-01	3.64426E-01	1.98572E-01
2	1.58980E+00	1.45025E+00	1.31018E+00	7.97560E-01	6.69607E-01	5.76368E-01	3.64389E-01	1.98542E-01
3	1.58998E+00	1.45044E+00	1.31064E+00	7.98113E-01	6.70081E-01	5.77100E-01	3.64477E-01	1.98600E-01
4	1.59100E+00	1.45165E+00	1.31325E+00	8.01214E-01	6.72771E-01	5.81215E-01	3.64954E-01	1.98938E-01
5	1.59354E+00	1.45457E+00	1.31968E+00	8.08869E-01	6.79413E-01	5.91429E-01	3.66140E-01	1.99769E-01

6	1.59637E+00	1.45775E+00	1.32671E+00	8.17298E-01	6.86718E-01	6.02744E-01	3.67410E-01	2.00675E-01
7	1.59852E+00	1.46003E+00	1.33189E+00	8.23548E-01	6.92128E-01	6.11210E-01	3.68325E-01	2.01341E-01
8	1.60055E+00	1.46221E+00	1.33661E+00	8.29287E-01	6.97091E-01	6.19021E-01	3.69144E-01	2.01947E-01
9	1.60163E+00	1.46330E+00	1.33905E+00	8.32269E-01	6.99669E-01	6.23082E-01	3.69564E-01	2.02262E-01
10	1.60183E+00	1.46348E+00	1.33944E+00	8.32747E-01	7.00088E-01	6.23725E-01	3.69638E-01	2.02315E-01
11	1.60211E+00	1.46375E+00	1.34000E+00	8.33431E-01	7.00688E-01	6.24645E-01	3.69737E-01	2.02392E-01
12	1.60225E+00	1.46389E+00	1.34036E+00	8.33874E-01	7.01078E-01	6.25240E-01	3.69802E-01	2.02441E-01
13	1.60266E+00	1.46429E+00	1.34110E+00	8.34776E-01	7.01868E-01	6.26456E-01	3.69957E-01	2.02543E-01
14	1.60367E+00	1.46531E+00	1.34346E+00	8.37599E-01	7.04348E-01	6.30259E-01	3.70368E-01	2.02861E-01
15	1.60478E+00	1.46684E+00	1.34679E+00	8.41494E-01	7.07869E-01	6.35498E-01	3.70978E-01	2.03301E-01
16	1.60530E+00	1.46787E+00	1.34859E+00	8.44006E-01	7.09973E-01	6.38895E-01	3.71381E-01	2.03565E-01
17	1.60556E+00	1.46864E+00	1.35063E+00	8.45854E-01	7.11562E-01	6.41326E-01	3.71607E-01	2.03773E-01
18	1.60600E+00	1.46967E+00	1.35286E+00	8.48380E-01	7.13715E-01	6.44677E-01	3.71863E-01	2.04019E-01
19	1.60653E+00	1.47086E+00	1.35542E+00	8.51287E-01	7.16198E-01	6.48537E-01	3.72163E-01	2.04305E-01
20	1.60727E+00	1.47235E+00	1.35866E+00	8.54990E-01	7.19362E-01	6.53455E-01	3.72532E-01	2.04665E-01
21	1.60783E+00	1.47342E+00	1.36098E+00	8.57631E-01	7.21588E-01	6.56998E-01	3.72726E-01	2.04858E-01
22	1.60788E+00	1.47352E+00	1.36120E+00	8.57864E-01	7.21757E-01	6.57208E-01	3.72637E-01	2.04883E-01
23	1.60773E+00	1.47326E+00	1.36052E+00	8.57178E-01	7.21110E-01	6.56269E-01	3.72475E-01	2.04788E-01
24	1.60754E+00	1.47298E+00	1.35990E+00	8.56332E-01	7.20350E-01	6.55121E-01	3.72308E-01	2.04678E-01

0 Int.	grp. 17	grp. 18	grp. 19	grp. 20	grp. 21	grp. 22	grp. 23	grp. 24
1	7.64320E-02	2.34091E-02	1.10648E-01	4.04673E-01	9.67836E-02	1.51708E-01	6.18488E-01	4.66905E-01
2	7.63977E-02	2.34338E-02	1.10991E-01	4.04566E-01	9.67183E-02	1.51609E-01	6.18095E-01	4.66587E-01
3	7.64755E-02	2.37291E-02	1.10728E-01	4.04784E-01	9.68350E-02	1.52291E-01	6.19124E-01	4.67464E-01
4	7.69180E-02	2.50190E-02	1.11490E-01	4.06045E-01	9.80879E-02	1.55648E-01	6.26811E-01	4.72273E-01
5	7.80191E-02	2.84204E-02	1.13357E-01	4.09140E-01	1.00978E-01	1.64143E-01	6.38920E-01	4.84224E-01
6	7.92408E-02	3.25764E-02	1.15402E-01	4.12519E-01	1.04219E-01	1.73864E-01	6.54551E-01	4.97501E-01
7	8.01553E-02	3.61208E-02	1.16900E-01	4.14997E-01	1.06681E-01	1.81413E-01	6.66226E-01	5.07454E-01
8	8.10014E-02	3.97955E-02	1.18256E-01	4.17252E-01	1.08984E-01	1.88618E-01	6.77004E-01	5.16688E-01
9	8.14424E-02	4.17918E-02	1.18953E-01	4.18420E-01	1.10187E-01	1.92414E-01	6.82603E-01	5.21488E-01
10	8.15133E-02	4.20092E-02	1.19063E-01	4.18614E-01	1.10367E-01	1.92953E-01	6.83461E-01	5.22211E-01
11	8.16146E-02	4.23210E-02	1.19222E-01	4.18889E-01	1.10625E-01	1.93677E-01	6.84684E-01	5.23239E-01
12	8.16802E-02	4.25237E-02	1.19324E-01	4.19068E-01	1.10791E-01	1.94158E-01	6.85473E-01	5.23901E-01
13	8.18142E-02	4.29848E-02	1.19534E-01	4.19433E-01	1.11131E-01	1.95139E-01	6.87087E-01	5.25254E-01
14	8.22328E-02	4.41991E-02	1.20201E-01	4.20575E-01	1.12192E-01	1.98176E-01	6.92100E-01	5.29426E-01
15	8.28073E-02	4.58904E-02	1.21134E-01	4.22144E-01	1.13643E-01	2.02291E-01	6.98914E-01	5.35005E-01
16	8.31757E-02	4.69454E-02	1.21785E-01	4.23153E-01	1.14570E-01	2.04888E-01	7.03206E-01	5.38657E-01
17	8.34478E-02	4.77335E-02	1.22185E-01	4.23840E-01	1.15282E-01	2.06905E-01	7.06733E-01	5.41617E-01
18	8.38213E-02	4.88290E-02	1.22780E-01	4.24781E-01	1.16284E-01	2.09784E-01	7.11988E-01	5.46600E-01
19	8.42518E-02	5.00861E-02	1.23466E-01	4.25873E-01	1.17444E-01	2.13130E-01	7.18246E-01	5.52619E-01
20	8.48003E-02	5.16798E-02	1.24339E-01	4.27269E-01	1.18931E-01	2.17434E-01	7.26560E-01	5.60751E-01
21	8.51914E-02	5.28138E-02	1.24953E-01	4.28221E-01	1.20002E-01	2.20543E-01	7.32841E-01	5.67098E-01
22	8.52267E-02	5.29215E-02	1.24994E-01	4.28229E-01	1.20111E-01	2.20872E-01	7.33757E-01	5.68004E-01
23	8.51267E-02	5.26404E-02	1.24821E-01	4.27900E-01	1.19849E-01	2.20122E-01	7.32480E-01	5.67266E-01
24	8.50084E-02	5.22905E-02	1.24611E-01	4.27523E-01	1.19521E-01	2.19178E-01	7.30801E-01	5.66862E-01

0 Int.	grp. 25	grp. 26	grp. 27
1	1.95803E-01	1.20103E-01	1.60443E-02
2	1.95669E-01	1.20022E-01	1.60428E-02
3	1.96123E-01	1.20458E-01	1.61783E-02
4	1.98534E-01	1.22664E-01	1.69972E-02
5	2.04537E-01	1.28173E-01	1.83664E-02
6	2.11252E-01	1.34381E-01	2.01924E-02
7	2.16279E-01	1.39125E-01	2.16530E-02
8	2.20388E-01	1.43604E-01	2.30958E-02
9	2.23448E-01	1.45956E-01	2.39661E-02
10	2.23807E-01	1.46278E-01	2.39564E-02
11	2.24318E-01	1.46734E-01	2.40848E-02
12	2.24648E-01	1.47088E-01	2.41675E-02
13	2.25318E-01	1.47626E-01	2.43353E-02
14	2.27352E-01	1.49425E-01	2.48516E-02
15	2.30000E-01	1.51731E-01	2.54855E-02

16	2.31583E-01	1.53082E-01	2.57881E-02
17	2.33174E-01	1.54698E-01	2.65213E-02
18	2.35811E-01	1.57534E-01	2.72960E-02
19	2.39033E-01	1.60961E-01	2.84387E-02
20	2.43438E-01	1.65651E-01	2.99428E-02
21	2.46957E-01	1.69483E-01	3.11799E-02
22	2.47727E-01	1.70464E-01	3.15478E-02
23	2.47271E-01	1.70129E-01	3.15054E-02
24	2.46568E-01	1.69513E-01	3.13679E-02

- elapsed time .00 min.

1fine group summary for zone 1 by group including sum for all groups in line 28

0 grp.	fix source	fiss source	in scatter	slf scatter	out scatter	absorption	leakage	balance
1	.00000E+00	2.33589E-02	.00000E+00	1.30809E-02	1.09077E-02	3.30018E-03	1.15068E-02	9.98841E-01
2	.00000E+00	1.95084E-01	2.41777E-03	1.68673E-01	6.72858E-02	1.36905E-02	1.16539E-01	1.00004E+00
3	.00000E+00	2.16067E-01	2.66656E-02	1.61736E-01	8.16111E-02	1.54756E-02	1.45627E-01	1.00000E+00
4	.00000E+00	1.23684E-01	3.92836E-02	1.05769E-01	6.79578E-02	7.36486E-03	8.76426E-02	1.00001E+00
5	.00000E+00	1.65760E-01	6.85497E-02	2.60142E-01	9.47464E-02	4.36292E-03	1.33002E-01	9.99992E-01
6	.00000E+00	1.76465E-01	1.35112E-01	6.53798E-01	5.43600E-02	6.80647E-03	2.50401E-01	1.00008E+00
7	.00000E+00	8.71164E-02	9.85425E-02	7.44150E-01	3.63364E-02	7.27131E-03	1.42050E-01	1.00001E+00
8	.00000E+00	1.34131E-02	4.25864E-02	6.30510E-01	2.15264E-02	1.35652E-02	2.09053E-02	1.00004E+00
9	.00000E+00	9.75270E-04	2.17502E-02	5.34035E-01	2.07341E-02	2.25980E-02	-2.06082E-02	9.99991E-01
10	.00000E+00	7.22868E-05	2.07561E-02	4.63791E-01	1.07478E-02	3.50884E-02	-2.49887E-02	1.00001E+00
11	.00000E+00	5.68699E-06	1.07488E-02	4.26688E-01	8.18658E-03	5.75798E-02	-5.50120E-02	1.00001E+00
12	.00000E+00	3.99500E-07	8.18663E-03	2.41694E-01	9.40173E-03	6.42509E-02	-6.55026E-02	9.99959E-01
13	.00000E+00	6.34369E-08	9.40174E-03	1.81043E-01	6.15307E-03	6.05272E-02	-5.72788E-02	1.00000E+00
14	.00000E+00	1.25715E-08	6.15308E-03	1.52074E-01	7.30064E-03	8.68506E-02	-8.79983E-02	1.00000E+00
15	.00000E+00	1.42072E-09	7.30625E-03	8.33912E-02	8.76156E-03	8.05705E-03	-9.53961E-03	1.00632E+00
16	.00000E+00	4.17172E-10	8.91008E-03	4.16488E-02	9.35774E-03	6.78972E-03	-7.31175E-03	1.00461E+00
17	.00000E+00	1.34350E-10	7.43423E-03	1.36579E-02	6.98405E-03	1.01912E-02	-9.71775E-03	1.00156E+00
18	.00000E+00	9.61905E-11	6.75231E-03	7.16926E-03	3.12028E-03	3.16056E-02	-2.80013E-02	1.00020E+00
19	.00000E+00	1.35992E-10	5.40004E-03	2.18239E-02	7.99073E-03	1.30210E-02	-1.56190E-02	1.00130E+00
20	.00000E+00	2.21138E-10	8.97591E-03	9.65570E-02	9.15287E-03	2.44602E-02	-2.67453E-02	1.00804E+00
21	.00000E+00	3.23675E-11	8.47705E-03	1.90448E-02	7.43011E-03	2.60782E-02	-2.50568E-02	1.00076E+00
22	.00000E+00	3.75537E-11	1.08786E-02	3.55148E-02	8.02540E-03	7.44615E-02	-7.16532E-02	1.00054E+00
23	.00000E+00	3.59065E-11	1.28780E-02	1.50450E-01	1.65811E-02	1.19930E-01	-1.23808E-01	1.00126E+00
24	.00000E+00	9.77301E-12	2.06524E-02	1.06694E-01	2.09018E-02	1.05716E-01	-1.06097E-01	1.00104E+00
25	.00000E+00	2.86090E-12	1.77658E-02	4.06994E-02	1.35049E-02	5.70012E-02	-5.27952E-02	1.00079E+00
26	.00000E+00	2.00608E-12	8.80172E-03	2.85425E-02	6.11118E-03	5.11556E-02	-4.85021E-02	1.00065E+00
27	.00000E+00	4.78059E-13	1.91637E-03	4.31134E-03	1.05471E-03	1.43858E-02	-1.35259E-02	1.00037E+00
28	.00000E+00	1.00000E+00	6.15961E-01	5.38846E+00	6.15961E-01	9.43622E-01	5.79065E-02	1.00050E+00

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	r2n rate	fiss rate	flux*dv**2	total flux
1	1.78863E-01	1.15068E-02	1.85726E-01	.00000E+00	2.32484E-03	2.69862E-03	.00000E+00	1.25126E-01
2	1.29471E+00	1.16539E-01	1.34641E+00	.00000E+00	1.68246E-05	1.19016E-02	.00000E+00	9.12852E-01
3	1.62667E+00	1.45627E-01	1.69009E+00	.00000E+00	.00000E+00	1.44679E-02	.00000E+00	1.14606E+00
4	1.00706E+00	8.76426E-02	1.04479E+00	.00000E+00	.00000E+00	6.22017E-03	.00000E+00	7.08760E-01
5	1.51879E+00	1.33002E-01	1.57771E+00	.00000E+00	.00000E+00	1.76645E-03	.00000E+00	1.06946E+00
6	2.91788E+00	2.50401E-01	3.03090E+00	.00000E+00	.00000E+00	1.42756E-03	.00000E+00	2.05399E+00
7	2.69849E+00	1.42050E-01	2.90573E+00	.00000E+00	.00000E+00	1.31995E-03	.00000E+00	1.98080E+00
8	2.07083E+00	2.09053E-02	2.08273E+00	.00000E+00	.00000E+00	1.29080E-03	.00000E+00	1.43040E+00
9	1.60158E+00	-2.06082E-02	1.58997E+00	.00000E+00	.00000E+00	1.68168E-03	.00000E+00	1.09792E+00
10	1.46325E+00	-2.49887E-02	1.45045E+00	.00000E+00	.00000E+00	3.58150E-03	.00000E+00	1.00232E+00
11	1.33894E+00	-5.50120E-02	1.31063E+00	.00000E+00	.00000E+00	7.79913E-03	.00000E+00	9.10596E-01
12	8.32142E-01	-6.55026E-02	7.98086E-01	.00000E+00	.00000E+00	1.05512E-02	.00000E+00	5.59566E-01
13	6.99558E-01	-5.72788E-02	6.70082E-01	.00000E+00	.00000E+00	1.25294E-02	.00000E+00	4.69906E-01
14	6.22912E-01	-8.79983E-02	5.77028E-01	.00000E+00	.00000E+00	7.72475E-03	.00000E+00	4.10568E-01
15	3.69541E-01	-9.53961E-03	3.64468E-01	.00000E+00	.00000E+00	1.69067E-03	.00000E+00	2.52432E-01
16	2.02246E-01	-7.31179E-03	1.98607E-01	.00000E+00	.00000E+00	1.21258E-03	.00000E+00	1.37792E-01
17	8.14204E-02	-9.71775E-03	7.64719E-02	.00000E+00	.00000E+00	1.25536E-03	.00000E+00	5.40792E-02
18	4.17338E-02	-2.80013E-02	2.34500E-02	.00000E+00	.00000E+00	7.33272E-04	.00000E+00	2.10144E-02
19	1.18918E-01	-1.56190E-02	1.10714E-01	.00000E+00	.00000E+00	2.00413E-03	.00000E+00	7.86402E-02

20.	4.18359E-01	-2.67453E-02	4.04792E-01	.00000E+00	.00000E+00	1.39994E-02	.00000E+00	2.82661E-01
21	1.10158E-01	-2.50669E-02	9.68741E-02	.00000E+00	.00000E+00	1.54127E-02	.00000E+00	7.05084E-02
22	1.92276E-01	-7.14652E-02	1.51921E-01	.00000E+00	.00000E+00	4.42529E-02	.00000E+00	1.14059E-01
23	6.82388E-01	-1.23806E-01	6.19016E-01	.00000E+00	.00000E+00	7.05664E-02	.00000E+00	4.44549E-01
24	5.21309E-01	-1.06097E-01	4.67341E-01	.00000E+00	.00000E+00	6.12938E-02	.00000E+00	3.37362E-01
25	2.23357E-01	-5.27962E-02	1.96003E-01	.00000E+00	.00000E+00	3.45226E-02	.00000E+00	1.42863E-01
26	1.45875E-01	-4.85021E-02	1.20267E-01	.00000E+00	.00000E+00	3.16494E-02	.00000E+00	9.01527E-02
27	2.38426E-02	-1.35259E-02	1.60728E-02	.00000E+00	.00000E+00	8.98644E-03	.00000E+00	1.32570E-02
28	2.31425E+01	5.79064E-02	2.31043E+01	.00000E+00	2.34167E-03	3.72332E-01	.00000E+00	1.59195E+01

1fine group summary for zone 2 by group including sum for all groups in line 28

0 grp.	fix source	fiss source	in scatter	self scatter	out scatter	absorption	leakage	balance
1	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	-1.86265E-09	1.00000E+00
2	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	-1.49012E-08	1.00000E+00
3	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	-1.49012E-08	1.00000E+00
4	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	7.45058E-09	1.00000E+00
5	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	7.45058E-08	9.99999E-01
6	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	1.00000E+00
7	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	1.19209E-07	9.99999E-01
8	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	2.79397E-08	9.99999E-01
9	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	5.21541E-08	9.99997E-01
10	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	6.89179E-08	9.99997E-01
11	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	-7.45058E-09	1.00000E+00
12	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	1.00000E+00
13	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	-1.86265E-08	1.00000E+00
14	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	-3.72529E-08	1.00000E+00
15	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	2.04891E-08	9.99998E-01
16	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	1.86265E-09	1.00000E+00
17	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	1.86265E-09	1.00000E+00
18	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	1.86265E-09	1.00000E+00
19	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	3.72529E-09	1.00000E+00
20	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	-1.86265E-08	1.00000E+00
21	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	7.45058E-09	1.00000E+00
22	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	-7.45058E-09	1.00000E+00
23	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	2.23517E-08	1.00000E+00
24	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	-1.49012E-08	1.00000E+00
25	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	3.72529E-09	1.00000E+00
26	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	1.49012E-08	1.00000E+00
27	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	9.31323E-10	1.00000E+00
28	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	2.95229E-07	1.00001E+00

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	rxn rate	fiss rate	flux*df**2	total flux
1	1.78206E-01	1.15058E-02	1.78643E-01	1.15058E-02	.00000E+00	.00000E+00	.00000E+00	5.65234E-03
2	1.29068E+00	1.16536E-01	1.29471E+00	1.16536E-01	.00000E+00	.00000E+00	.00000E+00	4.10212E-02
3	1.62183E+00	1.45627E-01	1.62667E+00	1.45627E-01	.00000E+00	.00000E+00	.00000E+00	5.15465E-02
4	1.00439E+00	8.76426E-02	1.00705E+00	8.76426E-02	.00000E+00	.00000E+00	.00000E+00	3.19159E-02
5	1.51498E+00	1.33002E-01	1.51879E+00	1.33002E-01	.00000E+00	.00000E+00	.00000E+00	4.81369E-02
6	2.91103E+00	2.50401E-01	2.91788E+00	2.50401E-01	.00000E+00	.00000E+00	.00000E+00	9.24872E-02
7	2.83474E+00	1.42060E-01	2.85849E+00	1.42060E-01	.00000E+00	.00000E+00	.00000E+00	9.00186E-02
8	2.07006E+00	2.09053E-02	2.07083E+00	2.09053E-02	.00000E+00	.00000E+00	.00000E+00	6.57058E-02
9	1.60234E+00	-2.06081E-02	1.60158E+00	-2.06082E-02	.00000E+00	.00000E+00	.00000E+00	5.08588E-02
10	1.46394E+00	-2.49886E-02	1.46325E+00	-2.49887E-02	.00000E+00	.00000E+00	.00000E+00	4.64478E-02
11	1.34045E+00	-5.50120E-02	1.33894E+00	-5.50120E-02	.00000E+00	.00000E+00	.00000E+00	4.25163E-02
12	8.39984E-01	-6.55026E-02	8.32142E-01	-6.55026E-02	.00000E+00	.00000E+00	.00000E+00	2.64382E-02
13	7.01173E-01	-5.72788E-02	6.99358E-01	-5.72788E-02	.00000E+00	.00000E+00	.00000E+00	2.22269E-02
14	6.25389E-01	-8.79984E-02	6.22912E-01	-8.79983E-02	.00000E+00	.00000E+00	.00000E+00	1.98086E-02
15	3.68814E-01	-9.53959E-03	3.69561E-01	-9.53961E-03	.00000E+00	.00000E+00	.00000E+00	1.17521E-02
16	2.02653E-01	-7.31179E-03	2.02364E-01	-7.31178E-03	.00000E+00	.00000E+00	.00000E+00	6.42175E-03
17	8.16984E-02	-9.71775E-03	8.14206E-02	-9.71775E-03	.00000E+00	.00000E+00	.00000E+00	2.58844E-03
18	4.25738E-02	-2.80013E-02	4.17388E-02	-2.80013E-02	.00000E+00	.00000E+00	.00000E+00	1.33810E-03
19	1.16844E-01	-1.56190E-02	1.16918E-01	-1.56190E-02	.00000E+00	.00000E+00	.00000E+00	3.78101E-03
20	4.19102E-01	-2.67453E-02	4.18359E-01	-2.67453E-02	.00000E+00	.00000E+00	.00000E+00	1.32892E-02

21	1.1082E-01	-2.5056E-02	1.1013E-01	-2.5056E-02	.0000E+00	.0000E+00	.0000E+00	3.5065E-03
22	1.9427E-01	-7.1653E-02	1.9227E-01	-7.1653E-02	.0000E+00	.0000E+00	.0000E+00	6.1353E-03
23	6.8568E-01	-1.2380E-01	6.8238E-01	-1.2380E-01	.0000E+00	.0000E+00	.0000E+00	2.1709E-02
24	5.2407E-01	-1.0609E-01	5.2130E-01	-1.0609E-01	.0000E+00	.0000E+00	.0000E+00	1.6588E-02
25	2.2475E-01	-5.2796E-02	2.2357E-01	-5.2796E-02	.0000E+00	.0000E+00	.0000E+00	7.1106E-03
26	1.4710E-01	-4.8502E-02	1.4587E-01	-4.8502E-02	.0000E+00	.0000E+00	.0000E+00	4.6493E-03
27	2.4188E-02	-1.3529E-02	2.3842E-02	-1.3529E-02	.0000E+00	.0000E+00	.0000E+00	7.6228E-04
28	2.3139E+01	5.7906E-02	2.3142E+01	5.7906E-02	.0000E+00	.0000E+00	.0000E+00	7.3438E-01

1fine group summary for zone 3 by group including sum for all groups in line 28

0 grp.	fix source	fiss source	in scatter	slf scatter	out scatter	absorption	leakage	balance
1	.0000E+00	.0000E+00	.0000E+00	3.9276E-03	2.9442E-03	1.5088E-05	-2.8543E-03	1.0001E+00
2	.0000E+00	.0000E+00	5.1421E-04	2.6297E-02	1.8869E-02	5.2263E-05	-1.8407E-02	1.0000E+00
3	.0000E+00	.0000E+00	2.6965E-03	5.0448E-02	1.5951E-02	1.3798E-04	-1.3389E-02	9.9998E-01
4	.0000E+00	.0000E+00	5.1935E-03	4.2252E-02	5.4707E-03	1.0372E-04	-3.8052E-04	9.9999E-01
5	.0000E+00	.0000E+00	1.1184E-02	8.1785E-02	5.1722E-03	1.5236E-04	5.8590E-03	1.0000E+00
6	.0000E+00	.0000E+00	1.8532E-02	2.3514E-01	3.2130E-03	3.2022E-04	1.5099E-02	1.0000E+00
7	.0000E+00	.0000E+00	1.2376E-02	2.3520E-01	1.1826E-03	3.4404E-04	1.0849E-02	9.9999E-01
8	.0000E+00	.0000E+00	2.1690E-03	1.5879E-01	7.6425E-03	2.9517E-04	-5.7692E-03	1.0002E+00
9	.0000E+00	.0000E+00	7.6763E-03	1.0536E-01	8.7857E-04	1.1111E-03	5.6869E-03	9.9990E-01
10	.0000E+00	.0000E+00	8.7957E-04	8.5809E-02	8.5138E-04	8.3798E-04	-8.0986E-04	1.0000E+00
11	.0000E+00	.0000E+00	8.5143E-04	7.7349E-02	8.7551E-04	1.3420E-03	-1.3641E-03	1.0000E+00
12	.0000E+00	.0000E+00	8.7352E-04	4.6588E-02	8.7327E-04	4.1790E-05	-4.1551E-05	1.0000E+00
13	.0000E+00	.0000E+00	8.7327E-04	3.9498E-02	8.0662E-04	5.9614E-05	7.7411E-06	9.9999E-01
14	.0000E+00	.0000E+00	8.0562E-04	3.5401E-02	6.6861E-04	9.4529E-05	4.2519E-05	1.0000E+00
15	.0000E+00	.0000E+00	7.1180E-04	2.0544E-02	8.3308E-04	8.1740E-05	-2.0570E-04	1.0000E+00
16	.0000E+00	.0000E+00	9.2629E-04	1.0677E-02	9.2484E-04	5.0512E-05	-4.9458E-05	1.0000E+00
17	.0000E+00	.0000E+00	9.7091E-04	3.7833E-03	9.3129E-04	2.2863E-05	1.6739E-05	1.0000E+00
18	.0000E+00	.0000E+00	9.7385E-04	1.9459E-03	6.2834E-04	1.3326E-05	3.3209E-04	1.0000E+00
19	.0000E+00	.0000E+00	6.8531E-04	6.0080E-03	8.8643E-04	3.8925E-05	-2.4012E-04	1.0000E+00
20	.0000E+00	.0000E+00	1.0568E-03	2.3091E-02	9.8168E-04	1.7168E-04	-9.7742E-05	1.0000E+00
21	.0000E+00	.0000E+00	1.1955E-03	5.2095E-03	1.2439E-03	5.7375E-05	-1.0590E-04	1.0000E+00
22	.0000E+00	.0000E+00	1.5713E-03	1.0093E-02	1.3489E-03	1.1760E-04	1.0451E-04	1.0000E+00
23	.0000E+00	.0000E+00	2.0639E-03	3.7018E-02	2.7177E-03	5.6060E-04	-1.2343E-03	1.0000E+00
24	.0000E+00	.0000E+00	3.3780E-03	2.6740E-02	3.6697E-03	6.2295E-04	-9.1447E-04	9.9998E-01
25	.0000E+00	.0000E+00	3.3177E-03	1.0389E-02	2.6741E-03	3.5338E-04	2.9021E-04	9.9998E-01
26	.0000E+00	.0000E+00	1.3917E-03	7.5979E-03	1.0040E-03	3.3177E-04	5.5771E-05	1.0000E+00
27	.0000E+00	.0000E+00	2.9115E-04	1.4351E-03	7.3944E-07	1.0489E-04	1.8545E-04	1.0000E+00
28	.0000E+00	.0000E+00	8.3426E-02	1.3886E+00	8.3242E-02	7.4366E-03	-7.3328E-03	1.0001E+00

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	rxn rate	fiss rate	flux**2	total flux
1	1.7651E-01	8.6514E-03	1.7820E-01	1.1505E-02	1.0519E-04	.0000E+00	.0000E+00	3.8402E-02
2	1.2728E+00	9.8127E-02	1.2905E+00	1.1463E-01	.0000E+00	.0000E+00	.0000E+00	2.7750E-01
3	1.5986E+00	1.3225E-01	1.6218E+00	1.4562E-01	.0000E+00	.0000E+00	.0000E+00	3.4873E-01
4	9.8976E-01	8.7262E-02	1.0043E+00	8.7642E-02	.0000E+00	.0000E+00	.0000E+00	2.1601E-01
5	1.4919E+00	1.3886E-01	1.5149E+00	1.3300E-01	.0000E+00	.0000E+00	.0000E+00	3.2577E-01
6	2.8654E+00	2.6550E-01	2.9110E+00	2.5040E-01	.0000E+00	.0000E+00	.0000E+00	6.2587E-01
7	2.8065E+00	1.5289E-01	2.8547E+00	1.4205E-01	.0000E+00	.0000E+00	.0000E+00	6.1150E-01
8	2.0669E+00	1.5136E-02	2.0700E+00	2.0905E-02	.0000E+00	.0000E+00	.0000E+00	4.4821E-01
9	1.6054E+00	-1.4921E-02	1.6025E+00	-2.0608E-02	.0000E+00	.0000E+00	.0000E+00	3.4766E-01
10	1.4681E+00	-2.5798E-02	1.4539E+00	-2.4888E-02	.0000E+00	.0000E+00	.0000E+00	3.1774E-01
11	1.3495E+00	-5.6376E-02	1.3405E+00	-5.5012E-02	.0000E+00	.0000E+00	.0000E+00	2.9153E-01
12	8.4466E-01	-6.5544E-02	8.3984E-01	-6.5502E-02	.0000E+00	.0000E+00	.0000E+00	1.8196E-01
13	7.1054E-01	-5.7271E-02	7.0117E-01	-5.7278E-02	.0000E+00	.0000E+00	.0000E+00	1.5305E-01
14	6.3975E-01	-8.7956E-02	6.2539E-01	-8.7984E-02	.0000E+00	.0000E+00	.0000E+00	1.3717E-01
15	3.7148E-01	-9.7433E-03	3.6981E-01	-9.5395E-03	.0000E+00	.0000E+00	.0000E+00	8.0336E-02
16	2.0865E-01	-7.3612E-03	2.0253E-01	-7.3117E-03	.0000E+00	.0000E+00	.0000E+00	4.4014E-02
17	8.3267E-02	-9.7010E-03	8.1694E-02	-9.7177E-03	.0000E+00	.0000E+00	.0000E+00	1.7886E-02
18	4.7212E-02	-2.7669E-02	4.2578E-02	-2.8001E-02	.0000E+00	.0000E+00	.0000E+00	9.7661E-03
19	1.2189E-01	-1.5859E-02	1.1934E-01	-1.5619E-02	.0000E+00	.0000E+00	.0000E+00	2.6155E-02
20	4.2540E-01	-2.6843E-02	4.1910E-01	-2.6745E-02	.0000E+00	.0000E+00	.0000E+00	9.1382E-02
21	1.1483E-01	-2.5162E-02	1.1082E-01	-2.5056E-02	.0000E+00	.0000E+00	.0000E+00	2.4476E-02

22	2.05548E-01	-7.15485E-02	1.94278E-01	-7.16532E-02	.00000E+00	.00000E+00	.00000E+00	4.34067E-02
23	7.04308E-01	-1.25039E-01	6.65683E-01	-1.23805E-01	.00000E+00	.00000E+00	.00000E+00	1.50752E-01
24	5.39529E-01	-1.07011E-01	5.24079E-01	-1.06097E-01	.00000E+00	.00000E+00	.00000E+00	1.15364E-01
25	2.31970E-01	-5.25060E-02	2.24735E-01	-5.27962E-02	.00000E+00	.00000E+00	.00000E+00	4.95621E-02
26	1.53408E-01	-4.84463E-02	1.47108E-01	-4.85021E-02	.00000E+00	.00000E+00	.00000E+00	3.26346E-02
27	2.58662E-02	-1.33444E-02	2.41885E-02	-1.35259E-02	.00000E+00	.00000E+00	.00000E+00	5.44733E-03
28	2.31148E+01	5.05727E-02	2.31390E+01	5.79058E-02	1.05196E-04	.00000E+00	.00000E+00	5.01228E+00

1fine group summary for zone 4 by group including sum for all groups in line 28

0 grp.	fix source	fiss source	in scatter	slf scatter	out scatter	absorption	leakage	balance
1	.00000E+00	.00000E+00	.00000E+00	6.20599E-03	8.21414E-03	4.37777E-04	-8.65148E-03	9.99950E-01
2	.00000E+00	.00000E+00	4.71311E-03	7.74201E-02	1.01755E-01	1.09022E-03	-9.81278E-02	9.99961E-01
3	.00000E+00	.00000E+00	4.89053E-02	6.95901E-02	1.80539E-01	5.45397E-06	-1.32257E-01	9.99977E-01
4	.00000E+00	.00000E+00	7.08152E-02	4.60072E-02	1.58078E-01	3.26178E-06	-8.72622E-02	9.99987E-01
5	.00000E+00	.00000E+00	1.30636E-01	1.48753E-01	2.69495E-01	3.78163E-06	-1.38851E-01	9.99991E-01
6	.00000E+00	.00000E+00	2.75911E-01	4.55531E-01	5.41401E-01	1.14830E-05	-2.65500E-01	9.99998E-01
7	.00000E+00	.00000E+00	5.53502E-01	7.95545E-01	7.05388E-01	2.53633E-05	-1.52809E-01	9.99988E-01
8	.00000E+00	.00000E+00	7.35977E-01	1.00175E+00	7.51132E-01	4.70509E-05	-1.51360E-02	9.99912E-01
9	.00000E+00	.00000E+00	7.41376E-01	9.17331E-01	7.26441E-01	9.60859E-05	1.49212E-02	9.99869E-01
10	.00000E+00	.00000E+00	7.23083E-01	8.67478E-01	6.97147E-01	2.11964E-04	2.57985E-02	9.99896E-01
11	.00000E+00	.00000E+00	7.01994E-01	8.08156E-01	6.45201E-01	4.58931E-04	5.63762E-02	9.99940E-01
12	.00000E+00	.00000E+00	5.61551E-01	4.21052E-01	4.95420E-01	5.99108E-04	6.55442E-02	9.99979E-01
13	.00000E+00	.00000E+00	4.91388E-01	3.37825E-01	4.33255E-01	8.97335E-04	5.72711E-02	9.99970E-01
14	.00000E+00	.00000E+00	4.70704E-01	3.19200E-01	3.81308E-01	1.44461E-03	8.77561E-02	9.99980E-01
15	.00000E+00	.00000E+00	2.49697E-01	1.27396E-01	2.38665E-01	1.26935E-03	9.74157E-03	1.00000E+00
16	.00000E+00	.00000E+00	1.65252E-01	5.32943E-02	1.57010E-01	8.62694E-04	7.35957E-03	9.99997E-01
17	.00000E+00	.00000E+00	8.46211E-02	1.43225E-02	7.45192E-02	4.00052E-04	9.70544E-03	9.99957E-01
18	.00000E+00	.00000E+00	7.44775E-02	8.51852E-03	4.65465E-02	2.60634E-04	2.76712E-02	9.99983E-01
19	.00000E+00	.00000E+00	1.19266E-01	3.11525E-02	1.03393E-01	6.82831E-04	1.58668E-02	9.99956E-01
20	.00000E+00	.00000E+00	2.90467E-01	2.30557E-01	2.60578E-01	2.94963E-03	2.68416E-02	9.99999E-01
21	.00000E+00	.00000E+00	1.34254E-01	4.15384E-02	1.08061E-01	1.02923E-03	2.51695E-02	9.99960E-01
22	.00000E+00	.00000E+00	2.51686E-01	1.14357E-01	1.77965E-01	2.17372E-03	7.15480E-02	9.99928E-01
23	.00000E+00	.00000E+00	5.87104E-01	6.88541E-01	4.52146E-01	9.92654E-03	1.25086E-01	9.99932E-01
24	.00000E+00	.00000E+00	5.95071E-01	6.17774E-01	4.76865E-01	1.11998E-02	1.07012E-01	9.99990E-01
25	.00000E+00	.00000E+00	3.86554E-01	2.53418E-01	3.26022E-01	6.42757E-03	5.25071E-02	9.99991E-01
26	.00000E+00	.00000E+00	3.04534E-01	2.70488E-01	2.49841E-01	6.24905E-03	4.86378E-02	1.00002E+00
27	.00000E+00	.00000E+00	1.01616E-01	5.65318E-02	8.61203E-02	2.15106E-03	1.33442E-02	1.00000E+00
28	.00000E+00	.00000E+00	8.85358E+00	8.77954E+00	8.85358E+00	5.09145E-02	-5.05678E-02	9.99961E-01

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	r&n rate	fiss rate	flux*adj**2	total flux
1	1.75698E-01	2.03183E-09	1.76518E-01	8.65145E-05	4.54265E-10	.00000E+00	.00000E+00	2.01065E-01
2	1.26115E+00	-1.47898E-08	1.27280E+00	9.81278E-02	.00000E+00	.00000E+00	.00000E+00	1.44398E+00
3	1.58097E+00	9.30926E-08	1.59866E+00	1.32257E-01	.00000E+00	.00000E+00	.00000E+00	1.81065E+00
4	9.76608E-01	9.58997E-08	9.89769E-01	8.72622E-02	.00000E+00	.00000E+00	.00000E+00	1.11897E+00
5	1.46956E+00	-1.75408E-08	1.49195E+00	1.38851E-01	.00000E+00	.00000E+00	.00000E+00	1.68405E+00
6	2.82158E+00	1.74066E-07	2.86547E+00	2.65500E-01	.00000E+00	.00000E+00	.00000E+00	3.23950E+00
7	2.78326E+00	9.98467E-09	2.80653E+00	1.52899E-01	.00000E+00	.00000E+00	.00000E+00	3.18746E+00
8	2.06693E+00	3.20919E-08	2.06897E+00	1.51360E-02	.00000E+00	.00000E+00	.00000E+00	2.36475E+00
9	1.60744E+00	3.34927E-09	1.60540E+00	-1.49212E-02	.00000E+00	.00000E+00	.00000E+00	1.83964E+00
10	1.47275E+00	3.21656E-08	1.46814E+00	-2.57984E-02	.00000E+00	.00000E+00	.00000E+00	1.68524E+00
11	1.35952E+00	4.98413E-08	1.34956E+00	-5.63761E-02	.00000E+00	.00000E+00	.00000E+00	1.55521E+00
12	8.55889E-01	4.67275E-08	8.44656E-01	-6.55441E-02	.00000E+00	.00000E+00	.00000E+00	9.78753E-01
13	7.19954E-01	5.61550E-09	7.10543E-01	-5.72711E-02	.00000E+00	.00000E+00	.00000E+00	8.23450E-01
14	6.54521E-01	5.26308E-08	6.39738E-01	-8.79560E-02	.00000E+00	.00000E+00	.00000E+00	7.48114E-01
15	3.72221E-01	-1.72885E-06	3.71482E-01	-9.74330E-03	.00000E+00	.00000E+00	.00000E+00	4.26258E-01
16	2.04622E-01	-1.66595E-06	2.03657E-01	-7.36125E-03	.00000E+00	.00000E+00	.00000E+00	2.34250E-01
17	8.47354E-02	4.43419E-06	8.32672E-02	-9.70101E-03	.00000E+00	.00000E+00	.00000E+00	9.70851E-02
18	5.21093E-02	1.97887E-06	4.72122E-02	-2.76692E-02	.00000E+00	.00000E+00	.00000E+00	5.92316E-02
19	1.24496E-01	6.41674E-06	1.21808E-01	-1.58591E-02	.00000E+00	.00000E+00	.00000E+00	1.42342E-01
20	4.27318E-01	-1.51288E-06	4.23401E-01	-2.68631E-02	.00000E+00	.00000E+00	.00000E+00	4.89027E-01
21	1.19543E-01	6.70112E-06	1.14803E-01	-2.51628E-02	.00000E+00	.00000E+00	.00000E+00	1.36211E-01
22	2.18680E-01	4.33475E-07	2.05548E-01	-7.15485E-02	.00000E+00	.00000E+00	.00000E+00	2.49137E-01

23	7.29984E-01	-3.22225E-06	7.04305E-01	-1.25039E-01	.00000E+00	.00000E+00	.00000E+00	8.32654E-01
24	5.65102E-01	9.46258E-07	5.39325E-01	-1.07011E-01	.00000E+00	.00000E+00	.00000E+00	6.42964E-01
25	2.46187E-01	1.11305E-06	2.31970E-01	-5.25060E-02	.00000E+00	.00000E+00	.00000E+00	2.78572E-01
26	1.69172E-01	-8.74975E-06	1.53406E-01	-4.84463E-02	.00000E+00	.00000E+00	.00000E+00	1.90525E-01
27	3.12850E-02	-2.91616E-07	2.58662E-02	-1.33444E-02	.00000E+00	.00000E+00	.00000E+00	3.46002E-02
28	2.31512E+01	5.21995E-06	2.31148E+01	5.05727E-02	4.54266E-10	.00000E+00	.00000E+00	2.64855E+01

1fine group summary for system

0 grp.	fix source	fiss source	in scatter	slf scatter	out scatter	absorption	leakage	balance
1	.00000E+00	2.33589E-02	.00000E+00	2.32146E-02	2.20651E-02	3.75285E-03	2.03183E-09	9.98836E-01
2	.00000E+00	1.95084E-01	7.66510E-03	2.72390E-01	1.85905E-01	1.48330E-02	-1.47898E-08	1.00002E+00
3	.00000E+00	2.16067E-01	7.76674E-02	2.81675E-01	2.78102E-01	1.56370E-02	9.30598E-08	9.99986E-01
4	.00000E+00	1.23684E-01	1.15290E-01	1.94029E-01	2.31500E-01	7.47182E-03	9.58997E-08	1.00000E+00
5	.00000E+00	1.63760E-01	2.10169E-01	4.90681E-01	3.80414E-01	4.51905E-03	-1.75408E-08	9.99989E-01
6	.00000E+00	1.76469E-01	4.29656E-01	1.34448E+00	5.98974E-01	7.13818E-03	1.74066E-07	1.00001E+00
7	.00000E+00	8.71164E-02	6.64422E-01	1.77499E+00	7.43904E-01	7.64159E-03	9.98467E-09	9.99990E-01
8	.00000E+00	1.34131E-02	7.80752E-01	1.79078E+00	7.80301E-01	1.39074E-02	3.20919E-08	9.99920E-01
9	.00000E+00	9.73270E-04	7.70802E-01	1.55874E+00	7.48053E-01	2.38051E-02	3.34927E-09	9.99895E-01
10	.00000E+00	7.22868E-05	7.44718E-01	1.41708E+00	7.08746E-01	3.61186E-02	3.21656E-08	9.99900E-01
11	.00000E+00	5.68699E-06	7.13594E-01	1.31219E+00	6.54261E-01	5.93804E-02	4.98413E-08	9.99942E-01
12	.00000E+00	3.99500E-07	5.70611E-01	7.09688E-01	5.05695E-01	6.49318E-02	4.67275E-08	9.99974E-01
13	.00000E+00	6.34369E-08	5.01663E-01	5.58358E-01	4.40194E-01	6.14865E-02	5.61550E-09	9.99991E-01
14	.00000E+00	1.25715E-08	4.77663E-01	5.05764E-01	3.89278E-01	8.83898E-02	5.26303E-08	9.99989E-01
15	.00000E+00	1.42072E-09	2.57774E-01	2.31142E-01	2.48259E-01	9.40814E-03	-1.72885E-06	1.00042E+00
16	.00000E+00	4.17172E-10	1.75068E-01	1.05618E-01	1.67285E-01	7.70273E-03	-1.68695E-06	1.00042E+00
17	.00000E+00	1.34360E-10	9.30263E-02	3.17637E-02	8.25864E-02	1.06141E-02	4.43419E-06	1.00025E+00
18	.00000E+00	9.61905E-11	8.21887E-02	1.76338E-02	5.09965E-02	3.18995E-02	1.97887E-06	1.00007E+00
19	.00000E+00	1.35992E-10	1.26021E-01	5.88865E-02	1.12250E-01	1.37428E-02	6.41674E-06	1.00078E+00
20	.00000E+00	2.21139E-10	3.00499E-01	3.50205E-01	2.70810E-01	2.95815E-02	-1.51288E-06	1.00036E+00
21	.00000E+00	3.23675E-11	1.43927E-01	6.57911E-02	1.16735E-01	2.71648E-02	6.70112E-06	1.00014E+00
22	.00000E+00	3.75537E-11	2.64135E-01	1.59967E-01	1.87339E-01	7.67529E-02	4.33475E-07	1.00016E+00
23	.00000E+00	3.59065E-11	6.02026E-01	8.76000E-01	4.71445E-01	1.30417E-01	-3.22225E-06	1.00028E+00
24	.00000E+00	9.77301E-12	6.18901E-01	7.51200E-01	5.01257E-01	1.17538E-01	9.46259E-07	1.00020E+00
25	.00000E+00	2.86090E-12	4.06057E-01	3.06507E-01	3.42200E-01	6.37821E-02	1.11305E-06	1.00013E+00
26	.00000E+00	2.00608E-12	3.14728E-01	3.06639E-01	2.56656E-01	5.77364E-02	-8.74975E-06	1.00014E+00
27	.00000E+00	4.78059E-13	1.03823E-01	6.22783E-02	8.71758E-02	1.66419E-02	-2.91616E-07	1.00005E+00
28	.00000E+00	1.00000E+00	9.55279E+00	1.55667E+01	9.55278E+00	1.00197E+00	5.39736E-06	1.00004E+00

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	n2n rate	fiss rate	flux*db**2	total flux
1	1.75658E-01	2.03183E-09	1.85726E-01	.00000E+00	2.43004E-03	2.69862E-03	.00000E+00	3.70880E-01
2	1.26115E+00	-1.47898E-08	1.34641E+00	.00000E+00	1.68240E-05	1.19016E-02	.00000E+00	2.67534E+00
3	1.58097E+00	9.30598E-08	1.69006E+00	.00000E+00	.00000E+00	1.44679E-02	.00000E+00	3.35701E+00
4	9.76608E-01	9.58997E-08	1.04479E+00	.00000E+00	.00000E+00	6.22017E-03	.00000E+00	2.07560E+00
5	1.46956E+00	-1.75408E-08	1.57771E+00	.00000E+00	.00000E+00	1.76645E-03	.00000E+00	3.12744E+00
6	2.82158E+00	1.74066E-07	3.05090E+00	.00000E+00	.00000E+00	1.42756E-03	.00000E+00	6.00588E+00
7	2.76826E+00	9.98467E-09	2.90573E+00	.00000E+00	.00000E+00	1.31995E-03	.00000E+00	5.86978E+00
8	2.06623E+00	3.20919E-08	2.08273E+00	.00000E+00	.00000E+00	1.29080E-03	.00000E+00	4.30928E+00
9	1.60744E+00	3.34927E-09	1.58997E+00	.00000E+00	.00000E+00	1.68168E-03	.00000E+00	3.33607E+00
10	1.47275E+00	3.21656E-08	1.45046E+00	.00000E+00	.00000E+00	3.58150E-03	.00000E+00	3.05175E+00
11	1.35952E+00	4.98413E-08	1.31063E+00	.00000E+00	.00000E+00	7.79913E-03	.00000E+00	2.79986E+00
12	8.55889E-01	4.67275E-08	7.98086E-01	.00000E+00	.00000E+00	1.03512E-02	.00000E+00	1.74652E+00
13	7.19954E-01	5.61550E-09	6.70082E-01	.00000E+00	.00000E+00	1.25294E-02	.00000E+00	1.46861E+00
14	6.54521E-01	5.26303E-08	5.77028E-01	.00000E+00	.00000E+00	7.72475E-03	.00000E+00	1.31566E+00
15	3.72221E-01	-1.72885E-06	3.64468E-01	.00000E+00	.00000E+00	1.69067E-03	.00000E+00	7.70792E-01
16	2.04622E-01	-1.68695E-06	1.98607E-01	.00000E+00	.00000E+00	1.21258E-03	.00000E+00	4.23462E-01
17	8.49354E-02	4.43419E-06	7.64719E-02	.00000E+00	.00000E+00	1.25535E-03	.00000E+00	1.71639E-01
18	5.21055E-02	1.97887E-06	2.34500E-02	.00000E+00	.00000E+00	7.33272E-04	.00000E+00	9.13507E-02
19	1.34496E-01	6.41674E-06	1.10714E-01	.00000E+00	.00000E+00	2.00410E-03	.00000E+00	2.50918E-01
20	4.27318E-01	-1.51288E-06	4.04792E-01	.00000E+00	.00000E+00	1.39996E-02	.00000E+00	8.76302E-01
21	1.19343E-01	6.70112E-06	9.68741E-02	.00000E+00	.00000E+00	1.54127E-02	.00000E+00	2.34708E-01
22	2.18880E-01	4.33475E-07	1.51921E-01	.00000E+00	.00000E+00	4.42529E-02	.00000E+00	4.14757E-01
23	7.29984E-01	-3.22225E-06	6.19016E-01	.00000E+00	.00000E+00	7.05665E-02	.00000E+00	1.44944E+00

24	5.65102E-01	9.46258E-07	4.67341E-01	.00000E+00	.00000E+00	6.12588E-02	.00000E+00	1.11227E+00
25	2.46187E-01	1.11305E-06	1.96003E-01	.00000E+00	.00000E+00	3.45226E-02	.00000E+00	4.78887E-01
26	1.69172E-01	-8.74975E-06	1.20367E-01	.00000E+00	.00000E+00	3.16494E-02	.00000E+00	3.17966E-01
27	3.12850E-02	-2.91614E-07	1.60728E-02	.00000E+00	.00000E+00	8.98464E-03	.00000E+00	5.40468E-02
28	2.31512E+01	5.21993E-06	2.31043E+01	.00000E+00	2.44688E-03	3.72552E-01	.00000E+00	4.81547E+01

- elapsed time .00 min.
Odirect access unit 9 requires 516 blocks of length 1456 for cross section weighting.
1 transport cross section weighting function

Ozone	grp. 1	grp. 2	grp. 3	grp. 4	grp. 5	grp. 6	grp. 7	grp. 8
1	2.45899E-03	2.51122E-02	3.15610E-02	1.90888E-02	2.50346E-02	5.55033E-02	3.15969E-02	4.66847E-03
2	3.86780E-03	3.91744E-02	4.89541E-02	2.94619E-02	4.47099E-02	8.41748E-02	4.77516E-02	7.02753E-03
3	3.14281E-03	3.34202E-02	4.32200E-02	2.71747E-02	4.22143E-02	8.00734E-02	4.57827E-02	5.62349E-03
4	1.09488E-03	1.22971E-02	1.65657E-02	1.09275E-02	1.73854E-02	3.32406E-02	1.92173E-02	2.02157E-03
5	1.79607E-03	1.91449E-02	2.47951E-02	1.55804E-02	2.42392E-02	4.62590E-02	2.65130E-02	3.34840E-03

Ozone	grp. 9	grp. 10	grp. 11	grp. 12	grp. 13	grp. 14	grp. 15	grp. 16
1	4.61272E-03	5.59994E-03	1.22953E-02	1.43827E-02	1.27543E-02	1.96613E-02	2.16574E-03	1.63486E-03
2	6.92764E-03	8.40018E-03	1.84928E-02	2.20194E-02	1.92545E-02	2.95815E-02	3.20688E-03	2.45705E-03
3	5.54294E-03	7.88691E-03	1.76994E-02	2.08592E-02	1.77966E-02	2.73368E-02	2.99527E-03	2.27942E-03
4	1.83450E-03	3.21098E-03	7.02675E-03	8.17550E-03	7.18124E-03	1.09888E-02	1.29434E-03	9.42618E-04
5	3.21719E-03	4.56712E-03	1.00138E-02	1.17744E-02	1.05139E-02	1.57767E-02	1.78652E-03	1.33387E-03

Ozone	grp. 17	grp. 18	grp. 19	grp. 20	grp. 21	grp. 22	grp. 23	grp. 24
1	2.14701E-03	5.47367E-03	3.51050E-03	5.99072E-03	5.46607E-03	1.53156E-02	2.73227E-02	2.35288E-02
2	3.26685E-03	9.41307E-03	5.25072E-03	8.99094E-03	8.42348E-03	2.40870E-02	4.16175E-02	3.56944E-02
3	3.01702E-03	8.64944E-03	4.85055E-03	8.32560E-03	7.80167E-03	2.22477E-02	3.86547E-02	3.31035E-02
4	1.20894E-03	3.41263E-03	1.99330E-03	3.42387E-03	3.13115E-03	8.90294E-03	1.58644E-02	1.35687E-02
5	1.73774E-03	4.73108E-03	2.86648E-03	4.86813E-03	4.47043E-03	1.26449E-02	2.24202E-02	1.91671E-02

Ozone	grp. 25	grp. 26	grp. 27	grp. 28
1	1.55886E-02	1.04788E-02	2.79811E-03	3.85440E-01
2	1.77478E-02	1.63040E-02	4.54813E-03	5.90777E-01
3	1.63609E-02	1.50615E-02	4.17603E-03	5.44456E-01
4	6.64134E-03	6.01781E-03	1.53064E-03	2.19088E-01
5	9.44909E-03	8.59193E-03	2.27131E-03	3.13661E-01

1 1200 d, ses2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp
Ocell averaged fluxes

Ozone	grp. 1	grp. 2	grp. 3	grp. 4	grp. 5	grp. 6	grp. 7	grp. 8
1	1.81752E-01	1.32597E+00	1.66469E+00	1.02951E+00	1.55349E+00	2.98553E+00	2.89721E+00	2.07774E+00
2	1.78421E-01	1.29261E+00	1.62420E+00	1.00569E+00	1.51683E+00	2.91434E+00	2.83655E+00	2.07044E+00
3	1.77197E-01	1.28044E+00	1.60911E+00	9.96720E-01	1.50319E+00	2.88799E+00	2.82156E+00	2.06814E+00
4	1.75694E-01	1.26160E+00	1.58203E+00	9.77605E-01	1.47139E+00	2.82516E+00	2.78478E+00	2.06629E+00
5	1.77896E-01	1.28533E+00	1.61283E+00	9.97192E-01	1.50255E+00	2.88544E+00	2.82006E+00	2.07083E+00

Ozone	grp. 9	grp. 10	grp. 11	grp. 12	grp. 13	grp. 14	grp. 15	grp. 16
1	1.59479E+00	1.45592E+00	1.32269E+00	8.12509E-01	6.82563E-01	5.96368E-01	3.66670E-01	2.00156E-01
2	1.60197E+00	1.46360E+00	1.33972E+00	8.33088E-01	7.00387E-01	6.24183E-01	3.69486E-01	2.02353E-01
3	1.60419E+00	1.46611E+00	1.34519E+00	8.39610E-01	7.06114E-01	6.35262E-01	3.70886E-01	2.03088E-01
4	1.60732E+00	1.47242E+00	1.35881E+00	8.55150E-01	7.19460E-01	6.53639E-01	3.72458E-01	2.04650E-01
5	1.60277E+00	1.46617E+00	1.34515E+00	8.39092E-01	7.05578E-01	6.32093E-01	3.70317E-01	2.02366E-01

Ozone	grp. 17	grp. 18	grp. 19	grp. 20	grp. 21	grp. 22	grp. 23	grp. 24
1	7.85529E-02	3.05252E-02	1.14228E-01	4.10680E-01	1.03617E-01	1.68582E-01	6.45731E-01	4.90386E-01
2	8.15637E-02	4.21646E-02	1.19142E-01	4.18751E-01	1.10493E-01	1.93304E-01	6.84069E-01	5.22722E-01
3	8.25288E-02	4.50625E-02	1.20686E-01	4.21385E-01	1.12089E-01	2.00886E-01	6.95596E-01	5.32270E-01
4	8.48264E-02	5.17515E-02	1.24366E-01	4.27270E-01	1.19010E-01	2.17674E-01	7.27527E-01	5.61766E-01
5	8.24615E-02	4.38882E-02	1.20550E-01	4.21007E-01	1.12760E-01	1.99255E-01	6.96375E-01	5.34375E-01

Ozone	grp. 25	grp. 26	grp. 27
1	2.07487E-01	1.30952E-01	1.92274E-02
2	2.24051E-01	1.46505E-01	2.40202E-02
3	2.28688E-01	1.50581E-01	2.51342E-02
4	2.44091E-01	1.66468E-01	3.02307E-02
5	2.30075E-01	1.52762E-01	2.59661E-02

Oflux disadvantage factors (zone average/cell average-flux)

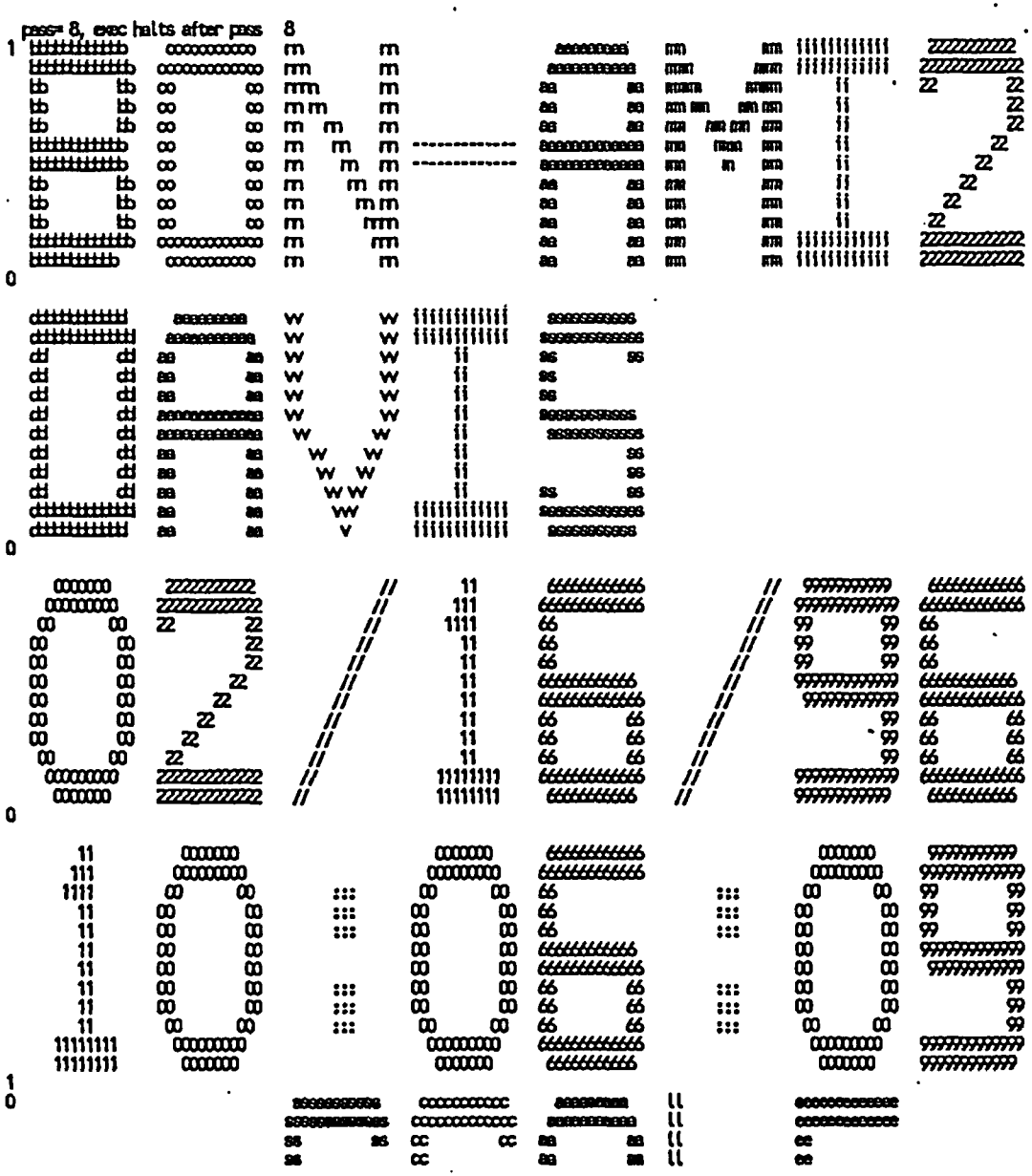
Ozone	grp. 1	grp. 2	grp. 3	grp. 4	grp. 5	grp. 6	grp. 7	grp. 8
1	1.02168E+00	1.03162E+00	1.03216E+00	1.03241E+00	1.03390E+00	1.03397E+00	1.02027E+00	1.00858E+00
2	1.00295E+00	1.00566E+00	1.00705E+00	1.00853E+00	1.00951E+00	1.01002E+00	1.00588E+00	1.00005E+00
3	9.98074E-01	9.96214E-01	9.97894E-01	9.99526E-01	1.00043E+00	1.00088E+00	1.00053E+00	9.98939E-01
4	9.87624E-01	9.81542E-01	9.80899E-01	9.80858E-01	9.79265E-01	9.79103E-01	9.87545E-01	9.98048E-01
5	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00
Ozone	grp. 9	grp. 10	grp. 11	grp. 12	grp. 13	grp. 14	grp. 15	grp. 16
1	9.95022E-01	9.93010E-01	9.85259E-01	9.68520E-01	9.67388E-01	9.43477E-01	9.90153E-01	9.86154E-01
2	9.99488E-01	9.98247E-01	9.95959E-01	9.92864E-01	9.92664E-01	9.87487E-01	9.98298E-01	9.96982E-01
3	1.00089E+00	9.99957E-01	1.00003E+00	1.00062E+00	1.00078E+00	1.00137E+00	1.00100E+00	1.00060E+00
4	1.00284E+00	1.00426E+00	1.01015E+00	1.01914E+00	1.01968E+00	1.03403E+00	1.00578E+00	1.00830E+00
5	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00
Ozone	grp. 17	grp. 18	grp. 19	grp. 20	grp. 21	grp. 22	grp. 23	grp. 24
1	9.52600E-01	6.95522E-01	9.47566E-01	9.75235E-01	9.08278E-01	8.46065E-01	9.27274E-01	9.17086E-01
2	9.89113E-01	9.60728E-01	9.88321E-01	9.94640E-01	9.79918E-01	9.70152E-01	9.82528E-01	9.78192E-01
3	1.00082E+00	1.02678E+00	1.00112E+00	1.00090E+00	1.00159E+00	1.00517E+00	9.98881E-01	9.96062E-01
4	1.02866E+00	1.17917E+00	1.03166E+00	1.01488E+00	1.05543E+00	1.09244E+00	1.04455E+00	1.05126E+00
5	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00	1.00000E+00
Ozone	grp. 25	grp. 26	grp. 27					
1	9.01825E-01	8.57224E-01	7.40483E-01					
2	9.73862E-01	9.59056E-01	9.25062E-01					
3	9.93971E-01	9.85722E-01	9.67991E-01					
4	1.06092E+00	1.08972E+00	1.16424E+00					
5	1.00000E+00	1.00000E+00	1.00000E+00					

Ocell averaged currents

Ozone	grp. 1	grp. 2	grp. 3	grp. 4	grp. 5	grp. 6	grp. 7	grp. 8
1	2.46899E-03	2.51122E-02	3.16610E-02	1.90885E-02	2.90346E-02	5.56033E-02	3.15969E-02	4.66847E-03
2	3.86780E-03	3.91746E-02	4.85541E-02	2.96619E-02	4.47099E-02	8.41748E-02	4.77516E-02	7.02753E-03
3	3.14381E-03	3.34202E-02	4.32200E-02	2.71747E-02	4.22143E-02	8.00284E-02	4.57827E-02	5.62549E-03
4	1.08486E-03	1.22971E-02	1.65667E-02	1.09273E-02	1.75834E-02	3.32405E-02	1.92173E-02	2.02157E-03
5	1.79607E-03	1.91449E-02	2.47951E-02	1.55844E-02	2.42358E-02	4.62590E-02	2.65130E-02	3.34840E-03
Ozone	grp. 9	grp. 10	grp. 11	grp. 12	grp. 13	grp. 14	grp. 15	grp. 16
1	4.61272E-03	5.59994E-03	1.22953E-02	1.45827E-02	1.27543E-02	1.96613E-02	2.15574E-03	1.63486E-03
2	6.92764E-03	8.40018E-03	1.84288E-02	2.20194E-02	1.92541E-02	2.95815E-02	3.20888E-03	2.45795E-03
3	5.54298E-03	7.88697E-03	1.72994E-02	2.08592E-02	1.77966E-02	2.73365E-02	2.99527E-03	2.27942E-03
4	1.83460E-03	3.21098E-03	7.02679E-03	8.17550E-03	7.18124E-03	1.09888E-02	1.29434E-03	9.42618E-04
5	3.21719E-03	4.56712E-03	1.00138E-02	1.17744E-02	1.05139E-02	1.57767E-02	1.78652E-03	1.33387E-03
Ozone	grp. 17	grp. 18	grp. 19	grp. 20	grp. 21	grp. 22	grp. 23	grp. 24
1	2.14701E-03	5.47367E-03	3.51060E-03	5.99072E-03	5.46607E-03	1.53156E-02	2.75227E-02	2.53268E-02
2	3.26888E-03	9.41307E-03	5.25072E-03	8.99094E-03	8.42348E-03	2.40870E-02	4.16175E-02	3.56644E-02
3	3.01702E-03	8.64944E-03	4.85055E-03	8.32569E-03	7.80167E-03	2.22477E-02	3.85547E-02	3.31035E-02
4	1.20694E-03	3.41263E-03	1.99330E-03	3.42387E-03	3.13115E-03	8.90294E-03	1.58647E-02	1.35687E-02
5	1.73774E-03	4.73102E-03	2.86468E-03	4.88813E-03	4.47043E-03	1.26449E-02	2.24202E-02	1.91671E-02
Ozone	grp. 25	grp. 26	grp. 27					
1	1.65586E-02	1.04798E-02	2.79811E-03					
2	1.77478E-02	1.63040E-02	4.54813E-03					
3	1.63609E-02	1.50615E-02	4.17603E-03					
4	6.64134E-03	6.01781E-03	1.53054E-03					
5	9.44609E-03	8.59192E-03	2.27131E-03					

Ozone	volume	vol. fraction
1	6.88443E-01	3.30753E-01
2	3.17352E-02	1.52468E-02
3	2.16724E-01	1.04122E-01
4	1.14454E+00	5.49878E-01
5	2.08144E+00	1.00000E+00

- elapsed time .02 min.
Orequested parmshalt8,skipcellwt,skipshipdata



INFORMATION ONLY

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ss          cc          aa      aa  ll          ee
sssssssssss cc          aaaaaaaaaaa ll          eeeeeeeee
 sssssssssss cc         aaaaaaaaaaa ll          eeeeeeeee
       ss    cc         aa      aa  ll          ee
       ss    cc         aa      aa  ll          ee
ss     ss    cc      cc aa      aa  ll          ee
sssssssssss  ccccccccccc aa      aa  lllllllllllll eeeeeeeeeee
 sssssssss    ccccccccc  aa      aa  lllllllllllll eeeeeeeeeee
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*****                                                       *****
*****              program verification information          *****
*****                                                       *****
*****              code system:   scale  version:  4.2      *****
*****                                                       *****
*****************************************************************
*****************************************************************
*****                                                       *****
*****                                                       *****
*****                                                       *****
*****           program:  c0c00B                            *****
*****                                                       *****
*****      creation date:  04/27/95                         *****
*****                                                       *****
*****           library:  /nautronics/scale/exe             *****
*****                                                       *****
*****                                                       *****
*****  this is not a  scale  configuration controlled code  *****
*****                                                       *****
*****           jobname:  davis                             *****
*****                                                       *****
*****  date of execution:  02/16/96                         *****
*****                                                       *****
*****  time of execution:  10:06:09                         *****
*****                                                       *****
*****                                                       *****
*****************************************************************
*****************************************************************
*****************************************************************
```

```
1
0      -1q array has      1 entries.
0       0q array has      4 entries.
0       1q array has      6 entries.
0       2q array has      2 entries.
1logical assignments
0master library   12
 working library  17
 scratch file     18
 new library       1
0problem description
0ig--geometry (0/1/2/3--inf med/slab/cyl/sphere              2
0im--number of zones or material regions                     4
0ms--mixing table length                                    70
0ibl--shielded cross section edit option (0/1--no/yes)       0
0ibr--bondarenko factor edit option (0/1--no/yes)            0
```

```
Oisoopt--dancoff factor option                                    0
Oconvergence criterion   1.00000E-03
Ogeometry correction factor for wigner rational approximation 1.350E+00
0       3q array has     70 entries.
0       4q array has     70 entries.
0       5q array has     70 entries.
0       6q array has      4 entries.
0       7q array has      4 entries.
0       8q array has      4 entries.
0       9q array has      4 entries.
0      10q array has     70 entries.
0      11q array has      4 entries.
Omixing table
Oentry  mixture  isotope   number density   new identifier
    1        3     8016    2.09710E-02              201
    2        3     1001    4.19420E-02              202
    3        3     5010    3.81515E-06              203
    4        3     5011    1.54884E-05              204
    5        2    40302    4.25156E-02              205
    6        1    92235    1.08967E-04           200006
    7        1    92234    1.35823E-06           200007
    8        1    92236    2.22568E-05           200008
    9        1    92238    7.18805E-03           200009
   10        1     8016    1.50611E-02           200010
   11        1     8016    1.15315E-02           200011
   12        1    36083    5.99894E-07           200012
   13        1    36085    2.88543E-07           200013
   14        1    38090    6.63490E-06           200014
   15        1    39089    5.44444E-06           200015
   16        1    42095    7.63439E-06           200016
   17        1    40095    5.44388E-06           200017
   18        1    40094    8.64059E-06           200018
   19        1    40095    6.37208E-07           200019
   20        1    41094    4.73664E-12           200020
   21        1    43099    8.45055E-06           200021
   22        1    45103    4.73364E-06           200022
   23        1    45105    8.33254E-09           200023
   24        1    44101    7.83094E-06           200024
   25        1    44106    1.14052E-06           200025
   26        1    46105    3.41731E-06           200026
   27        1    46108    1.04951E-06           200027
   28        1    47109    7.05166E-07           200028
   29        1    51124    1.55246E-10           200029
   30        1    54131    3.79879E-06           200030
   31        1    54132    7.71500E-06           200031
   32        1    54135    2.19622E-09           200032
   33        1    54136    1.44860E-05           200033
   34        1    55134    5.39314E-07           200034
   35        1    55135    4.74731E-06           200035
   36        1    55137    9.16398E-06           200036
   37        1    56136    1.16385E-07           200037
   38        1    57139    9.05884E-06           200038
   39        1    59141    7.95669E-06           200039
   40        1    59143    1.19082E-07           200040
   41        1    58144    2.29564E-06           200041
   42        1    60143    6.78043E-06           200042
   43        1    60145    5.11699E-06           200043
   44        1    61147    1.49234E-06           200044
   45        1    61148    4.52757E-09           200045
   46        1    60147    4.25602E-08           200046
```

47	1	62147	7.28768E-07	20047
48	1	62149	2.99879E-08	20048
49	1	62150	1.95229E-06	20049
50	1	62151	1.52692E-07	20050
51	1	62152	8.95258E-07	20051
52	1	64155	1.19080E-09	20052
53	1	63153	6.19432E-07	20053
54	1	63154	1.60229E-07	20054
55	1	63155	6.98613E-08	20055
56	1	40302	4.42681E-05	20056
57	1	1001	2.30630E-02	20057
58	1	5010	2.09787E-06	20058
59	1	5011	8.51673E-06	20059
60	1	55133	9.26929E-06	20060
61	1	95237	1.88908E-06	20061
62	1	94238	3.82360E-07	20062
63	1	94239	4.11046E-05	20063
64	1	94240	1.00195E-05	20064
65	1	94241	5.99267E-06	20065
66	1	94242	9.62605E-07	20066
67	1	95241	2.37599E-07	20067
68	1	95243	1.26847E-07	20068
69	1	96244	1.75358E-08	20069
70	1	999	3.30753E-21	20070

Ogeometry and material description

Ozone	mixture	outer dimension	temperature	extra xs	type (0/1--fuel/mod)
1	3	6.32460E-01	6.07600E+02	7.90564E-01	0
2	2	6.73100E-01	6.50000E+02	1.23052E+01	0
3	3	8.14000E-01	6.07600E+02	3.54852E+00	0
4	1	2.96100E+00	9.75000E+02	2.32885E-01	0

8067 locations of 20000 available are required to make a new master containing the self-shielded values
One nuclides in your problem have bondarenko factor data**bonsai will copy from logical 12 to logical 1

Ocopy	999	1/v cross sectio	from log	12	to log	1 bondarenko trigger 0
Ocopy	1001	hydrogen	from log	12	to log	18 bondarenko trigger 0
Ocopy	1001	hydrogen	from log	18	to log	1 bondarenko trigger 0
Ocopy	1001	hydrogen	from log	18	to log	1 bondarenko trigger 0
Ocopy	5010	b-10 1273 218grp	from log	12	to log	18 bondarenko trigger 0
Ocopy	5010	b-10 1273 218grp	from log	18	to log	1 bondarenko trigger 0
Ocopy	5010	b-10 1273 218grp	from log	18	to log	1 bondarenko trigger 0
Ocopy	5011	boron-11	from log	12	to log	18 bondarenko trigger 0
Ocopy	5011	boron-11	from log	18	to log	1 bondarenko trigger 0
Ocopy	5011	boron-11	from log	18	to log	1 bondarenko trigger 0
Ocopy	8016	oxygen-16	from log	12	to log	18 bondarenko trigger 0
Ocopy	8016	oxygen-16	from log	18	to log	1 bondarenko trigger 0
Ocopy	8016	oxygen-16	from log	18	to log	1 bondarenko trigger 0
Ocopy	8016	oxygen-16	from log	18	to log	1 bondarenko trigger 0
Ocopy	36083	kr-83	from log	12	to log	1 bondarenko trigger 0
Ocopy	36085	kr-85	from log	12	to log	1 bondarenko trigger 0
Ocopy	38090	sr-90	from log	12	to log	1 bondarenko trigger 0
Ocopy	39089	y-89	from log	12	to log	1 bondarenko trigger 0
Ocopy	40093	zr-93	from log	12	to log	1 bondarenko trigger 0
Ocopy	40094	zr-94	from log	12	to log	1 bondarenko trigger 0
Ocopy	40095	zr-95	from log	12	to log	1 bondarenko trigger 0
Ocopy	40302	zircalloy	from log	12	to log	18 bondarenko trigger 0
Ocopy	40302	zircalloy	from log	18	to log	1 bondarenko trigger 0
Ocopy	40302	zircalloy	from log	18	to log	1 bondarenko trigger 0
Ocopy	41094	nb-94	from log	12	to log	1 bondarenko trigger 0
Ocopy	42095	mo-95	from log	12	to log	1 bondarenko trigger 0
Ocopy	43099	tc-99	from log	12	to log	1 bondarenko trigger 0
Ocopy	44101	ru-101	from log	12	to log	1 bondarenko trigger 0

```
0copy   44106  ru-106            from log 12 to log  1   bondarenko trigger 0
0copy   45103  rh-103            from log 12 to log  1   bondarenko trigger 0
0copy   45105  rh-105            from log 12 to log  1   bondarenko trigger 0
0copy   46105  pd-105            from log 12 to log  1   bondarenko trigger 0
0copy   46108  pd-108            from log 12 to log  1   bondarenko trigger 0
0copy   47109  silver-109        from log 12 to log  1   bondarenko trigger 0
0copy   51124  sb-124            from log 12 to log  1   bondarenko trigger 0
0copy   54131  xe-131            from log 12 to log  1   bondarenko trigger 0
0copy   54132  xe-132            from log 12 to log  1   bondarenko trigger 0
0copy   54135  xenon-135         from log 12 to log  1   bondarenko trigger 0
0copy   54136  xe-136            from log 12 to log  1   bondarenko trigger 0
0copy   55133  cesium-133        from log 12 to log  1   bondarenko trigger 0
0copy   55134  cs-134            from log 12 to log  1   bondarenko trigger 0
0copy   55135  cs-135            from log 12 to log  1   bondarenko trigger 0
0copy   55137  cs-137            from log 12 to log  1   bondarenko trigger 0
0copy   56136  ba-136            from log 12 to log  1   bondarenko trigger 0
0copy   57139  la-139            from log 12 to log  1   bondarenko trigger 0
0copy   58144  ce-144            from log 12 to log  1   bondarenko trigger 0
0copy   59141  pr-141            from log 12 to log  1   bondarenko trigger 0
0copy   59143  pr-143            from log 12 to log  1   bondarenko trigger 0
0copy   60143  nd-143            from log 12 to log  1   bondarenko trigger 0
0copy   60145  nd-145            from log 12 to log  1   bondarenko trigger 0
0copy   60147  nd-147            from log 12 to log  1   bondarenko trigger 0
0copy   61147  pm-147            from log 12 to log  1   bondarenko trigger 0
0copy   61148  pm-148            from log 12 to log  1   bondarenko trigger 0
0copy   62147  sm-147            from log 12 to log  1   bondarenko trigger 0
0copy   62149  sm-149            from log 12 to log  1   bondarenko trigger 0
0copy   62150  sm-150            from log 12 to log  1   bondarenko trigger 0
0copy   62151  sm-151            from log 12 to log  1   bondarenko trigger 0
0copy   62152  sm-152            from log 12 to log  1   bondarenko trigger 0
0copy   63153  eu-153            from log 12 to log  1   bondarenko trigger 0
0copy   63154  eu-154            from log 12 to log  1   bondarenko trigger 0
0copy   63155  eu-155            from log 12 to log  1   bondarenko trigger 0
0copy   64155  gd-155            from log 12 to log  1   bondarenko trigger 0
0copy   92234  u-234 1043 sigo=  from log 12 to log  1   bondarenko trigger 0
0copy   92235  uranium-235       from log 12 to log  1   bondarenko trigger 0
0copy   92236  u-236 1163 sigo=  from log 12 to log  1   bondarenko trigger 0
0copy   92238  uranium-238       from log 12 to log  1   bondarenko trigger 0
0copy   93237  neptunium-237     from log 12 to log  1   bondarenko trigger 0
0copy   94238  pu-238 1050 sigo  from log 12 to log  1   bondarenko trigger 0
0copy   94239  plutonium-239     from log 12 to log  1   bondarenko trigger 0
0copy   94240  plutonium-240     from log 12 to log  1   bondarenko trigger 0
0copy   94241  plutonium-241     from log 12 to log  1   bondarenko trigger 0
0copy   94242  plutonium-242     from log 12 to log  1   bondarenko trigger 0
0copy   95241  am-241 1056 sigo  from log 12 to log  1   bondarenko trigger 0
0copy   95243  am-243 1057 218   from log 12 to log  1   bondarenko trigger 0
0copy   96244  curium-244        from log 12 to log  1   bondarenko trigger 0
1      scale 4.2 - 27 group neutron burnup library
          based on endf-b version 4 data with endf-b version 5 fission products
             compiled for nrc      1/27/89
               last updated        9/16/93
                  l.m.petrie  -   ornl
        tape id                           4321        number of nuclides             70
        number of neutron groups            27        number of gamma groups          0
        first thermal group                 15        logical unit                    1
                                     table of contents
      1/v cross sections normalized to 1.0 at 0.0253 ev                       id  200070
      hydrogen       endf/b-iv mat 1269/thrml002    updated 10/13/89          id     202
      hydrogen       endf/b-iv mat 1269/thrml002    updated 10/13/89          id  200057
      b-10 1273 218grp 042375 p-3 238k                                        id     203
```

```
b-10 1273 218ngp 042375 p-3 293k                                      id   200058
 boron-11      endf/b-iv mat 1160         updated 10/13/89            id      204
 boron-11      endf/b-iv mat 1160         updated 10/13/89            id   200059
 oxygen-16     endf/b-iv mat 1276         updated 10/13/89            id      201
 oxygen-16     endf/b-iv mat 1276         updated 10/13/89            id   200010
 oxygen-16     endf/b-iv mat 1276         updated 10/13/89            id   200011
 kr-83         mt=102,103,103,105,106,107 updated 10/13/89            id   200012
 kr-85            mt=  102                                            id   200013
 sr-90         mt=102                     updated 10/13/89            id   200014
  y-89         mt=102                     updated 10/13/89            id   200015
 zr-93            mt=  102                                            id   200017
 zr-94         mt=102                     updated 10/13/89            id   200018
 zr-95         mt=102                     updated 10/13/89            id   200019
 zircalloy     endf/b-iv mat 1284         updated 10/13/89            id      205
 zircalloy     endf/b-iv mat 1284         updated 10/13/89            id   200056
 nb-94         mt=102                     updated 10/13/89            id   200020
 mo-95         mt=102                     updated 10/13/89            id   200016
 tc-99         mt=102                     updated 10/13/89            id   200021
 ru-101        mt=102                     updated 10/13/89            id   200024
 ru-106        mt=102                     updated 10/13/89            id   200025
 rh-103        mt=102                     updated 10/13/89            id   200022
 rh-105           mt=  102                                            id   200023
 pd-105        mt=102                     updated 10/13/89            id   200026
 pd-108        mt=102                     updated 10/13/89            id   200027
 silver-109    endf/b-iv mat 1139         updated 10/13/89            id   200028
 sb-124        mt=102                     updated 10/13/89            id   200029
 xe-131        mt=102,103,104,105,106     updated 10/13/89            id   200030
 xe-132        mt=102,103,104,105,106     updated 10/13/89            id   200031
 xenon-135     endf/b-iv mat 1294         updated 10/13/89            id   200032
 xe-136           mt=  102, 103, 104, 105, 107                        id   200033
 cesium-133    endf/b-iv mat 1141         updated 10/13/89            id   200060
 cs-134        mt=102                     updated 10/13/89            id   200034
 cs-135           mt=  102                                            id   200035
 cs-137        mt=102                     updated 10/13/89            id   200036
 ba-136        mt=102                     updated 10/13/89            id   200037
 la-139        mt=102                     updated 10/13/89            id   200038
 ce-144           mt=  102                                            id   200041
 pr-141        mt=102,103,104,105,106,107 updated 10/13/89            id   200039
 pr-143        mt=102                     updated 10/13/89            id   200040
 nd-143        mt=102                     updated 10/13/89            id   200042
 nd-145        mt=102                     updated 10/13/89            id   200043
 nd-147        mt=102                     updated 10/13/89            id   200046
 pm-147        mt=102                     updated 10/13/89            id   200044
 pm-148           mt=  102                                            id   200045
 sm-147        endf/b-v fission product   updated 10/13/89            id   200047
 sm-149        mt=102,103,107             updated 10/13/89            id   200048
 sm-150        mt=102                     updated 10/13/89            id   200049
 sm-151        mt=102,103,104,105,106,107 updated 10/13/89            id   200050
 sm-152        mt=102,103,104,105,106,107 updated 10/13/89            id   200051
 eu-153        mt=102,103,104,105,106,107 updated 10/13/89            id   200053
 eu-154        mt=102,103,104,105,106,107 updated 10/13/89            id   200054
 eu-155        mt=102,103,104,105,106,107 updated 10/13/89            id   200055
 gd-155        mt=102                     updated 10/13/89            id   200052
u-234 1043 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                   id   200007
 uranium-235   endf/b-iv mat 1261         updated 10/13/89            id   200006
u-236 1163 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                   id   200008
 uranium-238   endf/b-iv mat 1262         updated 10/13/89            id   200009
 neptunium-237 endf/b-iv mat 1263         updated 10/13/89            id   200061
pu-238 1050 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                  id   200062
 plutonium-239 endf/b-iv mat 1264         updated 10/13/89            id   200063
```

```
      plutonium-240  endf/b-iv mat 1265          updated 10/13/89              id   20064
      plutonium-241  endf/b-iv mat 1266          updated 10/13/89              id   20065
      plutonium-242  endf/b-iv mat 1161          updated 10/13/89              id   20066
      am-241 1056 sigp-6+4 nu-dacs 218rgp p-3 295k                             id   20067
      am-243 1057 218 gp wt f-1/e-m 090376 p3 295k                             id   20068
      curium-244     endf/b-iv mat 1162          updated 10/13/89              id   20069
0      tape copy used     0 i/o's, and took     .00 seconds
1
0
0
0
0
```

```
     11111111       0000000                      0000000     66666666666                11111111       0000000
1
0                                     sssssssssss   ccccccccccc    aaaaaaaaa    ll          eeeeeeeeeeeee
                                     sssssssssssss ccccccccccccc  aaaaaaaaaaa   ll          eeeeeeeeeeeee
                                     ss        ss  cc        cc  aa         aa  ll          ee
                                     ss            cc            aa         aa  ll          ee
                                     ss            cc            aa         aa  ll          ee
                                     sssssssssss   cc            aaaaaaaaaaaaa  ll          eeeeeeeee
                                      sssssssssss  cc            aaaaaaaaaaaaa  ll          eeeeeeeee
                                               ss  cc            aa         aa  ll          ee
                                               ss  cc            aa         aa  ll          ee
                                     ss        ss  cc        cc  aa         aa  ll          ee
                                     sssssssssssss ccccccccccccc aa         aa  lllllllllllll eeeeeeeeeeeee
                                      sssssssssss   ccccccccccc  aa         aa  lllllllllllll eeeeeeeeeeeee


                    ******************************************************************
                    ******************************************************************
                    ******************************************************************
                    *****                                                        *****
                    *****               program verification information         *****
                    *****                                                        *****
                    *****              code system:    scale  version:    4.2    *****
                    *****                                                        *****
                    ******************************************************************
                    ******************************************************************
                    *****                                                        *****
                    *****                                                        *****
                    *****                                                        *****
                    *****             program:  c0c002                           *****
                    *****                                                        *****
                    *****       creation date:  04/27/95                         *****
                    *****                                                        *****
                    *****             library:  /neutronics/scale/exe            *****
                    *****                                                        *****
                    *****                                                        *****
                    *****    this is not a   scale  configuration controlled code *****
                    *****                                                        *****
                    *****             jobname:  davis                            *****
                    *****                                                        *****
                    *****   date of execution:  02/16/96                         *****
                    *****                                                        *****
                    *****   time of execution:  10:06:10                         *****
                    *****                                                        *****
                    *****                                                        *****
                    ******************************************************************
                    ******************************************************************
                    ******************************************************************
1
0       -1q array has      1 entries.
0        0q array has      4 entries.
0        1q array has     12 entries.
0select  5 nuclides from the master  library on logical  1
        65 nuclides from the working library on logical  3
         0 nuclides from the working library on logical  0
           to create the new working library on logical  4

         1 resonance calculations have been requested
```

```
       0 output option for ampx formatted cross section data
0the storage allocated for this case is 200000 words
0        2q array has     70 entries.
0        3q array has     15 entries.
0        4q array has      5 entries.
0 general information concerning cross section library
   tape identification number              4349
   number of nuclides on tape                65
   number of neutron energy groups           27
   first thermal neutron energy group        15
   number of gamma energy groups              0
0  direct access unit number  9 requires  72 blocks of length  1484 words
- xsdrn tape   4321
                       scale 4.2 - 27 group neutron burnup library
                         based on endf-b version 4 data with endf-b version 5 fission products
                             compiled for nrc     1/27/89
                               last updated       9/16/93
                                 l.m.petrie  -   ornl
- work tape   4349

 xsdrn weighted tape--parent case entitled-- 1200 d, sas2h: babcock wilcox 15x15,
  3.00wt%, 20gwd/mtu burn high temp


0 nuclides from xsdrn tape
     1    hydrogen    endf/b-iv mat 1269/thrm1002    updated 10/13/89          202
     2   b-10 1273 218ngp 042375 p-3 293k                                      203
     3    boron-11    endf/b-iv mat 1160             updated 10/13/89          204
     4    oxygen-16   endf/b-iv mat 1276             updated 10/13/89          201
     5    zircalloy   endf/b-iv mat 1284             updated 10/13/89          205
0 nuclides from work tape
     6   1/v cross sections normalized to 1.0 at 0.0253 ev                     999
     7    hydrogen    endf/b-iv mat 1269/thrm1002    updated 10/13/89         1001
     8   b-10 1273 218ngp 042375 p-3 293k                                     5010
     9    boron-11    endf/b-iv mat 1160             updated 10/13/89         5011
    10    oxygen-16   endf/b-iv mat 1276             updated 10/13/89         8016
    11    oxygen-16   endf/b-iv mat 1276             updated 10/13/89            6
    12    kr-83       mt=102,103,103,105,106,107     updated 10/13/89        36083
    13    kr-85           mt=  102                                           36085
    14    sr-90       mt=102                         updated 10/13/89        38090
    15    y-89        mt=102                         updated 10/13/89        39089
    16    zr-93           mt=  102                                           40093
    17    zr-94       mt=102                         updated 10/13/89        40094
    18    zr-95       mt=102                         updated 10/13/89        40095
    19    zircalloy   endf/b-iv mat 1284             updated 10/13/89        40302
    20    nb-94       mt=102                         updated 10/13/89        41094
    21    mo-95       mt=102                         updated 10/13/89        42095
    22    tc-99       mt=102                         updated 10/13/89        43099
    23    ru-101      mt=102                         updated 10/13/89        44101
    24    ru-106      mt=102                         updated 10/13/89        44106
    25    rh-103      mt=102                         updated 10/13/89        45103
    26    rh-105          mt=  102                                           45105
    27    pd-105      mt=102                         updated 10/13/89        46105
    28    pd-108      mt=102                         updated 10/13/89        46108
    29    silver-109  endf/b-iv mat 1139             updated 10/13/89        47109
    30    sb-124      mt=102                         updated 10/13/89        51124
    31    xe-131      mt=102,103,104,105,106         updated 10/13/89        54131
    32    xe-132      mt=102,103,104,105,106         updated 10/13/89        54132
    33    xenon-135   endf/b-iv mat 1294             updated 10/13/89        54135
```

```
  34   xe-136        mt= 102, 103, 104, 105, 107                          54136
  35   cesium-133    endf/b-iv mat 1141              updated 10/13/89     55133
  36   cs-134        mt=102                          updated 10/13/89     55134
  37   cs-135          mt= 102                                            55135
  38   cs-137        mt=102                          updated 10/13/89     55137
  39   ba-136        mt=102                          updated 10/13/89     56136
  40   la-139        mt=102                          updated 10/13/89     57139
  41   ce-144          mt= 102                                            58144
  42   pr-141        mt=102,103,104,105,106,107      updated 10/13/89     59141
  43   pr-143        mt=102                          updated 10/13/89     59143
  44   nd-143        mt=102                          updated 10/13/89     60143
  45   nd-145        mt=102                          updated 10/13/89     60145
  46   nd-147        mt=102                          updated 10/13/89     60147
  47   pm-147        mt=102                          updated 10/13/89     61147
  48   pm-148          mt= 102                                            61148
  49   sm-147        endf/b-v fission product        updated 10/13/89     62147
  50   sm-149        mt=102,103,107                  updated 10/13/89     62149
  51   sm-150        mt=102                          updated 10/13/89     62150
  52   sm-151        mt=102,103,104,105,106,107      updated 10/13/89     62151
  53   sm-152        mt=102,103,104,105,106,107      updated 10/13/89     62152
  54   eu-153        mt=102,103,104,105,106,107      updated 10/13/89     63153
  55   eu-154        mt=102,103,104,105,106,107      updated 10/13/89     63154
  56   eu-155        mt=102,103,104,105,106,107      updated 10/13/89     63155
  57   gd-155        mt=102                          updated 10/13/89     64155
  58  u-234 1043 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                 92234
  59   uranium-235   endf/b-iv mat 1261              updated 10/13/89     92235
  60  u-236 1163 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                 92236
  61   uranium-238   endf/b-iv mat 1262              updated 10/13/89     92238
  62   neptunium-237 endf/b-iv mat 1263              updated 10/13/89     93237
  63  pu-238 1050 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                94238
  64   plutonium-239 endf/b-iv mat 1264              updated 10/13/89     94239
  65   plutonium-240 endf/b-iv mat 1265              updated 10/13/89     94240
  66   plutonium-241 endf/b-iv mat 1266              updated 10/13/89     94241
  67   plutonium-242 endf/b-iv mat 1161              updated 10/13/89     94242
  68  am-241 1056 sigo=5+4 newxlacs 218grp p-3 293k                       95241
  69  am-243 1057 218 gp wt f-1/e-m 090376 p3 293k                        95243
  70   curium-244    endf/b-iv mat 1162              updated 10/13/89     96244
0 hydrogen     endf/b-iv mat 1269/thrm1002   updated 10/13/89       202   temperature=  607.60
                        thermal scattering matrix number   2 at a temperature of   550.00 was selected.
0b-10 1273 218grp 042375 p-3 293k                                   203   temperature=  607.60
                        thermal scattering matrix number   2 at a temperature of   550.00 was selected.
0 boron-11     endf/b-iv mat 1160            updated 10/13/89       204   temperature=  607.60
                        thermal scattering matrix number   2 at a temperature of   550.00 was selected.
0 oxygen-16    endf/b-iv mat 1276            updated 10/13/89       201   temperature=  607.60
0 zircalloy    endf/b-iv mat 1284            updated 10/13/89       205   temperature=  650.00
0resonance data for this nuclide
0mass number (a)          =    90.436        temperature(kelvin)      =   650.000
0potential scatter sigma  =     6.385        lumped nuclear density   = 4.2515602E-02
0spin factor (g)          =     1.079        lump dimension (a-bar)   = 6.7309999E-01
0inner radius             = 6.3246000E-01    dancoff correction (c)   = 1.6805907E-01
0the absorber will be treated by the nordheim integral method.
0this resonance material will be treated as a 2-dimensional object.
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group      res abs         res fiss        res scat
   8    -1.156752E-03    .000000E+00   -7.806033E-01
   9    -4.625978E-02    .000000E+00   -2.075270E+00
  10    -5.962250E-02    .000000E+00   -1.351984E+00
  11    -1.761672E-01    .000000E+00   -7.350731E-01
0excess resonance integrals
0                resolved
```

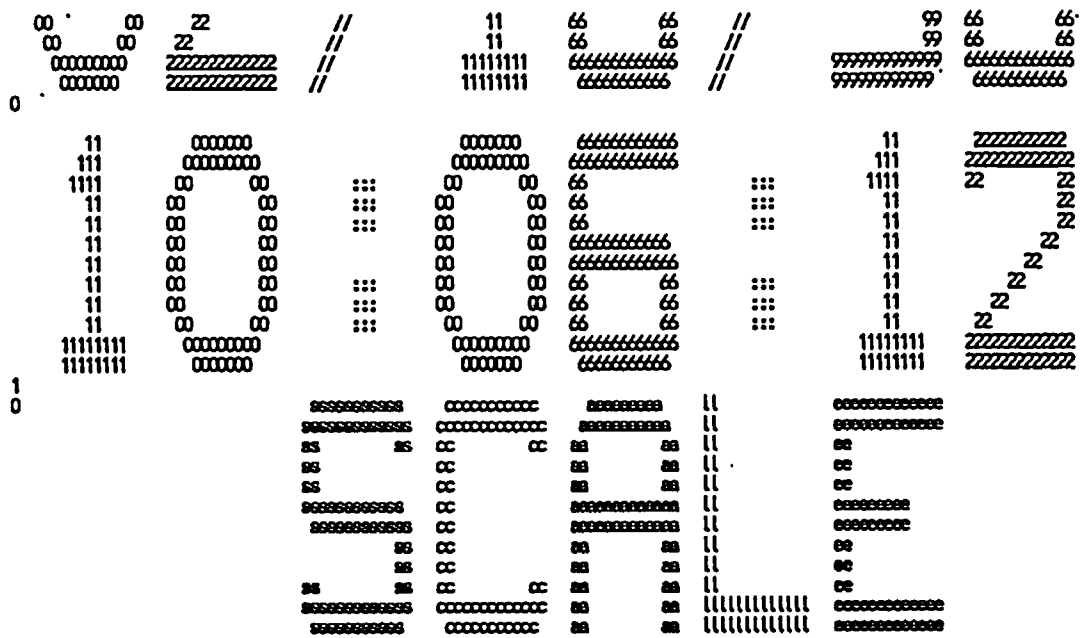
```
0absorption      2.98402E-01
 fission          .00000E+00
- elapsed time     .00 min.
- elapsed time     .02 min.
1     this xsdrn working tape was created 02/16/96 at 10:06:11
      the title of the parent case is as follows
      xsdrn weighted tape--parent case entitled-- 1200 d, sea2h: babcock wilcox 15x15,
       3.00wt%, 20gwd/mtu burn high temp

        tape id                          8670        number of nuclides              70
        number of neutron groups           27        number of gamma groups           0
        first thermal group                15        logical unit                     4
                                table of contents
       hydrogen       endf/b-iv mat 1269/thrml002   updated 10/13/89          id    202
      b-10 1273 218grp 04295 p-3 293k                                         id    203
       boron-11       endf/b-iv mat 1160            updated 10/13/89          id    204
       oxygen-16      endf/b-iv mat 1276            updated 10/13/89          id    201
       zircalloy      endf/b-iv mat 1284            updated 10/13/89          id    205
      1/v cross sections normalized to 1.0 at 0.0253 ev                       id    999
       hydrogen       endf/b-iv mat 1269/thrml002   updated 10/13/89          id   1001
      b-10 1273 218grp 04295 p-3 293k                                         id   5010
       boron-11       endf/b-iv mat 1160            updated 10/13/89          id   5011
       oxygen-16      endf/b-iv mat 1276            updated 10/13/89          id   8016
       oxygen-16      endf/b-iv mat 1276            updated 10/13/89          id      6
       kr-83          mt=102,103,103,105,106,107    updated 10/13/89          id  36083
       kr-85            mt=  102                                              id  36085
       sr-90          mt=102                        updated 10/13/89          id  38090
        y-89          mt=102                        updated 10/13/89          id  39089
       zr-93            mt=  102                                              id  40093
       zr-94          mt=102                        updated 10/13/89          id  40094
       zr-95          mt=102                        updated 10/13/89          id  40095
       zircalloy      endf/b-iv mat 1284            updated 10/13/89          id  40302
       rb-94          mt=102                        updated 10/13/89          id  41094
       mo-95          mt=102                        updated 10/13/89          id  42095
       tc-99          mt=102                        updated 10/13/89          id  43099
       ru-101         mt=102                        updated 10/13/89          id  44101
       ru-106         mt=102                        updated 10/13/89          id  44106
       rh-103         mt=102                        updated 10/13/89          id  45103
       rh-105           mt=  102                                              id  45105
       pd-105         mt=102                        updated 10/13/89          id  46105
       pd-108         mt=102                        updated 10/13/89          id  46108
       silver-109     endf/b-iv mat 1139            updated 10/13/89          id  47109
       sb-124         mt=102                        updated 10/13/89          id  51124
       xe-131         mt=102,103,104,105,106        updated 10/13/89          id  54131
       xe-132         mt=102,103,104,105,106        updated 10/13/89          id  54132
       xenon-135      endf/b-iv mat 1294            updated 10/13/89          id  54135
       xe-136           mt=  102,  103,  104,  105,  107                       id  54136
       cesium-133     endf/b-iv mat 1141            updated 10/13/89          id  55133
       cs-134         mt=102                        updated 10/13/89          id  55134
       cs-135           mt=  102                                              id  55135
       cs-137         mt=102                        updated 10/13/89          id  55137
       ba-136         mt=102                        updated 10/13/89          id  56136
       la-139         mt=102                        updated 10/13/89          id  57139
       ce-144           mt=  102                                              id  58144
       pr-141         mt=102,103,104,105,106,107    updated 10/13/89          id  59141
       pr-143         mt=102                        updated 10/13/89          id  59143
       nd-143         mt=102                        updated 10/13/89          id  60143
       nd-145         mt=102                        updated 10/13/89          id  60145
       nd-147         mt=102                        updated 10/13/89          id  60147
       pm-147         mt=102                        updated 10/13/89          id  61147
```

INFORMATION ONLY

```
      pm-148          mt=  102                                                  id     61148
      sm-147          endf/b-v fission product        updated 10/13/89          id     62147
      sm-149          mt=102,103,107                  updated 10/13/89          id     62149
      sm-150          mt=102                          updated 10/13/89          id     62150
      sm-151          mt=102,103,104,105,106,107      updated 10/13/89          id     62151
      sm-152          mt=102,103,104,105,106,107      updated 10/13/89          id     62152
      eu-153          mt=102,103,104,105,106,107      updated 10/13/89          id     63153
      eu-154          mt=102,103,104,105,106,107      updated 10/13/89          id     63154
      eu-155          mt=102,103,104,105,106,107      updated 10/13/89          id     63155
      gd-155          mt=102                          updated 10/13/89          id     64155
     u-234 1043 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                        id     92234
      uranium-235     endf/b-iv mat 1261              updated 10/13/89          id     92235
     u-236 1163 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                        id     92236
      uranium-238     endf/b-iv mat 1262              updated 10/13/89          id     92238
      neptunium-237   endf/b-iv mat 1263              updated 10/13/89          id     93237
     pu-238 1050 sigo=5+4 newxlacs p-3 293k f-1/e-m(1.+5)                       id     94238
      plutonium-239   endf/b-iv mat 1264              updated 10/13/89          id     94239
      plutonium-240   endf/b-iv mat 1265              updated 10/13/89          id     94240
      plutonium-241   endf/b-iv mat 1266              updated 10/13/89          id     94241
      plutonium-242   endf/b-iv mat 1161              updated 10/13/89          id     94242
     am-241 1056 sigo=5+4 newxlacs 218grp p-3 293k                              id     95241
     am-243 1057 218 gp wt f-1/e-m 090376 p3 293k                               id     95243
      curium-244      endf/b-iv mat 1162              updated 10/13/89          id     96244
0        tape copy used      0 i/o's, and took     .00 seconds
1  XSDRNPM
0
   DAVIS
0
   02/16/96
```

INFORMATION ONLY



program verification information

code system: scale version: 4.2

program: c0c001

creation date: 04/27/95

library: /neutronics/scale/exe

this is not a scale configuration controlled code

jdrnme: davis

date of execution: 02/16/96

```
                    *****                                                  *****
                    *****   time of execution:  10:06:12                   *****
                    *****                                                  *****
                    *****                                                  *****
                    ************************************************************
                    ************************************************************
                    ************************************************************
1
                    1200 d, second part of ses2h pass to make library
0       -1q array has      1 entries.
0        0q array has     11 entries.
0        1q array has     15 entries.
0        2q array has     10 entries.
0        3q array has     12 entries.
0        4q array has      9 entries.
0        5q array has     12 entries.
0direct access unit  9 requires    12 blocks of length  704 for cross section mixing.
1                    1200 d, second part of ses2h pass to make library
0general problem description data block
0                              general problem data

 igs  1/2/3 = plane/cylinder/sphere      2      isn  quadrature order                  8
 im   number of zones                    4      isct order of scattering               3
 is   number of special intervals       28      ievt 0/1/2/3/4/5/6=q/k/alpha/c/z/r/h   1
 ibl  0/1/2/3 = vacuum/refl/per/white    1      iim  inner iteration maximum         20
 ibr  right boundary condition           3      iom  outer iteration maximum         25
 mx   number of mixtures                 3      iclc -1/0/n--flat res/sn/qd            0
 ms   mixing table length               70      ith  0/1 = forward/adjoint            0
 ige  number of energy groups           27      iflu not used(always ngtd)             0
 nrg  number of neutron groups          27      iprt -2/-1/0/n=mixture xsec print     -2
 ngg  number of gamma groups             0      idl  0/1/2/3=no/prt rd/pch r/both    14
 ifg  number of first thermal group     15      ipbt -1/0/1=none/fine/all bal. prt     0
0                              special options

 ifg  0/1 = none/weighting calculation   1      ipn  0/1/2 diff. coef. perm        0
 iqm  volumetric sources (0/n=no/yes)    0      idfm 0/1 = none/density factors 39* 0
 ipm  boundary sources (0/n=no/yes)      0      iaz  0/n = none/n activities by zone 0
 ifn  0/1/2 = input 33*/34*/use last    14      iai  0/1=none/activities by interval 0
 itmx maximum time (minutes)            10      ifct 0/1=no/yes upscatter scaling    0
 idt1 0/1/2/3=no/xsect/srce/flux--out    0      ipvt 0/1/2=no/k/alpha parametric srch 0
 isx  broad group fluxes                 0      isen outer iteration acceleration    0
 ibln activity data unit                 0      nbnd band rebalm parameter           0
 jbkl 0/1/2 buckling geometry            0
0                            weighting data (ifg=1)

 iom -1/0/1=cell/zone/region weight     -1      ihtf total xsect pwn in brd gp tables  3
 igmf number of broad groups             3      ndsf pwn g-g or file number            4
 itp  0/10/20/30/40 0/c/e/ac/a           0      nusf table length or max order         6
 ipp  -2/-1/0/n=gtad xsect print        -2      mxm extra 1-d x-sect positions         0
 iap  -1/n anisn xsect print            -1
0                            floating point parameters

 eps  overall convergence      1.00000E-04      dy   cyl/pla ht for buckling    .00000E+00
 ptc  point convergence        1.00000E-04      dz   plane depth for buckling  2.00000E+02
 xnf  normalization factor     1.00000E+00      vac  void streaming correction  .00000E+00
 ev   eigenvalue guess          .00000E+00      pv   ipvt=1/2--k/alpha         1.00000E+00
 evm  eigenvalue modifier       .00000E+00      eql  ev change eps for search  1.00000E-03
 bf   buckling factor=1.420892 1.42089E+00      xnpa new panm mod for search  7.50000E-01
      this case will require       2611 locations for mixing
      this case has been allocated 200000 locations
```

1 1200 d, second part of sas2h pass to make library
0 13q array has 70 entries.
0 14q array has 70 entries.
0 15q array has 70 entries.
0 data block 2 (mixing table, etc.)

0	nuclides on tape	cccc identification	mixing table mixture	mixing table component	atom density	extra xsect id's
1	202		3	201	2.09710E-02	
2	203		3	202	4.19420E-02	
3	204		3	203	3.81515E-06	
4	201		3	204	1.54884E-05	
5	205		2	205	4.25156E-02	
6	999		1	92235	1.08967E-04	
7	1001		1	92234	1.35825E-06	
8	5010		1	92236	2.22566E-05	
9	5011		1	92238	7.18806E-03	
10	8016		1	8016	1.50611E-02	
11	6		1	6	1.15315E-02	
12	36083		1	36083	5.99894E-07	
13	36085		1	36085	2.88343E-07	
14	38090		1	38090	6.63490E-06	
15	39089		1	39089	5.44444E-06	
16	40093		1	40093	7.62439E-06	
17	40094		1	40094	5.44388E-06	
18	40095		1	40094	8.64059E-06	
19	40802		1	40095	6.37208E-07	
20	41094		1	41094	4.73664E-12	
21	42095		1	43099	8.45056E-06	
22	43099		1	45103	4.73364E-06	
23	44101		1	45105	8.33256E-09	
24	44106		1	44101	7.85094E-06	
25	45103		1	44106	1.16052E-05	
26	45105		1	46105	3.41731E-06	
27	46105		1	46108	1.04851E-05	
28	46108		1	47109	7.05166E-07	
29	47109		1	51124	1.55246E-10	
30	51124		1	54131	3.79879E-06	
31	54131		1	54132	7.71300E-06	
32	54132		1	54135	2.19622E-09	
33	54135		1	54136	1.44860E-05	
34	54136		1	55134	5.32516E-07	
35	55133		1	55135	4.74731E-06	
36	55134		1	55137	9.16328E-06	
37	55135		1	56136	1.16385E-07	
38	55137		1	57139	9.05884E-06	
39	56136		1	59141	7.95659E-06	
40	57139		1	59143	1.19082E-07	
41	58144		1	58144	2.25564E-06	
42	59141		1	60143	6.78043E-06	
43	59143		1	60145	5.11699E-06	
44	60143		1	61147	1.49234E-06	
45	60145		1	61148	4.52757E-09	
46	60147		1	60147	4.25603E-08	
47	61147		1	62147	7.28768E-07	
48	61148		1	62149	2.99879E-08	
49	62147		1	62150	1.98229E-06	
50	62149		1	62151	1.52690E-07	
51	62150		1	62152	8.95258E-07	
52	62151		1	64155	1.19080E-09	
53	62152		1	63153	6.19432E-07	

54	63153	1	63154	1.60229E-07
55	63154	1	63155	6.98613E-08
56	63155	1	40302	4.42681E-08
57	64155	1	1001	2.30630E-02
58	92234	1	5010	2.09787E-06
59	92235	1	5011	8.51673E-06
60	92236	1	55133	9.26929E-06
61	92238	1	93237	1.88903E-06
62	93237	1	94238	3.82340E-07
63	94238	1	94239	4.11046E-06
64	94239	1	94240	1.00195E-06
65	94240	1	94241	5.99267E-06
66	94241	1	94242	9.62606E-07
67	94242	1	95241	2.37599E-07
68	95241	1	95243	1.26849E-07
69	95243	1	96244	1.75358E-08
70	96244	1	999	3.30753E-21

- elapsed time .00 min.
0 24259 locations will be used
0 35q array has 29 entries.
0 36q array has 28 entries.
0 39q array has 4 entries.
0 40q array has 4 entries.
0 47q array has 27 entries.
0 51q array has 27 entries.
1 1200 d, second part of ses2h pass to make library

neutron group parameters

0 gp	energy boundaries	lethargy boundaries	weighted velocities	broad gp numbers	calc type	group band	right albedo	left albedo
1	2.00000E+07	-6.93147E-01	4.60681E+09	1	0	1	1.00000E+00	
2	6.43400E+06	4.40689E-01	2.88737E+09	1	0	2	1.00000E+00	
3	3.00000E+06	1.20397E+00	2.12201E+09	1	0	3	1.00000E+00	
4	1.85000E+06	1.68740E+00	1.75673E+09	1	0	4	1.00000E+00	
5	1.40000E+06	1.96611E+00	1.46535E+09	1	0	5	1.00000E+00	
6	9.00000E+05	2.40795E+00	1.06620E+09	2	0	6	1.00000E+00	
7	4.00000E+05	3.21888E+00	6.07557E+08	2	0	7	1.00000E+00	
8	1.00000E+05	4.60517E+00	2.72415E+08	2	0	8	1.00000E+00	
9	1.70000E+04	6.37713E+00	1.13529E+08	2	0	9	1.00000E+00	
10	3.00000E+03	8.11173E+00	4.82126E+07	2	0	10	1.00000E+00	
11	5.50000E+02	9.80818E+00	2.05946E+07	2	0	11	1.00000E+00	
12	1.00000E+02	1.15129E+01	1.01086E+07	2	0	12	1.00000E+00	
13	3.00000E+01	1.27169E+01	5.69595E+06	2	0	13	1.00000E+00	
14	1.00000E+01	1.38155E+01	3.20957E+06	2	0	14	1.00000E+00	
15	3.04999E+00	1.50030E+01	2.10601E+06	2	0	15	1.00000E+00	
16	1.77000E+00	1.55471E+01	1.70522E+06	2	0	16	1.00000E+00	
17	1.29999E+00	1.58557E+01	1.52545E+06	2	0	17	1.00000E+00	
18	1.12999E+00	1.59959E+01	1.42867E+06	2	0	18	1.00000E+00	
19	1.00000E+00	1.61181E+01	1.31003E+06	2	0	19	1.00000E+00	
20	8.00000E-01	1.63412E+01	9.05898E+05	2	0	20	1.00000E+00	
21	4.00000E-01	1.70844E+01	8.17997E+05	3	0	21	1.00000E+00	
22	3.25000E-01	1.72420E+01	6.90070E+05	3	0	22	1.00000E+00	
23	2.25000E-01	1.76098E+01	4.86253E+05	3	0	23	1.00000E+00	
24	9.99999E-02	1.84207E+01	3.57766E+05	3	0	24	1.00000E+00	
25	5.00000E-02	1.91138E+01	2.71895E+05	3	0	25	1.00000E+00	
26	3.00000E-02	1.96347E+01	1.87283E+05	3	0	26	1.00000E+00	
27	1.00000E-02	2.07233E+01	8.88201E+04	3	0	27	1.00000E+00	
28	1.00000E-05	2.76310E+01						

1 1200 d, second part of ses2h pass to make library

0	mixture by zone	order p(l) by zone	activity table matl no.	reaction	quadrature constants weights	directions	refl direc	wt x cos

1	3	3	0	-2.79004E-01	3	0
2	2	3	5.06143E-02	-1.97289E-01	3	-9.98548E-03
3	3	3	5.06143E-02	1.97289E-01	2	9.98548E-03
4	1	3	0	-6.04419E-01	8	0
5			5.55953E-02	-5.58410E-01	8	-3.10450E-02
6			5.55953E-02	-2.31301E-01	7	-1.28592E-02
7			5.55953E-02	2.31301E-01	6	1.28592E-02
8			5.55953E-02	5.58410E-01	5	3.10450E-02
9			0	-8.50774E-01	16	0
10			5.22844E-02	-8.21784E-01	15	-4.29668E-02
11			5.22844E-02	-6.01588E-01	14	-3.14537E-02
12			5.22844E-02	-2.20196E-01	13	-1.15128E-02
13			5.22844E-02	2.20196E-01	12	1.15128E-02
14			5.22844E-02	6.01588E-01	11	3.14537E-02
15			5.22844E-02	8.21784E-01	10	4.29668E-02
16			0	-9.83032E-01	24	0
17			4.53355E-02	-9.64143E-01	24	-4.37099E-02
18			4.53355E-02	-8.17361E-01	23	-3.70655E-02
19			4.53355E-02	-5.46143E-01	22	-2.47597E-02
20			4.53355E-02	-1.91780E-01	21	-8.69444E-03
21			4.53355E-02	1.91780E-01	20	8.69444E-03
22			4.53355E-02	5.46143E-01	19	2.47597E-02
23			4.53355E-02	8.17361E-01	18	3.70655E-02
24			4.53355E-02	9.64143E-01	17	4.37099E-02

Coonstants for p(3) scattering

Oargl	set 1	set 2	set 3	set 4	set 5
1	-2.79004E-01	8.83235E-01	6.74143E-02	-6.16919E-01	-1.71701E-02
2	-1.97289E-01	8.83235E-01	.00000E+00	-4.36228E-01	1.21411E-02
3	1.97289E-01	8.83235E-01	.00000E+00	4.36228E-01	-1.21411E-02
4	-6.04419E-01	4.52016E-01	3.16379E-01	-8.04435E-01	-1.74564E-01
5	-5.58410E-01	4.52016E-01	2.25714E-01	-7.43201E-01	-6.68028E-02
6	-2.31301E-01	4.52016E-01	-2.25713E-01	-3.07844E-01	1.61278E-01
7	2.31301E-01	4.52016E-01	-2.25713E-01	3.07844E-01	-1.61278E-01
8	5.58410E-01	4.52016E-01	2.25713E-01	7.43201E-01	6.68028E-02
9	-8.50774E-01	-8.57235E-02	6.26843E-01	-1.98356E-01	-4.86839E-01
10	-8.21784E-01	-8.57235E-02	5.42862E-01	-1.91694E-01	-3.44245E-01
11	-6.01588E-01	-8.57235E-02	.00000E+00	-1.40330E-01	3.44244E-01
12	-2.20196E-01	-8.57235E-02	-5.42862E-01	-5.13643E-02	3.44245E-01
13	2.20196E-01	-8.57235E-02	-5.42862E-01	5.13643E-02	-3.44245E-01
14	6.01588E-01	-8.57235E-02	.00000E+00	1.40330E-01	-3.44245E-01
15	8.21784E-01	-8.57235E-02	5.42862E-01	1.91694E-01	3.44245E-01
16	-9.83032E-01	-4.46528E-01	8.36885E-01	5.00708E-01	-7.51005E-01
17	-9.64143E-01	-4.46528E-01	7.73181E-01	4.91089E-01	-6.24438E-01
18	-8.17361E-01	-4.46528E-01	3.20262E-01	4.16320E-01	1.46514E-01
19	-5.46143E-01	-4.46528E-01	-3.20262E-01	2.78176E-01	7.36575E-01
20	-1.91780E-01	-4.46528E-01	-7.73181E-01	9.76824E-02	4.17236E-01
21	1.91780E-01	-4.46528E-01	-7.73181E-01	-9.76824E-02	-4.17236E-01
22	5.46143E-01	-4.46528E-01	-3.20262E-01	-2.78176E-01	-7.36575E-01
23	8.17361E-01	-4.46528E-01	3.20262E-01	-4.16320E-01	-1.46514E-01
24	9.64143E-01	-4.46528E-01	7.73181E-01	-4.91089E-01	6.24438E-01

1 intr	radii	mid pts	zone no.	areas	volumes	dens fact	radius mod	spec(int)
1	0	1.97644E-02	1	0	4.90881E-03		0	
2	3.95287E-02	5.92931E-02	1	2.48566E-01	1.47264E-02		0	
3	7.90575E-02	1.18686E-01	1	4.96733E-01	5.89057E-02		0	
4	1.58115E-01	1.97644E-01	1	9.93466E-01	9.81762E-02		0	
5	2.37172E-01	2.76601E-01	1	1.49020E+00	1.37447E-01			
6	3.16230E-01	3.55759E-01	1	1.98698E+00	1.76717E-01			
7	3.95288E-01	4.34816E-01	1	2.48366E+00	2.15988E-01			
8	4.74345E-01	5.13874E-01	1	2.98040E+00	2.55258E-01			
9	5.53403E-01	5.73167E-01	1	3.47713E+00	1.42356E-01			

10	5.92981E-01	6.12696E-01	1	3.72550E+00	1.52173E-01
11	6.32460E-01	6.42620E-01	2	3.97386E+00	8.20460E-02
12	6.52780E-01	6.62940E-01	2	4.10154E+00	8.46405E-02
13	6.73100E-01	6.96583E-01	3	4.22921E+00	2.05562E-01
14	7.20067E-01	7.43550E-01	3	4.52431E+00	2.19422E-01
15	7.67033E-01	7.90517E-01	3	4.81941E+00	2.33282E-01
16	8.14000E-01	8.62795E-01	4	5.11451E+00	5.29051E-01
17	9.11591E-01	9.60386E-01	4	5.72769E+00	5.88891E-01
18	1.00918E+00	1.10577E+00	4	6.34088E+00	1.35731E+00
19	1.20436E+00	1.30195E+00	4	7.56724E+00	1.59667E+00
20	1.39955E+00	1.49714E+00	4	8.79360E+00	1.83603E+00
21	1.59473E+00	1.69232E+00	4	1.00200E+01	2.07540E+00
22	1.78991E+00	1.88750E+00	4	1.12463E+01	2.31478E+00
23	1.98509E+00	2.08268E+00	4	1.24727E+01	2.55412E+00
24	2.18027E+00	2.27786E+00	4	1.36991E+01	2.79349E+00
25	2.37545E+00	2.47305E+00	4	1.49254E+01	3.03285E+00
26	2.57064E+00	2.66823E+00	4	1.61518E+01	3.27221E+00
27	2.76582E+00	2.81461E+00	4	1.73781E+01	1.72587E+00
28	2.86341E+00	2.91220E+00	4	1.79913E+01	1.78571E+00
29	2.96100E+00			1.86045E+01	

- elapsed time .00 min.

outer iter	inner iters	1 - balance	eigenvalue	1 - source ratio	1 - scatter ratio	1 - upscat ratio	search parameter	time (min)
1	125	8.00477E-06	1.00276E+00	-3.08103E-03	1.00000E+00	-8.34411E-04	.00000E+00	.0000
2	178	-1.07835E-05	1.00317E+00	-4.80255E-05	-2.79825E-04	-2.92346E-04	.00000E+00	.0000
3	219	6.02662E-06	1.00306E+00	-2.19952E-05	-1.05387E-04	-7.97182E-05	.00000E+00	.0000

grp to grp	inner iters	mfd int.	max. flux difference	msf int.	max. scale factor	coarse mesh
1	1	17	8.28958E-07	28	1.00000E+00	1
2	1	17	9.66108E-07	28	1.00000E+00	1
3	1	17	8.26446E-07	28	1.00000E+00	1
4	1	17	7.39968E-07	28	1.00000E+00	1
5	1	17	4.78285E-07	28	1.00000E+00	1
6	1	28	1.74231E-07	28	1.00000E+00	1
7	1	24	4.55098E-06	28	9.99996E-01	2
8	1	28	4.53025E-07	28	1.00000E+00	2
9	1	27	1.50841E-05	28	1.00001E+00	3
10	1	26	4.82666E-06	28	9.99996E-01	3
11	1	26	6.85737E-06	28	9.99998E-01	3
12	1	25	4.01992E-06	28	9.99997E-01	3
13	1	26	5.41574E-06	28	1.00000E+00	3
14	1	28	2.00883E-06	28	9.99998E-01	3
15	1	2	7.35044E-05	28	9.99918E-01	2
16	1	2	8.80606E-05	28	9.99928E-01	2
17	2	26	6.60470E-05	28	1.00007E+00	3
18	2	28	3.57804E-05	28	1.00001E+00	3
19	2	25	3.91572E-05	28	1.00004E+00	3
20	1	2	7.77912E-05	28	9.99861E-01	3
21	2	28	3.98852E-05	28	1.00001E+00	3
22	1	1	8.78960E-05	28	9.99788E-01	3
23	1	1	2.32208E-05	14	9.99990E-01	4
24	1	28	3.36975E-05	28	1.00008E+00	4
25	1	23	2.30661E-05	28	1.00004E+00	5
26	1	28	2.92714E-05	28	1.00001E+00	6
27	1	28	2.22264E-05	28	1.00001E+00	8
4	250	-2.66281E-06	1.00318E+00	-7.01149E-06	-2.88134E-05	-1.87275E-05	.00000E+00	.0167

final monitor
lambda 1.00318E+00 production/absorption 1.01629E+00 angular flux on 16

- elapsed time .02 min.

1 1200 d, second part of search pass to make library

0 int.	zone number	radius	int. midpoint	area	volume	prod density
1	1	.00000E+00	1.97644E-02	.00000E+00	4.90881E-03	.00000E+00
2	1	3.95287E-02	5.92581E-02	2.48366E-01	1.47264E-02	.00000E+00
3	1	7.90575E-02	1.18586E-01	4.96733E-01	5.89057E-02	.00000E+00
4	1	1.58115E-01	1.97644E-01	9.93466E-01	9.81762E-02	.00000E+00
5	1	2.37172E-01	2.76701E-01	1.49020E+00	1.37447E-01	.00000E+00
6	1	3.16230E-01	3.55759E-01	1.98693E+00	1.76717E-01	.00000E+00
7	1	3.95288E-01	4.34816E-01	2.48366E+00	2.15988E-01	.00000E+00
8	1	4.74345E-01	5.13874E-01	2.98040E+00	2.55258E-01	.00000E+00
9	1	5.53408E-01	5.73167E-01	3.47713E+00	1.42356E-01	.00000E+00
10	1	5.92931E-01	6.12698E-01	3.72550E+00	1.52173E-01	.00000E+00
11	2	6.32460E-01	6.42620E-01	3.97386E+00	8.20460E-02	.00000E+00
12	2	6.52780E-01	6.62940E-01	4.10154E+00	8.46405E-02	.00000E+00
13	3	6.73100E-01	6.96883E-01	4.22921E+00	2.05562E-01	.00000E+00
14	3	7.20067E-01	7.43650E-01	4.52431E+00	2.19422E-01	.00000E+00
15	3	7.67033E-01	7.90517E-01	4.81941E+00	2.33282E-01	.00000E+00
16	4	8.14000E-01	8.62795E-01	5.11451E+00	5.29051E-01	2.29652E-02
17	4	9.11591E-01	9.60388E-01	5.72765E+00	5.88897E-01	2.49412E-02
18	4	1.00918E+00	1.10577E+00	6.34088E+00	1.35731E+00	5.62798E-02
19	4	1.20436E+00	1.30195E+00	7.56724E+00	1.59657E+00	6.48191E-02
20	4	1.39955E+00	1.49714E+00	8.79360E+00	1.83603E+00	7.34425E-02
21	4	1.59473E+00	1.69232E+00	1.00200E+01	2.07540E+00	8.21141E-02
22	4	1.78991E+00	1.88750E+00	1.12463E+01	2.31478E+00	9.08579E-02
23	4	1.98509E+00	2.08268E+00	1.24727E+01	2.55412E+00	9.96221E-02
24	4	2.18027E+00	2.27786E+00	1.36991E+01	2.79342E+00	1.08481E-01
25	4	2.37545E+00	2.47305E+00	1.49254E+01	3.03265E+00	1.17432E-01
26	4	2.57064E+00	2.66823E+00	1.61518E+01	3.27221E+00	1.26507E-01
27	4	2.76582E+00	2.81461E+00	1.73781E+01	1.72587E+00	6.67052E-02
28	4	2.86341E+00	2.91220E+00	1.79913E+01	1.78571E+00	6.90526E-02
29		2.96100E+00		1.86045E+01		

1 1200 d, second part of sas2h pass to make library

0 total flux

0 int.	grp. 1	grp. 2	grp. 3	grp. 4	grp. 5	grp. 6	grp. 7	grp. 8
1	1.31613E-02	9.13913E-02	1.12872E-01	6.91366E-02	1.02836E-01	1.92842E-01	1.95131E-01	1.47062E-01
2	1.31560E-02	9.13397E-02	1.12808E-01	6.90984E-02	1.02784E-01	1.92755E-01	1.95092E-01	1.47057E-01
3	1.31567E-02	9.13529E-02	1.12829E-01	6.91164E-02	1.02818E-01	1.92825E-01	1.95145E-01	1.47068E-01
4	1.31636E-02	9.14341E-02	1.12942E-01	6.91948E-02	1.02948E-01	1.93057E-01	1.95301E-01	1.47097E-01
5	1.31761E-02	9.15770E-02	1.13138E-01	6.93279E-02	1.03163E-01	1.93466E-01	1.95548E-01	1.47140E-01
6	1.31951E-02	9.17735E-02	1.13408E-01	6.95112E-02	1.03461E-01	1.94014E-01	1.95887E-01	1.47197E-01
7	1.32144E-02	9.20250E-02	1.13755E-01	6.97428E-02	1.03884E-01	1.94729E-01	1.96327E-01	1.47267E-01
8	1.32406E-02	9.23391E-02	1.14195E-01	7.00568E-02	1.04354E-01	1.95664E-01	1.96903E-01	1.47350E-01
9	1.32624E-02	9.26154E-02	1.14590E-01	7.03388E-02	1.04821E-01	1.96531E-01	1.97438E-01	1.47420E-01
10	1.32774E-02	9.28320E-02	1.14919E-01	7.05872E-02	1.05242E-01	1.97316E-01	1.97930E-01	1.47469E-01
11	1.32899E-02	9.30115E-02	1.15195E-01	7.07957E-02	1.05598E-01	1.97991E-01	1.98341E-01	1.47513E-01
12	1.33034E-02	9.31451E-02	1.15369E-01	7.09042E-02	1.05788E-01	1.98328E-01	1.98543E-01	1.47557E-01
13	1.33319E-02	9.33886E-02	1.15640E-01	7.10417E-02	1.05954E-01	1.98666E-01	1.98734E-01	1.47626E-01
14	1.33738E-02	9.37665E-02	1.16095E-01	7.12970E-02	1.06328E-01	1.99323E-01	1.99112E-01	1.47718E-01
15	1.34231E-02	9.42757E-02	1.16721E-01	7.16857E-02	1.06904E-01	2.00394E-01	1.99739E-01	1.47819E-01
16	1.34997E-02	9.50750E-02	1.17741E-01	7.23290E-02	1.07988E-01	2.02231E-01	1.98629E-01	1.47990E-01
17	1.35752E-02	9.58701E-02	1.18758E-01	7.29772E-02	1.08967E-01	2.04121E-01	1.99368E-01	1.48158E-01
18	1.36351E-02	9.65135E-02	1.19592E-01	7.35125E-02	1.09830E-01	2.05753E-01	2.00382E-01	1.48391E-01
19	1.36872E-02	9.70841E-02	1.20340E-01	7.39959E-02	1.10619E-01	2.07276E-01	2.01946E-01	1.48608E-01
20	1.37177E-02	9.74264E-02	1.20797E-01	7.42859E-02	1.11112E-01	2.08256E-01	2.02582E-01	1.48758E-01
21	1.37368E-02	9.76460E-02	1.21095E-01	7.44897E-02	1.11439E-01	2.08925E-01	2.03025E-01	1.48874E-01
22	1.37489E-02	9.77890E-02	1.21293E-01	7.46205E-02	1.11660E-01	2.09387E-01	2.03338E-01	1.48961E-01
23	1.37568E-02	9.78808E-02	1.21422E-01	7.47060E-02	1.11806E-01	2.09700E-01	2.03555E-01	1.49025E-01
24	1.37609E-02	9.79354E-02	1.21500E-01	7.47589E-02	1.11897E-01	2.09908E-01	2.03699E-01	1.49069E-01
25	1.37628E-02	9.79608E-02	1.21537E-01	7.47852E-02	1.11941E-01	2.10006E-01	2.03768E-01	1.49088E-01
26	1.37624E-02	9.79570E-02	1.21539E-01	7.47819E-02	1.11940E-01	2.10014E-01	2.03774E-01	1.49086E-01
27	1.37606E-02	9.79367E-02	1.21508E-01	7.47644E-02	1.11912E-01	2.09959E-01	2.03737E-01	1.49073E-01

28	1.37380E-02	9.79085E-02	1.21466E-01	7.47380E-02	1.11868E-01	2.09869E-01	2.03674E-01	1.49053E-01
0 int.	grp. 9	grp. 10	grp. 11	grp. 12	grp. 13	grp. 14	grp. 15	grp. 16
1	1.16023E-01	1.07284E-01	1.01090E-01	6.55511E-02	5.59258E-02	5.30837E-02	2.88673E-02	1.59289E-02
2	1.16023E-01	1.07286E-01	1.01101E-01	6.55560E-02	5.59287E-02	5.30909E-02	2.88697E-02	1.59300E-02
3	1.16022E-01	1.07277E-01	1.01080E-01	6.55321E-02	5.59059E-02	5.30569E-02	2.88628E-02	1.59260E-02
4	1.16018E-01	1.07256E-01	1.01031E-01	6.54745E-02	5.58511E-02	5.29750E-02	2.88458E-02	1.59162E-02
5	1.16011E-01	1.07224E-01	1.00956E-01	6.53867E-02	5.57678E-02	5.28503E-02	2.88204E-02	1.59014E-02
6	1.16002E-01	1.07180E-01	1.00855E-01	6.52673E-02	5.56551E-02	5.26812E-02	2.87870E-02	1.58818E-02
7	1.15991E-01	1.07122E-01	1.00721E-01	6.51109E-02	5.55081E-02	5.24599E-02	2.87447E-02	1.58564E-02
8	1.15978E-01	1.07044E-01	1.00543E-01	6.49046E-02	5.53155E-02	5.21690E-02	2.86913E-02	1.58242E-02
9	1.15969E-01	1.06971E-01	1.00376E-01	6.47121E-02	5.51366E-02	5.18980E-02	2.86432E-02	1.57946E-02
10	1.15970E-01	1.06902E-01	1.00221E-01	6.45370E-02	5.49747E-02	5.16517E-02	2.86012E-02	1.57680E-02
11	1.15978E-01	1.06848E-01	1.00097E-01	6.43995E-02	5.48463E-02	5.14575E-02	2.85664E-02	1.57459E-02
12	1.15977E-01	1.06829E-01	1.00054E-01	6.43459E-02	5.47957E-02	5.13798E-02	2.85544E-02	1.57355E-02
13	1.15927E-01	1.06808E-01	9.99914E-02	6.42636E-02	5.47180E-02	5.12637E-02	2.85273E-02	1.57241E-02
14	1.15857E-01	1.06741E-01	9.98494E-02	6.40849E-02	5.45579E-02	5.10150E-02	2.84783E-02	1.57022E-02
15	1.15783E-01	1.06638E-01	9.96166E-02	6.38038E-02	5.43076E-02	5.06243E-02	2.84054E-02	1.56680E-02
16	1.15680E-01	1.06468E-01	9.92308E-02	6.33408E-02	5.38857E-02	4.99760E-02	2.83756E-02	1.56097E-02
17	1.15587E-01	1.06301E-01	9.88452E-02	6.28779E-02	5.34745E-02	4.93243E-02	2.82620E-02	1.55471E-02
18	1.15521E-01	1.06195E-01	9.85156E-02	6.24828E-02	5.31081E-02	4.87672E-02	2.81823E-02	1.54867E-02
19	1.15470E-01	1.06028E-01	9.82080E-02	6.21150E-02	5.27614E-02	4.82481E-02	2.80772E-02	1.54258E-02
20	1.15446E-01	1.05945E-01	9.80095E-02	6.18778E-02	5.25333E-02	4.79124E-02	2.79984E-02	1.53821E-02
21	1.15434E-01	1.05889E-01	9.78711E-02	6.17126E-02	5.23784E-02	4.76785E-02	2.79387E-02	1.53488E-02
22	1.15429E-01	1.05849E-01	9.77727E-02	6.15952E-02	5.22668E-02	4.75119E-02	2.78953E-02	1.53256E-02
23	1.15426E-01	1.05821E-01	9.77029E-02	6.15118E-02	5.21736E-02	4.73933E-02	2.78599E-02	1.53079E-02
24	1.15424E-01	1.05802E-01	9.76553E-02	6.14550E-02	5.21171E-02	4.73126E-02	2.78370E-02	1.52959E-02
25	1.15421E-01	1.05791E-01	9.76269E-02	6.14211E-02	5.20854E-02	4.72644E-02	2.78242E-02	1.52891E-02
26	1.15419E-01	1.05787E-01	9.76178E-02	6.14101E-02	5.20757E-02	4.72497E-02	2.78221E-02	1.52879E-02
27	1.15416E-01	1.05788E-01	9.76230E-02	6.14168E-02	5.20817E-02	4.72599E-02	2.78278E-02	1.52907E-02
28	1.15416E-01	1.05794E-01	9.76384E-02	6.14353E-02	5.21013E-02	4.72870E-02	2.78381E-02	1.52960E-02
0 int.	grp. 17	grp. 18	grp. 19	grp. 20	grp. 21	grp. 22	grp. 23	grp. 24
1	6.88639E-03	5.06897E-03	1.05301E-02	3.45541E-02	1.06307E-02	2.16097E-02	7.33210E-02	6.03480E-02
2	6.88723E-03	5.07065E-03	1.05516E-02	3.45569E-02	1.06319E-02	2.16116E-02	7.33162E-02	6.03340E-02
3	6.88350E-03	5.06135E-03	1.05347E-02	3.45419E-02	1.06204E-02	2.15755E-02	7.32009E-02	6.02128E-02
4	6.87760E-03	5.03893E-03	1.05081E-02	3.45066E-02	1.05940E-02	2.14854E-02	7.29474E-02	5.99522E-02
5	6.86076E-03	5.00145E-03	1.02830E-02	3.44536E-02	1.05541E-02	2.13700E-02	7.25713E-02	5.95668E-02
6	6.84211E-03	4.95714E-03	1.02490E-02	3.43829E-02	1.05001E-02	2.12152E-02	7.20703E-02	5.90530E-02
7	6.81767E-03	4.89439E-03	1.02048E-02	3.42920E-02	1.04284E-02	2.09868E-02	7.14319E-02	5.84006E-02
8	6.78645E-03	4.81055E-03	1.01477E-02	3.41752E-02	1.03369E-02	2.07018E-02	7.06250E-02	5.75820E-02
9	6.75534E-03	4.73147E-03	1.00957E-02	3.40683E-02	1.02505E-02	2.04385E-02	6.98993E-02	5.68518E-02
10	6.72788E-03	4.65878E-03	1.00454E-02	3.39730E-02	1.01714E-02	2.02004E-02	6.92682E-02	5.62250E-02
11	6.70522E-03	4.60319E-03	1.00066E-02	3.38952E-02	1.01111E-02	2.00211E-02	6.88036E-02	5.57884E-02
12	6.69764E-03	4.58349E-03	9.99050E-03	3.38630E-02	1.00859E-02	1.99612E-02	6.86664E-02	5.56771E-02
13	6.68479E-03	4.54684E-03	9.96951E-03	3.38215E-02	1.00551E-02	1.98511E-02	6.83930E-02	5.54012E-02
14	6.66693E-03	4.46438E-03	9.92634E-03	3.37578E-02	9.97384E-03	1.96015E-02	6.77860E-02	5.47752E-02
15	6.61282E-03	4.33388E-03	9.85351E-03	3.36038E-02	9.85020E-03	1.92128E-02	6.68690E-02	5.38771E-02
16	6.54006E-03	4.09981E-03	9.73661E-03	3.33954E-02	9.64370E-03	1.85665E-02	6.55310E-02	5.25478E-02
17	6.46957E-03	3.86727E-03	9.61391E-03	3.31691E-02	9.43501E-03	1.79288E-02	6.41383E-02	5.12183E-02
18	6.40607E-03	3.69618E-03	9.50407E-03	3.29520E-02	9.26664E-03	1.74007E-02	6.28091E-02	4.99582E-02
19	6.34802E-03	3.55278E-03	9.39875E-03	3.27340E-02	9.10572E-03	1.69161E-02	6.14735E-02	4.86649E-02
20	6.31196E-03	3.47233E-03	9.32631E-03	3.25800E-02	9.00357E-03	1.66074E-02	6.05225E-02	4.77222E-02
21	6.28619E-03	3.42148E-03	9.27853E-03	3.24664E-02	8.93143E-03	1.63953E-02	5.98103E-02	4.70277E-02
22	6.26779E-03	3.38996E-03	9.24220E-03	3.23814E-02	8.87988E-03	1.62401E-02	5.92713E-02	4.65018E-02
23	6.25469E-03	3.36541E-03	9.21625E-03	3.23190E-02	8.84263E-03	1.61300E-02	5.88669E-02	4.61070E-02
24	6.24579E-03	3.35053E-03	9.19864E-03	3.22757E-02	8.81670E-03	1.60533E-02	5.85748E-02	4.58208E-02
25	6.24053E-03	3.34139E-03	9.18778E-03	3.22499E-02	8.80052E-03	1.60045E-02	5.83821E-02	4.56277E-02
26	6.23895E-03	3.33759E-03	9.18461E-03	3.22411E-02	8.79414E-03	1.59825E-02	5.83078E-02	4.55247E-02
27	6.24049E-03	3.33747E-03	9.18670E-03	3.22474E-02	8.79538E-03	1.59825E-02	5.82784E-02	4.55016E-02
28	6.24350E-03	3.34055E-03	9.19344E-03	3.22625E-02	8.80198E-03	1.59983E-02	5.83274E-02	4.55341E-02
0 int.	grp. 25	grp. 26	grp. 27					

1	2.73568E-02	1.97348E-02	3.74869E-03
2	2.73254E-02	1.97234E-02	3.74592E-03
3	2.72609E-02	1.96689E-02	3.73435E-03
4	2.71259E-02	1.95477E-02	3.70980E-03
5	2.69204E-02	1.93700E-02	3.67270E-03
6	2.66694E-02	1.91311E-02	3.62194E-03
7	2.63053E-02	1.88253E-02	3.55568E-03
8	2.58754E-02	1.84401E-02	3.47009E-03
9	2.54944E-02	1.80971E-02	3.39286E-03
10	2.51721E-02	1.78047E-02	3.32660E-03
11	2.49568E-02	1.76165E-02	3.28653E-03
12	2.49100E-02	1.75879E-02	3.28384E-03
13	2.47570E-02	1.74473E-02	3.24605E-03
14	2.44083E-02	1.71140E-02	3.15512E-03
15	2.39238E-02	1.66443E-02	3.02025E-03
16	2.32257E-02	1.59751E-02	2.82372E-03
17	2.25352E-02	1.53421E-02	2.65440E-03
18	2.18768E-02	1.47682E-02	2.52580E-03
19	2.12153E-02	1.42094E-02	2.40257E-03
20	2.07461E-02	1.38304E-02	2.33815E-03
21	2.03774E-02	1.35583E-02	2.28999E-03
22	2.01360E-02	1.33604E-02	2.25651E-03
23	1.99414E-02	1.32164E-02	2.23271E-03
24	1.98006E-02	1.31139E-02	2.21612E-03
25	1.97052E-02	1.30450E-02	2.20510E-03
26	1.96519E-02	1.30063E-02	2.19875E-03
27	1.96366E-02	1.29913E-02	2.19635E-03
28	1.96467E-02	1.29943E-02	2.19625E-03

- elapsed time .02 min.

1fine group summary for zone 1 by group including sum for all groups in line 28

0 grp.	fix source	fiss source	in scatter	slf scatter	out scatter	absorption	leakage	balance
1	.00000E+00	.00000E+00	.00000E+00	5.12634E-04	6.78513E-04	5.64972E-05	-7.34974E-04	9.99950E-01
2	.00000E+00	.00000E+00	3.89518E-04	6.20419E-03	8.15427E-03	1.77255E-04	-7.94192E-03	9.99961E-01
3	.00000E+00	.00000E+00	3.87393E-03	5.48263E-03	1.42642E-02	9.30813E-05	-1.04830E-02	9.99977E-01
4	.00000E+00	.00000E+00	5.61194E-03	3.60754E-03	1.23952E-02	4.20998E-05	-6.82514E-03	9.99987E-01
5	.00000E+00	.00000E+00	1.02580E-02	1.15402E-02	2.09074E-02	4.97317E-05	-1.06585E-02	9.99990E-01
6	.00000E+00	.00000E+00	2.15495E-02	3.45127E-02	4.10186E-02	8.43286E-05	-1.95534E-02	9.99988E-01
7	.00000E+00	.00000E+00	4.22775E-02	6.09915E-02	5.41559E-02	6.12428E-05	-1.19801E-02	9.99990E-01
8	.00000E+00	.00000E+00	5.63876E-02	7.83943E-02	5.87817E-02	3.64252E-05	-2.42535E-03	9.99912E-01
9	.00000E+00	.00000E+00	5.78207E-02	7.26830E-02	5.75582E-02	2.93045E-05	2.39825E-04	9.99885E-01
10	.00000E+00	.00000E+00	5.71334E-02	6.92801E-02	5.56769E-02	3.61195E-05	1.42688E-03	9.99896E-01
11	.00000E+00	.00000E+00	5.59529E-02	6.57431E-02	5.24867E-02	5.52823E-05	3.41398E-03	9.99940E-01
12	.00000E+00	.00000E+00	4.55043E-02	3.51725E-02	4.13868E-02	6.06815E-05	4.05977E-03	9.99978E-01
13	.00000E+00	.00000E+00	4.06506E-02	2.69235E-02	3.66698E-02	8.47043E-05	3.89740E-03	9.99969E-01
14	.00000E+00	.00000E+00	3.95170E-02	2.80911E-02	3.35570E-02	1.35568E-04	5.82491E-03	9.99888E-01
15	.00000E+00	.00000E+00	2.16231E-02	1.09912E-02	2.02163E-02	1.11967E-04	1.23488E-03	9.99998E-01
16	.00000E+00	.00000E+00	1.41666E-02	4.53187E-03	1.33513E-02	7.55765E-05	7.39689E-04	1.00000E+00
17	.00000E+00	.00000E+00	7.25527E-03	1.26248E-03	6.56866E-03	3.61401E-05	6.50624E-04	9.99980E-01
18	.00000E+00	.00000E+00	6.41239E-03	8.80700E-04	4.81237E-03	2.75577E-05	1.57250E-03	9.99974E-01
19	.00000E+00	.00000E+00	1.05371E-02	2.80295E-03	9.30287E-03	6.27785E-05	1.17162E-03	9.99988E-01
20	.00000E+00	.00000E+00	2.56905E-02	2.03021E-02	2.29543E-02	2.64782E-04	2.47121E-03	1.00001E+00
21	.00000E+00	.00000E+00	1.21985E-02	3.98842E-03	1.05759E-02	1.00025E-04	1.72275E-03	9.99981E-01
22	.00000E+00	.00000E+00	2.40127E-02	1.20575E-02	1.87796E-02	2.31784E-04	5.00151E-03	9.99991E-01
23	.00000E+00	.00000E+00	6.18254E-02	7.40868E-02	4.86603E-02	1.07547E-03	1.21000E-02	9.99992E-01
24	.00000E+00	.00000E+00	6.58498E-02	7.03339E-02	5.42912E-02	1.27958E-03	1.02798E-02	9.99990E-01
25	.00000E+00	.00000E+00	4.38895E-02	2.98910E-02	3.86452E-02	7.59307E-04	4.66466E-03	9.99994E-01
26	.00000E+00	.00000E+00	3.50840E-02	3.34582E-02	3.09031E-02	7.75774E-04	3.40732E-03	9.99994E-01
27	.00000E+00	.00000E+00	1.19145E-02	7.26339E-03	1.10650E-02	2.76473E-04	5.73019E-04	9.99999E-01
28	.00000E+00	.00000E+00	7.77425E-01	7.72478E-01	7.77425E-01	6.07808E-03	-6.05021E-03	9.99966E-01

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	n2n rate	fiss rate	flux*dv**2	total flux

1	1.32835E-02	-7.34774E-04	1.31657E-02	.00000E+00	3.75257E-11	.00000E+00	2.03358E-05	1.66106E-02
2	9.23464E-02	-7.94192E-03	9.14346E-02	.00000E+00	.00000E+00	.00000E+00	8.99268E-05	1.15714E-01
3	1.15100E-01	-1.04830E-02	1.12988E-01	.00000E+00	.00000E+00	.00000E+00	9.26604E-05	1.43060E-01
4	7.07274E-02	-6.82516E-03	6.91706E-02	.00000E+00	.00000E+00	.00000E+00	4.18456E-05	8.77364E-02
5	1.06483E-01	-1.06589E-02	1.03885E-01	.00000E+00	.00000E+00	.00000E+00	4.94384E-05	1.30649E-01
6	1.97765E-01	-1.95534E-02	1.95925E-01	.00000E+00	.00000E+00	.00000E+00	8.34586E-05	2.44982E-01
7	1.96208E-01	-1.19991E-02	1.98174E-01	.00000E+00	.00000E+00	.00000E+00	5.92983E-05	2.44371E-01
8	1.47493E-01	-2.42535E-03	1.47069E-01	.00000E+00	.00000E+00	.00000E+00	3.27431E-05	1.86075E-01
9	1.15973E-01	2.39825E-04	1.16022E-01	.00000E+00	.00000E+00	.00000E+00	2.16947E-05	1.45761E-01
10	1.06863E-01	1.42638E-03	1.07281E-01	.00000E+00	.00000E+00	.00000E+00	1.91913E-05	1.34590E-01
11	1.00132E-01	3.41398E-03	1.01089E-01	.00000E+00	.00000E+00	.00000E+00	1.79488E-05	1.26516E-01
12	6.44365E-02	4.05977E-03	6.55422E-02	.00000E+00	.00000E+00	.00000E+00	1.05351E-05	8.17599E-02
13	5.48921E-02	3.89740E-03	5.59150E-02	.00000E+00	.00000E+00	.00000E+00	8.75259E-06	6.96983E-02
14	5.15106E-02	5.83491E-03	5.30700E-02	.00000E+00	.00000E+00	.00000E+00	8.43566E-06	6.58376E-02
15	2.85785E-02	1.29488E-03	2.89649E-02	.00000E+00	.00000E+00	.00000E+00	4.44573E-06	3.61095E-02
16	1.57533E-02	7.39689E-04	1.59275E-02	.00000E+00	.00000E+00	.00000E+00	2.21778E-06	1.99177E-02
17	6.71188E-03	6.50624E-04	6.88469E-03	.00000E+00	.00000E+00	.00000E+00	8.75906E-07	8.55776E-03
18	4.61683E-03	1.57250E-03	5.05558E-03	.00000E+00	.00000E+00	.00000E+00	6.11462E-07	6.12581E-03
19	1.00173E-02	1.17162E-03	1.08272E-02	.00000E+00	.00000E+00	.00000E+00	1.34008E-06	1.28073E-02
20	3.39206E-02	2.47121E-03	3.46506E-02	.00000E+00	.00000E+00	.00000E+00	5.04726E-06	4.30522E-02
21	1.01259E-02	1.72275E-03	1.06271E-02	.00000E+00	.00000E+00	.00000E+00	1.19923E-06	1.30789E-02
22	2.00643E-02	5.00151E-03	2.14013E-02	.00000E+00	.00000E+00	.00000E+00	2.40335E-06	2.62900E-02
23	6.89102E-02	1.21000E-02	7.33006E-02	.00000E+00	.00000E+00	.00000E+00	7.36782E-06	8.95713E-02
24	5.58695E-02	1.02796E-02	6.05340E-02	.00000E+00	.00000E+00	.00000E+00	4.48697E-06	7.32015E-02
25	2.49703E-02	4.66466E-03	2.73313E-02	.00000E+00	.00000E+00	.00000E+00	1.56083E-06	3.25612E-02
26	1.76401E-02	3.40732E-03	1.97334E-02	.00000E+00	.00000E+00	.00000E+00	8.24144E-07	2.35667E-02
27	3.28354E-03	5.73019E-04	3.74885E-03	.00000E+00	.00000E+00	.00000E+00	9.71280E-08	4.44855E-03
28	1.73329E+00	-6.05016E-03	1.73997E+00	.00000E+00	3.75257E-11	.00000E+00	5.88752E-04	2.18206E+00

1fine group summary for zone 2 by group including sum for all groups in line 28

0 grp.	fix source	fiss source	in scatter	slf scatter	out scatter	absorption	leakage	balance
1	.00000E+00	.00000E+00	.00000E+00	2.26681E-04	1.69928E-04	2.54915E-06	-1.66415E-04	1.00001E+00
2	.00000E+00	.00000E+00	2.96772E-05	1.47025E-03	1.05497E-03	1.41609E-05	-1.03947E-03	1.00000E+00
3	.00000E+00	.00000E+00	1.52059E-04	2.77987E-03	8.78965E-04	2.03420E-05	-7.47189E-04	9.99995E-01
4	.00000E+00	.00000E+00	2.80087E-04	2.31001E-03	2.99095E-04	1.31270E-05	-2.31168E-05	9.99997E-01
5	.00000E+00	.00000E+00	6.21348E-04	4.42235E-03	2.79680E-04	1.68860E-05	3.24773E-04	1.00000E+00
6	.00000E+00	.00000E+00	1.02825E-03	1.24105E-02	1.69562E-04	2.70798E-05	8.31595E-04	1.00000E+00
7	.00000E+00	.00000E+00	6.75439E-04	1.25928E-02	6.33305E-05	2.68257E-05	5.85228E-04	9.99999E-01
8	.00000E+00	.00000E+00	1.17756E-04	9.21348E-03	4.43644E-04	2.21254E-05	-3.48044E-04	1.00001E+00
9	.00000E+00	.00000E+00	4.45495E-04	6.36585E-03	5.30666E-05	7.67849E-05	3.15687E-04	9.99978E-01
10	.00000E+00	.00000E+00	5.31318E-05	4.99632E-03	4.95722E-05	5.94391E-05	-5.58849E-05	1.00000E+00
11	.00000E+00	.00000E+00	4.95755E-05	4.48568E-03	5.04333E-05	9.02401E-05	-9.10966E-05	1.00000E+00
12	.00000E+00	.00000E+00	5.04336E-05	2.76787E-03	5.14952E-05	5.68557E-06	-6.75488E-06	1.00000E+00
13	.00000E+00	.00000E+00	5.14953E-05	2.35816E-03	4.81048E-05	6.31852E-06	-2.92578E-06	1.00000E+00
14	.00000E+00	.00000E+00	4.81048E-05	2.21738E-03	4.17857E-05	8.46807E-06	-2.14992E-06	1.00000E+00
15	.00000E+00	.00000E+00	4.43495E-05	1.20592E-03	4.98544E-05	6.26518E-06	-1.11697E-05	9.99940E-01
16	.00000E+00	.00000E+00	5.51788E-05	6.36471E-04	5.51385E-05	3.77227E-06	-3.68526E-06	9.99958E-01
17	.00000E+00	.00000E+00	5.95582E-05	2.36301E-04	5.81661E-05	1.75654E-06	-3.61819E-07	9.99996E-01
18	.00000E+00	.00000E+00	6.09180E-05	1.52566E-04	4.92578E-05	1.27010E-06	1.04690E-05	9.99995E-01
19	.00000E+00	.00000E+00	5.13053E-05	3.88359E-04	5.64845E-05	2.97074E-06	-8.14972E-06	9.99997E-01
20	.00000E+00	.00000E+00	6.88780E-05	1.42789E-03	6.07046E-05	1.22760E-05	-3.99747E-06	9.99959E-01
21	.00000E+00	.00000E+00	7.92644E-05	3.58223E-04	8.55664E-05	4.44043E-06	-1.07577E-05	9.99997E-01
22	.00000E+00	.00000E+00	1.12663E-04	7.74795E-04	1.08549E-04	1.00041E-05	-8.30274E-07	9.99988E-01
23	.00000E+00	.00000E+00	1.60877E-04	2.81343E-03	2.06653E-04	4.59520E-05	-9.16002E-06	9.99997E-01
24	.00000E+00	.00000E+00	2.66925E-04	2.15347E-03	2.99531E-04	5.28600E-05	-8.14330E-06	9.99997E-01
25	.00000E+00	.00000E+00	2.73833E-04	8.71228E-04	2.24243E-04	3.08516E-05	1.85764E-06	1.00000E+00
26	.00000E+00	.00000E+00	1.16681E-04	6.83092E-04	9.02729E-05	3.06556E-05	-4.25688E-06	1.00000E+00
27	.00000E+00	.00000E+00	2.61757E-05	1.44269E-04	7.43328E-08	1.07085E-05	1.53784E-05	9.99999E-01
28	.00000E+00	.00000E+00	4.98653E-03	8.04442E-02	4.98863E-03	6.03781E-04	-5.97326E-04	9.99771E-01

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	rdn rate	fiss rate	flux**2	total flux
1	1.33116E-02	-9.01389E-04	1.32835E-02	-7.34774E-04	6.07125E-06	.00000E+00	1.67855E-06	2.21639E-03

2	9.32136E-02	-8.98139E-03	9.29464E-02	-7.94192E-03	.00000E+00	.00000E+00	1.12400E-05	1.55151E-02
3	1.15448E-01	-1.12802E-02	1.15100E-01	-1.04830E-02	.00000E+00	.00000E+00	1.27388E-05	1.92162E-02
4	7.09442E-02	-6.84828E-03	7.07274E-02	-6.82516E-03	.00000E+00	.00000E+00	7.45623E-06	1.18099E-02
5	1.06821E-01	-1.03341E-02	1.06483E-01	-1.06588E-02	.00000E+00	.00000E+00	8.64728E-06	1.76158E-02
6	1.98438E-01	-1.87218E-02	1.97865E-01	-1.95534E-02	.00000E+00	.00000E+00	1.01802E-05	3.30510E-02
7	1.96608E-01	-1.13538E-02	1.96308E-01	-1.19591E-02	.00000E+00	.00000E+00	8.35682E-06	3.27445E-02
8	1.47581E-01	-2.77340E-03	1.47483E-01	-2.42535E-03	.00000E+00	.00000E+00	5.27783E-06	2.45922E-02
9	1.15864E-01	5.55484E-04	1.15973E-01	2.39825E-04	.00000E+00	.00000E+00	4.58828E-06	1.93315E-02
10	1.06824E-01	1.37050E-03	1.06863E-01	1.42638E-03	.00000E+00	.00000E+00	4.91853E-06	1.78085E-02
11	1.00041E-01	3.32288E-03	1.00152E-01	3.41392E-03	.00000E+00	.00000E+00	4.77610E-06	1.66813E-02
12	6.43298E-02	4.05302E-03	6.44365E-02	4.05977E-03	.00000E+00	.00000E+00	3.22225E-06	1.07300E-02
13	5.47769E-02	3.89447E-03	5.48821E-02	3.89740E-03	.00000E+00	.00000E+00	2.73826E-06	9.13769E-03
14	5.13553E-02	5.82276E-03	5.15106E-02	5.82491E-03	.00000E+00	.00000E+00	2.56199E-06	8.57069E-03
15	2.85386E-02	1.28571E-03	2.85785E-02	1.29488E-03	.00000E+00	.00000E+00	1.40234E-06	4.75964E-03
16	1.57324E-02	7.36006E-04	1.57533E-02	7.39680E-04	.00000E+00	.00000E+00	7.73072E-07	2.62575E-03
17	6.69474E-03	6.50262E-04	6.71866E-03	6.50624E-04	.00000E+00	.00000E+00	3.28998E-07	1.11711E-03
18	4.57743E-03	1.58297E-03	4.61683E-03	1.57250E-03	.00000E+00	.00000E+00	2.25407E-07	7.65622E-04
19	9.98557E-03	1.16348E-03	1.00173E-02	1.17162E-03	.00000E+00	.00000E+00	4.90463E-07	1.66665E-03
20	3.38541E-02	2.46722E-03	3.39206E-02	2.47121E-03	.00000E+00	.00000E+00	1.65954E-06	5.64725E-03
21	1.00836E-02	1.71201E-03	1.01259E-02	1.72275E-03	.00000E+00	.00000E+00	4.98266E-07	1.68859E-03
22	1.99445E-02	5.00068E-03	2.00643E-02	5.00151E-03	.00000E+00	.00000E+00	9.76332E-07	3.33217E-03
23	6.86258E-02	1.20084E-02	6.89102E-02	1.21000E-02	.00000E+00	.00000E+00	3.34519E-06	1.14674E-02
24	5.56471E-02	1.01981E-02	5.58696E-02	1.02796E-02	.00000E+00	.00000E+00	2.69583E-06	9.28975E-03
25	2.48683E-02	4.68341E-03	2.49505E-02	4.66466E-03	.00000E+00	.00000E+00	1.19888E-06	4.15597E-03
26	1.75830E-02	3.40307E-03	1.76401E-02	3.40732E-03	.00000E+00	.00000E+00	8.37464E-07	2.93401E-03
27	3.28397E-03	5.88617E-04	3.28584E-03	5.73019E-04	.00000E+00	.00000E+00	1.51513E-07	5.47558E-04
28	1.73410E+00	-6.64754E-03	1.73329E+00	-6.05016E-03	6.07125E-06	.00000E+00	1.02960E-04	2.88981E-01

1fine group summary for zone 3 by group including sum for all groups in line 28

0 grp.	fix source	fiss source	in scatter	slf scatter	out scatter	absorption	leakage	balance
1	.00000E+00	.00000E+00	.00000E+00	2.71782E-04	3.59727E-04	2.99531E-05	-3.89661E-04	9.99985E-01
2	.00000E+00	.00000E+00	2.06404E-04	3.31172E-03	4.35264E-03	9.46367E-05	-4.24097E-03	9.99987E-01
3	.00000E+00	.00000E+00	2.05748E-03	2.98067E-03	7.62504E-03	4.99573E-05	-5.60713E-03	9.99990E-01
4	.00000E+00	.00000E+00	2.99885E-03	1.95131E-03	6.65880E-03	2.25385E-05	-3.65925E-03	9.99994E-01
5	.00000E+00	.00000E+00	5.50818E-03	6.18790E-03	1.12100E-02	2.66463E-05	-5.72899E-03	9.99995E-01
6	.00000E+00	.00000E+00	1.15427E-02	1.85005E-02	2.98079E-02	4.52042E-05	-1.04904E-02	9.99997E-01
7	.00000E+00	.00000E+00	2.26572E-02	3.24014E-02	2.87701E-02	3.25360E-05	-6.14510E-03	9.99998E-01
8	.00000E+00	.00000E+00	3.00078E-02	4.11900E-02	3.08651E-02	1.91385E-05	-8.98900E-04	9.99919E-01
9	.00000E+00	.00000E+00	3.04426E-02	3.80277E-02	3.01144E-02	1.53321E-05	3.16313E-04	9.98888E-01
10	.00000E+00	.00000E+00	2.99251E-02	3.61634E-02	2.90619E-02	1.88534E-05	8.47524E-04	9.99900E-01
11	.00000E+00	.00000E+00	2.92265E-02	3.41418E-02	2.72575E-02	2.87028E-05	1.94003E-03	9.99946E-01
12	.00000E+00	.00000E+00	2.36570E-02	1.81352E-02	2.13393E-02	3.12562E-05	2.28797E-03	9.99982E-01
13	.00000E+00	.00000E+00	2.10148E-02	1.47252E-02	1.88815E-02	4.36148E-05	2.05057E-03	9.99974E-01
14	.00000E+00	.00000E+00	2.05764E-02	1.43112E-02	1.70558E-02	6.90660E-05	3.21178E-03	9.99991E-01
15	.00000E+00	.00000E+00	1.10610E-02	5.60497E-03	1.05004E-02	5.81558E-05	5.02442E-04	1.00000E+00
16	.00000E+00	.00000E+00	7.29684E-03	2.35101E-03	6.98529E-03	3.92071E-05	3.31318E-04	1.00000E+00
17	.00000E+00	.00000E+00	3.74086E-03	6.45786E-04	3.35999E-03	1.84864E-05	3.62486E-04	9.99983E-01
18	.00000E+00	.00000E+00	3.30274E-03	4.20702E-04	2.29880E-03	1.31635E-05	9.90793E-04	9.99997E-01
19	.00000E+00	.00000E+00	5.37951E-03	1.42818E-03	4.74001E-03	3.19870E-05	6.07600E-04	9.99988E-01
20	.00000E+00	.00000E+00	1.31139E-02	1.04643E-02	1.18313E-02	1.36477E-04	1.14592E-03	1.00001E+00
21	.00000E+00	.00000E+00	6.21557E-03	1.99869E-03	5.19927E-03	5.01215E-05	9.66388E-04	9.99986E-01
22	.00000E+00	.00000E+00	1.21350E-02	5.90458E-03	9.18880E-03	1.13411E-04	2.85278E-03	9.99928E-01
23	.00000E+00	.00000E+00	3.05736E-02	3.68352E-02	2.41913E-02	5.34778E-04	5.84755E-03	1.00000E+00
24	.00000E+00	.00000E+00	3.25455E-02	3.45689E-02	2.66817E-02	6.28868E-04	5.05630E-03	9.99990E-01
25	.00000E+00	.00000E+00	2.14304E-02	1.45370E-02	1.87015E-02	3.69468E-04	2.35918E-03	9.99988E-01
26	.00000E+00	.00000E+00	1.70620E-02	1.59857E-02	1.47187E-02	3.68538E-04	1.97464E-03	1.00000E+00
27	.00000E+00	.00000E+00	5.76661E-03	3.37250E-03	5.13766E-03	1.28570E-04	5.00587E-04	1.00000E+00
28	.00000E+00	.00000E+00	3.99052E-01	3.96295E-01	3.99052E-01	3.01826E-03	-3.00434E-03	9.99966E-01

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	rfln rate	fiss rate	flux**2	total flux
1	1.34508E-02	-1.29105E-03	1.33114E-02	-9.01380E-04	1.98659E-11	.00000E+00	1.07812E-05	8.80639E-03
2	9.46620E-02	-1.32221E-02	9.32136E-02	-8.98139E-03	.00000E+00	.00000E+00	4.80016E-05	6.17666E-02

3	1.17086E-01	-1.68373E-02	1.15448E-01	-1.12802E-02	.00000E+00	.00000E+00	4.95270E-05	7.64740E-02
4	7.19126E-02	-1.05076E-02	7.09442E-02	-6.84828E-03	.00000E+00	.00000E+00	2.24022E-05	4.69701E-02
5	1.07280E-01	-1.60631E-02	1.05821E-01	-1.03541E-02	.00000E+00	.00000E+00	2.65090E-05	7.00543E-02
6	2.01035E-01	-2.92121E-02	1.98438E-01	-1.87218E-02	.00000E+00	.00000E+00	4.47578E-05	1.31522E-01
7	1.98115E-01	-1.74989E-02	1.96608E-01	-1.13538E-02	.00000E+00	.00000E+00	3.15020E-05	1.29821E-01
8	1.47874E-01	-3.66730E-03	1.47581E-01	-2.77540E-03	.00000E+00	.00000E+00	1.72035E-05	9.72422E-02
9	1.15741E-01	8.71797E-04	1.15964E-01	5.55484E-04	.00000E+00	.00000E+00	1.13503E-05	7.62619E-02
10	1.06576E-01	2.21802E-03	1.06824E-01	1.37060E-03	.00000E+00	.00000E+00	1.00173E-05	7.02534E-02
11	9.94764E-02	5.26291E-03	1.00041E-01	3.32288E-03	.00000E+00	.00000E+00	9.32104E-06	6.57023E-02
12	6.36356E-02	6.34099E-03	6.43250E-02	4.05302E-03	.00000E+00	.00000E+00	5.43196E-06	4.21560E-02
13	5.41584E-02	5.98484E-03	5.47769E-02	3.89447E-03	.00000E+00	.00000E+00	4.50666E-06	3.58881E-02
14	5.03900E-02	9.03455E-03	5.13553E-02	5.82276E-03	.00000E+00	.00000E+00	4.29760E-06	3.35414E-02
15	2.84310E-02	1.78615E-03	2.85386E-02	1.28371E-03	.00000E+00	.00000E+00	2.30912E-06	1.87553E-02
16	1.56483E-02	1.06752E-03	1.57524E-02	7.36006E-04	.00000E+00	.00000E+00	1.15051E-06	1.03328E-02
17	6.58612E-03	1.01275E-03	6.69474E-03	6.50265E-04	.00000E+00	.00000E+00	4.48043E-07	4.37714E-03
18	4.25496E-03	2.57576E-03	4.57443E-03	1.58259E-03	.00000E+00	.00000E+00	2.98086E-07	2.92526E-03
19	9.81114E-03	1.77107E-03	9.98557E-03	1.16348E-03	.00000E+00	.00000E+00	6.82800E-07	6.52561E-03
20	3.35353E-02	3.61313E-03	3.38541E-02	2.46722E-03	.00000E+00	.00000E+00	2.60151E-06	2.21955E-02
21	9.77459E-03	2.67830E-03	1.00856E-02	1.71201E-03	.00000E+00	.00000E+00	6.00920E-07	6.55372E-03
22	1.89810E-02	7.83344E-03	1.99445E-02	5.00068E-03	.00000E+00	.00000E+00	1.17595E-06	1.28634E-02
23	6.68228E-02	1.78659E-02	6.86258E-02	1.20084E-02	.00000E+00	.00000E+00	3.67357E-06	4.45390E-02
24	5.33583E-02	1.52334E-02	5.56471E-02	1.01981E-02	.00000E+00	.00000E+00	2.20515E-06	3.59753E-02
25	2.36448E-02	7.04260E-03	2.48983E-02	4.68341E-03	.00000E+00	.00000E+00	7.58881E-07	1.60258E-02
26	1.63712E-02	5.37770E-03	1.75830E-02	3.40807E-03	.00000E+00	.00000E+00	3.92531E-07	1.12245E-02
27	2.98822E-03	1.08900E-03	3.28395E-03	5.88617E-04	.00000E+00	.00000E+00	4.50979E-08	2.06414E-03
28	1.73101E+00	-9.65183E-03	1.73410E+00	-6.64754E-03	1.98829E-11	.00000E+00	3.11928E-04	1.14062E+00

1fine group summary for zone 4 by group including sum for all groups in line 28

0 grp.	fix source	fiss source	in scatter	slf scatter	out scatter	absorption	leakage	balance
1	.00000E+00	2.36542E-02	.00000E+00	2.19234E-02	2.08388E-02	3.84762E-03	1.29105E-03	9.98008E-01
2	.00000E+00	1.99973E-01	7.21990E-03	2.53086E-01	1.74691E-01	1.53910E-02	1.32221E-02	1.00002E+00
3	.00000E+00	2.16224E-01	7.22109E-02	2.58592E-01	2.55402E-01	1.61990E-02	1.68374E-02	9.99987E-01
4	.00000E+00	1.23574E-01	1.06181E-01	1.77291E-01	2.11534E-01	7.71395E-03	1.05077E-02	1.00000E+00
5	.00000E+00	1.63447E-01	1.92918E-01	4.45198E-01	3.35172E-01	5.13346E-03	1.60682E-02	9.99990E-01
6	.00000E+00	1.75940E-01	3.92035E-01	1.19124E+00	5.30699E-01	8.05661E-03	2.92123E-02	1.00001E+00
7	.00000E+00	8.67841E-02	5.94058E-01	1.56874E+00	6.55371E-01	7.95952E-03	1.74943E-02	9.99926E-01
8	.00000E+00	1.33662E-02	6.89781E-01	1.57566E+00	6.86569E-01	1.29858E-02	3.66908E-03	9.99922E-01
9	.00000E+00	9.69036E-04	6.78647E-01	1.37341E+00	6.59114E-01	2.14469E-02	-8.62380E-04	9.99880E-01
10	.00000E+00	7.19709E-05	6.56094E-01	1.25186E+00	6.26113E-01	3.23367E-02	-2.22100E-03	9.99905E-01
11	.00000E+00	5.66212E-06	6.30081E-01	1.16759E+00	5.82162E-01	5.32241E-02	-5.26709E-03	9.99949E-01
12	.00000E+00	3.97753E-07	5.06991E-01	6.38162E-01	4.54730E-01	5.86155E-02	-6.34265E-03	9.99978E-01
13	.00000E+00	6.31594E-08	4.49400E-01	5.06634E-01	3.99416E-01	5.98826E-02	-5.98324E-03	9.99967E-01
14	.00000E+00	1.25166E-08	4.31452E-01	4.67141E-01	3.58841E-01	8.16502E-02	-9.05440E-03	9.99990E-01
15	.00000E+00	1.44150E-09	2.36019E-01	2.13149E-01	2.28934E-01	8.78531E-03	-1.79545E-03	1.00040E+00
16	.00000E+00	4.15347E-10	1.60854E-01	9.76436E-02	1.54662E-01	7.17728E-03	-1.07294E-03	1.00042E+00
17	.00000E+00	1.33762E-10	8.56851E-02	2.95966E-02	7.69639E-02	9.90987E-03	-1.00928E-03	1.00025E+00
18	.00000E+00	9.57688E-11	7.58718E-02	1.68906E-02	4.80052E-02	3.04344E-02	-2.57356E-03	1.00007E+00
19	.00000E+00	1.35398E-10	1.16745E-01	5.56586E-02	1.05540E-01	1.29515E-02	-1.76842E-03	1.00019E+00
20	.00000E+00	2.20171E-10	2.79622E-01	3.29955E-01	2.55151E-01	2.78898E-02	-3.62822E-03	1.00039E+00
21	.00000E+00	3.22259E-11	1.36533E-01	6.36260E-02	1.12828E-01	2.62950E-02	-2.67702E-03	1.00016E+00
22	.00000E+00	3.73894E-11	2.57261E-01	1.60511E-01	1.89978E-01	7.70540E-02	-7.83945E-03	1.00019E+00
23	.00000E+00	3.57484E-11	6.11483E-01	9.15499E-01	4.92658E-01	1.36451E-01	-1.78595E-02	1.00031E+00
24	.00000E+00	9.73027E-12	6.46601E-01	8.03187E-01	5.35919E-01	1.25768E-01	-1.52325E-02	1.00022E+00
25	.00000E+00	2.84588E-12	4.30028E-01	3.27752E-01	3.68325E-01	6.86863E-02	-7.05787E-03	1.00013E+00
26	.00000E+00	1.99730E-12	3.33961E-01	3.30600E-01	2.77086E-01	6.22648E-02	-5.37779E-03	1.00012E+00
27	.00000E+00	4.75968E-13	1.10502E-01	6.68567E-02	9.36955E-02	1.78884E-02	-1.08583E-03	1.00005E+00
28	.00000E+00	1.00000E+00	8.88815E+00	1.43025E+01	8.88815E+00	9.92146E-01	9.62244E-03	1.00000E+00

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	nôn rate	fiss rate	flux**2	total flux
1	1.37564E-02	2.68880E-09	1.34508E-02	-1.29105E-03	2.29488E-03	2.54853E-03	3.03452E-04	3.48688E-01
2	9.78884E-02	4.62509E-08	9.45620E-02	-1.32221E-02	1.56325E-05	1.10681E-02	1.60988E-03	2.48573E+00
3	1.21444E-01	5.63894E-08	1.17086E-01	-1.68373E-02	.00000E+00	1.32870E-02	1.88356E-03	3.08300E+00

4	7.47215E-02	4.07060E-08	7.19126E-02	-1.05076E-02	.00000E+00	5.68358E-05	8.86683E-04	1.89654E+00
5	1.11840E-01	1.13271E-07	1.07280E-01	-1.60631E-02	.00000E+00	1.60271E-05	1.05329E-03	2.83757E+00
6	2.09812E-01	1.71846E-07	2.01085E-01	-2.92121E-02	.00000E+00	1.26484E-05	1.75209E-03	5.32128E+00
7	2.08636E-01	-4.58645E-06	1.98115E-01	-1.74988E-02	.00000E+00	1.15758E-05	1.22718E-03	5.17121E+00
8	1.49040E-01	-3.20550E-07	1.47887E-01	-3.66730E-05	.00000E+00	1.13574E-05	6.99004E-04	3.79163E+00
9	1.15413E-01	9.41703E-06	1.15741E-01	8.71797E-04	.00000E+00	1.48174E-05	4.71953E-04	2.98943E+00
10	1.05795E-01	-2.97725E-06	1.05576E-01	2.21802E-05	.00000E+00	3.16392E-05	4.29193E-04	2.66595E+00
11	9.76494E-02	-4.18078E-06	9.94764E-02	5.26291E-05	.00000E+00	6.93966E-05	3.87460E-04	2.49139E+00
12	6.14478E-02	-1.66196E-06	6.36356E-02	6.34099E-05	.00000E+00	9.30999E-05	2.27664E-04	1.57050E+00
13	5.21141E-02	1.60048E-06	5.41584E-02	5.98484E-05	.00000E+00	1.13687E-02	1.98820E-04	1.33257E+00
14	4.73053E-02	-3.76107E-07	5.03908E-02	9.03455E-05	.00000E+00	7.12078E-05	1.71588E-04	1.21276E+00
15	2.78461E-02	-9.29524E-06	2.84310E-02	1.78615E-05	.00000E+00	1.55905E-05	1.09558E-04	7.10990E-01
16	1.53000E-02	-5.61701E-06	1.56483E-02	1.06732E-05	.00000E+00	1.12102E-05	5.61468E-05	3.90564E-01
17	6.24486E-03	2.81560E-06	6.58612E-03	1.01275E-05	.00000E+00	1.16970E-05	1.99598E-05	1.59929E-01
18	3.34268E-03	4.09092E-07	4.25496E-03	2.57376E-05	.00000E+00	6.99870E-04	7.02976E-06	8.71836E-02
19	9.19575E-03	2.65518E-06	9.81114E-03	1.77107E-05	.00000E+00	1.88634E-05	3.02256E-05	2.35920E-01
20	3.22761E-02	-1.50844E-05	3.35353E-02	3.61313E-05	.00000E+00	1.31901E-02	1.19810E-04	8.25631E-01
21	8.80620E-03	1.27856E-06	9.77769E-03	2.67830E-05	.00000E+00	1.49055E-02	2.42019E-05	2.26979E-01
22	1.60104E-02	-5.98316E-06	1.89810E-02	7.83346E-05	.00000E+00	4.44033E-02	4.01212E-05	4.16148E-01
23	5.83634E-02	-3.58308E-06	6.63628E-02	1.78659E-02	.00000E+00	7.37467E-02	1.55643E-04	1.51481E+00
24	4.35585E-02	9.12368E-07	5.33883E-02	1.52334E-02	.00000E+00	6.55348E-02	9.64147E-05	1.18923E+00
25	1.98544E-02	4.73044E-06	2.36448E-02	7.04260E-05	.00000E+00	3.71580E-02	3.32758E-05	5.15445E-01
26	1.29778E-02	-8.85605E-08	1.65712E-02	5.37770E-05	.00000E+00	3.41225E-02	1.65107E-05	3.42812E-01
27	2.19635E-03	7.05898E-08	2.98822E-03	1.08900E-05	.00000E+00	9.65668E-05	1.70463E-06	5.80895E-02
28	1.71966E+00	-2.94197E-05	1.73101E+00	-9.65183E-03	2.31051E-03	3.76272E-01	1.19206E-02	4.38527E+01

1fins group summary for system

0 grp.	fix source	fiss source	in scatter	slf scatter	out scatter	absorption	leakage	balance
1	.00000E+00	2.36542E-02	.00000E+00	2.28345E-02	2.20470E-02	3.93662E-05	2.68880E-09	9.98906E-01
2	.00000E+00	1.95973E-01	7.84530E-03	2.64072E-01	1.88153E-01	1.56771E-02	4.62509E-08	1.00002E+00
3	.00000E+00	2.16224E-01	7.83043E-02	2.69785E-01	2.78170E-01	1.63622E-02	5.63894E-08	9.99986E-01
4	.00000E+00	1.23574E-01	1.15081E-01	1.85140E-01	2.30864E-01	7.79172E-05	4.07060E-08	9.99999E-01
5	.00000E+00	1.63447E-01	2.09546E-01	4.67346E-01	3.69570E-01	5.22675E-05	1.13271E-07	9.99989E-01
6	.00000E+00	1.75240E-01	4.26155E-01	1.25666E+00	5.98875E-01	8.21322E-05	1.71846E-07	1.00001E+00
7	.00000E+00	8.67841E-02	6.59648E-01	1.66973E+00	7.38361E-01	8.07992E-05	-4.58645E-06	9.99995E-01
8	.00000E+00	1.33562E-02	7.76274E-01	1.70446E+00	7.76579E-01	1.30135E-02	-3.20550E-07	9.99921E-01
9	.00000E+00	9.69036E-04	7.67356E-01	1.49048E+00	7.46855E-01	2.15681E-02	9.41703E-06	9.99880E-01
10	.00000E+00	7.19709E-05	7.43206E-01	1.36230E+00	7.10902E-01	3.24511E-02	-2.97725E-06	9.99903E-01
11	.00000E+00	5.66212E-06	7.15307E-01	1.27194E+00	6.61955E-01	5.33983E-02	-4.18078E-06	9.99947E-01
12	.00000E+00	3.97753E-07	5.76203E-01	6.94237E-01	5.17500E-01	5.87130E-02	-1.66196E-06	9.99978E-01
13	.00000E+00	6.31592E-08	5.11117E-01	5.52500E-01	4.35015E-01	5.61172E-02	1.60048E-06	9.99957E-01
14	.00000E+00	1.25165E-08	4.91393E-01	5.11761E-01	4.09536E-01	8.18533E-02	-3.76107E-07	9.99990E-01
15	.00000E+00	1.41450E-09	2.68747E-01	2.30751E-01	2.59700E-01	8.96168E-03	-9.29524E-06	1.00036E+00
16	.00000E+00	4.15347E-10	1.82353E-01	1.05162E-01	1.74992E-01	7.29584E-03	-5.61701E-06	1.00037E+00
17	.00000E+00	1.33762E-10	9.67408E-02	3.17412E-02	8.67509E-02	9.96625E-04	2.81560E-06	1.00022E+00
18	.00000E+00	9.57698E-11	8.56479E-02	1.82898E-02	5.51656E-02	3.04764E-02	4.09092E-07	1.00006E+00
19	.00000E+00	1.35398E-10	1.32713E-01	6.00726E-02	1.19640E-01	1.30493E-02	2.65518E-06	1.00016E+00
20	.00000E+00	2.20171E-10	3.18492E-01	3.62140E-01	2.89997E-01	2.84033E-02	-1.50844E-05	1.00034E+00
21	.00000E+00	3.22259E-11	1.55026E-01	6.99713E-02	1.28654E-01	2.64492E-02	1.27856E-06	1.00014E+00
22	.00000E+00	3.73894E-11	2.98501E-01	1.79258E-01	2.16048E-01	7.74093E-02	-5.98316E-06	1.00017E+00
23	.00000E+00	3.57484E-11	7.04042E-01	1.02526E+00	5.65744E-01	1.38108E-01	-3.58308E-06	1.00027E+00
24	.00000E+00	9.73027E-12	7.45063E-01	9.10240E-01	6.17169E-01	1.27725E-01	9.12368E-07	1.00020E+00
25	.00000E+00	2.84838E-12	4.95622E-01	3.73060E-01	4.25714E-01	6.98446E-02	4.73044E-06	1.00011E+00
26	.00000E+00	1.99730E-12	3.85224E-01	3.80677E-01	3.22748E-01	6.34375E-02	-8.85605E-08	1.00010E+00
27	.00000E+00	4.75968E-13	1.28209E-01	7.77165E-02	1.09895E-01	1.83085E-02	7.05898E-08	1.00004E+00
28	.00000E+00	1.00000E+00	1.00696E+01	1.55515E+01	1.00696E+01	1.00188E+00	-2.94321E-05	1.00006E+00

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	r2n rate	fiss rate	flux**2	total flux
1	1.37564E-02	2.68880E-09	1.31657E-02	.00000E+00	2.30095E-05	2.54853E-05	3.36247E-04	3.77319E-01
2	9.78884E-02	4.62509E-08	9.14349E-02	.00000E+00	1.56325E-05	1.10581E-02	1.75845E-03	2.67873E+00
3	1.21444E-01	5.63894E-08	1.12928E-01	.00000E+00	.00000E+00	1.32870E-02	1.99528E-03	3.32175E+00
4	7.47215E-02	4.07060E-08	6.91706E-02	.00000E+00	.00000E+00	5.68358E-05	9.58397E-04	2.04306E+00

5	1.1184E-01	1.1327E-07	1.0288E-01	.0000E+00	.0000E+00	1.6027E-03	1.1178E-03	3.0558E+00
6	2.0981E-01	1.7184E-07	1.9292E-01	.0000E+00	.0000E+00	1.2648E-03	1.8704E-03	5.7306E+00
7	2.0863E-01	-4.5864E-06	1.9817E-01	.0000E+00	.0000E+00	1.1575E-03	1.3263E-03	5.5781E+00
8	1.4904E-01	-3.2065E-07	1.4706E-01	.0000E+00	.0000E+00	1.1357E-03	7.5422E-04	4.0985E+00
9	1.1541E-01	9.4171E-06	1.1602E-01	.0000E+00	.0000E+00	1.4817E-03	5.0956E-04	3.1807E+00
10	1.0579E-01	-2.9772E-06	1.0728E-01	.0000E+00	.0000E+00	3.1639E-03	4.6332E-04	2.9186E+00
11	9.7649E-02	-4.1809E-06	1.0103E-01	.0000E+00	.0000E+00	6.9366E-03	4.1950E-04	2.7002E+00
12	6.1447E-02	-1.6619E-06	6.5542E-02	.0000E+00	.0000E+00	9.3099E-03	2.4685E-04	1.7051E+00
13	5.2114E-02	1.6004E-06	5.5915E-02	.0000E+00	.0000E+00	1.1366E-02	2.0981E-04	1.4472E+00
14	4.7305E-02	-3.7610E-07	5.3070E-02	.0000E+00	.0000E+00	7.1207E-03	1.8688E-04	1.3207E+00
15	2.7846E-02	-9.2982E-06	2.8864E-02	.0000E+00	.0000E+00	1.5590E-03	1.1771E-04	7.7041E-01
16	1.5300E-02	-5.6170E-06	1.5927E-02	.0000E+00	.0000E+00	1.1210E-03	6.0282E-05	4.2343E-01
17	6.2448E-03	2.8156E-06	6.8846E-03	.0000E+00	.0000E+00	1.1697E-03	2.1612E-05	1.7398E-01
18	3.3426E-03	4.0907E-07	5.0655E-03	.0000E+00	.0000E+00	6.9987E-04	8.1586E-06	9.7003E-02
19	9.1957E-03	2.6551E-06	1.0527E-02	.0000E+00	.0000E+00	1.8863E-03	3.2750E-05	2.5692E-01
20	3.2276E-02	-1.5084E-05	3.4650E-02	.0000E+00	.0000E+00	1.3190E-02	1.2811E-04	8.9653E-01
21	8.8062E-03	1.2786E-06	1.0627E-02	.0000E+00	.0000E+00	1.4906E-02	2.6495E-05	2.4829E-01
22	1.6010E-02	-5.9816E-06	2.1601E-02	.0000E+00	.0000E+00	4.4403E-02	4.4676E-05	4.5863E-01
23	5.8563E-02	-3.5893E-06	7.3300E-02	.0000E+00	.0000E+00	7.3746E-02	1.7004E-04	1.6603E+00
24	4.5558E-02	9.1256E-07	6.0834E-02	.0000E+00	.0000E+00	6.5534E-02	1.0580E-04	1.3077E+00
25	1.9654E-02	4.7304E-06	2.7331E-02	.0000E+00	.0000E+00	3.7168E-02	3.6994E-05	5.6858E-01
26	1.2997E-02	-8.8560E-08	1.9733E-02	.0000E+00	.0000E+00	3.4122E-02	1.8564E-05	3.8053E-01
27	2.1963E-03	7.0589E-08	3.7489E-03	.0000E+00	.0000E+00	9.6566E-03	1.9983E-06	6.5148E-02
28	1.7196E+00	-2.9419E-05	1.7997E+00	.0000E+00	2.3169E-03	3.7627E-01	1.2983E-02	4.7464E+01

- elapsed time .02 min.

0direct access unit 9 requires 556 blocks of length 216 for cross section weighting.

1 transport cross section weighting function

0zone	grp. 1	grp. 2	grp. 3	grp. 4	grp. 5	grp. 6	grp. 7	grp. 8
1	1.1781E-03	5.1061E-05	5.3191E-03	2.5555E-03	3.1849E-03	5.5291E-05	3.7152E-03	1.7474E-03
2	7.1775E-04	5.0422E-05	5.8178E-03	3.4520E-03	4.3013E-03	6.1468E-05	4.3289E-03	2.1499E-03
3	1.2078E-03	5.5341E-05	5.9134E-03	2.9208E-03	3.8617E-03	6.7722E-05	4.3725E-03	1.8253E-03
4	8.2892E-04	4.3456E-05	4.9405E-03	2.3952E-03	2.8310E-03	4.8013E-05	3.3273E-03	1.8005E-03
5	8.5367E-04	4.4130E-05	5.0047E-03	2.4195E-03	2.8807E-03	4.8886E-05	3.3780E-03	1.8006E-03

0zone	grp. 9	grp. 10	grp. 11	grp. 12	grp. 13	grp. 14	grp. 15	grp. 16
1	1.1140E-03	1.0146E-03	1.0927E-03	8.7576E-04	8.0260E-04	1.0707E-03	3.2783E-04	1.7354E-04
2	1.7925E-03	1.9556E-03	2.0440E-03	1.6054E-03	1.4342E-03	1.7401E-03	6.3352E-04	3.5256E-04
3	1.1222E-03	1.0525E-03	1.2900E-03	1.2241E-03	1.1384E-03	1.6319E-03	3.9930E-04	2.2891E-04
4	1.1972E-03	1.0960E-03	1.0809E-03	6.7818E-04	6.0020E-04	6.4589E-04	3.1140E-04	1.6149E-04
5	1.1922E-03	1.0964E-03	1.0460E-03	7.0885E-04	6.2902E-04	6.9545E-04	3.1616E-04	1.6467E-04

0zone	grp. 17	grp. 18	grp. 19	grp. 20	grp. 21	grp. 22	grp. 23	grp. 24
1	1.1795E-04	2.5510E-04	2.0982E-04	5.0326E-04	2.9220E-04	8.3523E-04	2.1001E-03	1.7612E-03
2	2.0448E-04	3.9478E-04	3.4364E-04	8.8668E-04	4.6147E-04	1.2782E-03	3.2158E-03	2.7116E-03
3	1.8174E-04	4.4007E-04	3.1911E-04	6.9657E-04	4.6925E-04	1.3653E-03	3.2016E-03	2.7169E-03
4	7.3943E-05	8.2564E-05	1.2481E-04	3.8452E-04	1.3947E-04	3.4350E-04	1.0386E-03	8.0740E-04
5	7.9517E-05	1.0086E-04	1.3466E-04	4.0039E-04	1.5627E-04	3.9601E-04	1.1522E-03	9.0805E-04

0zone	grp. 25	grp. 26	grp. 27	grp. 28
1	7.8921E-04	5.5503E-04	8.4670E-05	4.2263E-02
2	1.2529E-03	8.9254E-04	1.5362E-04	5.5294E-02
3	1.2498E-03	9.3112E-04	1.7381E-04	5.2224E-02
4	3.3566E-04	2.0351E-04	2.5328E-05	3.4572E-02
5	3.8356E-04	2.4115E-04	3.2865E-05	3.5471E-02

1broad group parameters

grp	upper energy	mid energy	velocity	fiss spec
1	2.0000E+07	2.6656E+06	1.9708E+09	7.2287E-01
2	9.0000E+05	1.5177E+05	1.0210E+07	2.7713E-01
3	4.0000E-01	1.2648E-01	3.6380E+05	1.2042E-10
4	1.0000E-05			

1 1200 d, second part of sas2h pass to make library

0cell averaged fluxes

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Ozone   grp. 1      grp. 2      grp. 3
    1 3.9292E-01 1.1341OE+00 2.0957E-01
    2 3.9819E-01 1.1351 1E+00 2.0037E-01
    3 4.0116E-01 1.1352 6E+00 1.9634E-01
    4 4.1836E-01 1.1364 5E+00 1.6744E-01
    5 4.1667OE-01 1.1363 1E+00 1.7026E-01
Oflux disadvantage factors (zone average/cell average flux)

Ozone   grp. 1      grp. 2      grp. 3
    1 9.4301 1E-01 9.9805 7E-01 1.2258 5E+00
    2 9.5565 4E-01 9.9894 6E-01 1.1769 5E+00
    3 9.6278 2E-01 9.9907 6E-01 1.1532 5E+00
    4 1.0040 7E+00 1.0001 3E+00 9.8353 5E-01
    5 1.0000 0E+00 1.0000 0E+00 1.0000 0E+00
Ocell averaged currents

Ozone   grp. 1      grp. 2      grp. 3
    1 1.7303 9E-02 1.8540 5E-02 6.4190 7E-03
    2 1.9351 4E-02 2.6013 3E-02 9.9500 8E-03
    3 1.9428 1E-02 2.2888 7E-02 1.0100 9E-02
    4 1.5362 0E-02 1.6317 2E-02 2.8059 7E-03
    5 1.5571 8E-02 1.6629 6E-02 3.2697 2E-03
Ozone      volume     vol. fraction

   1    1.2566 0E+00    4.5625 4E-02
   2    1.6668 7E-01    6.0516 5E-03
   3    6.5826 5E-01    2.3898 7E-02
   4    2.5462 4E+01    9.2442 8E-01
   5    2.7544 0E+01    1.0000 0E+00
 - elapsed time   .02 min.
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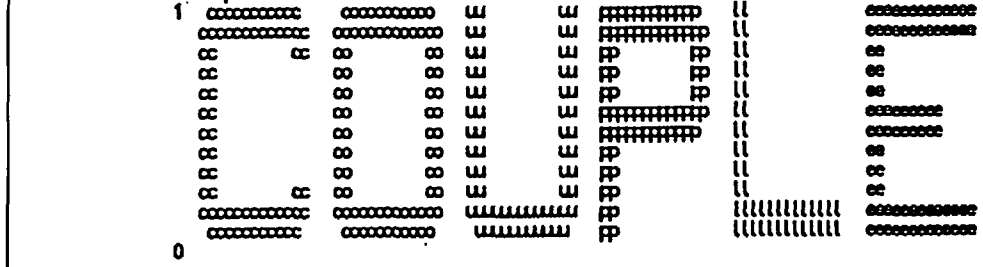

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0
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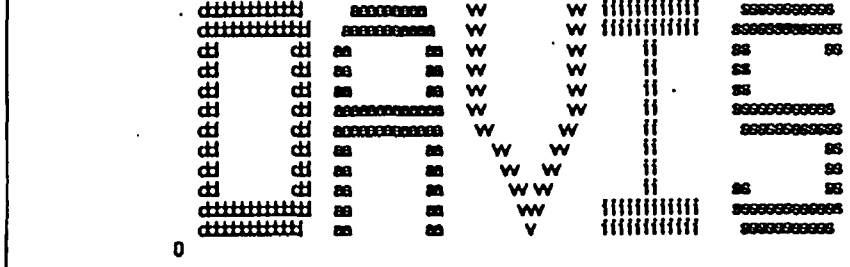
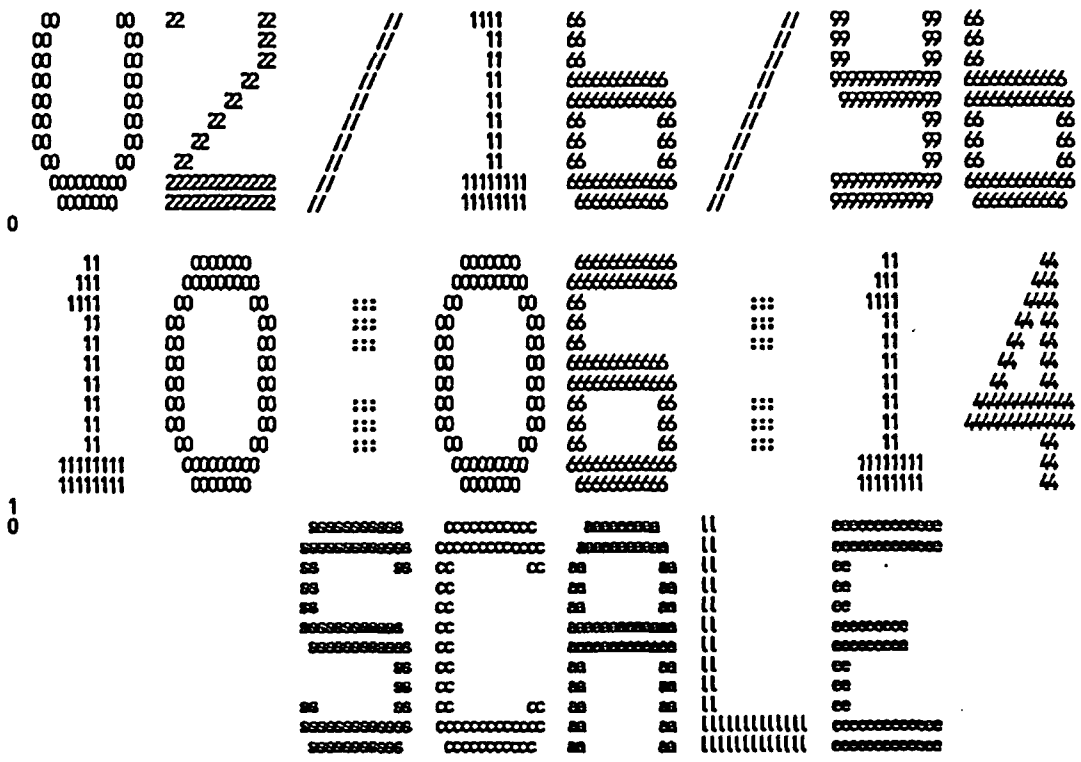
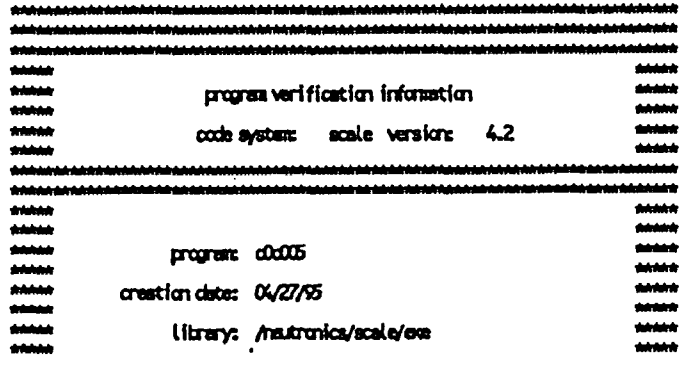


```
0
```





```
                    *****                                              *****
                    *****    this is not a  scale configuration controlled code   *****
                    *****                                              *****
                    *****           jobname: davis                     *****
                    *****                                              *****
                    *****    date of execution: 02/16/96               *****
                    *****                                              *****
                    *****    time of execution: 10:06:14               *****
                    *****                                              *****
                    *****                                              *****
                    ***********************************************************
                    ***********************************************************
                    ***********************************************************
1
0     -1q array has      1 entries.
0      0q array has      1 entries.
0      0q array has      1 entries.
0      1q array has      1 entries.
0      1q array has      1 entries.
0      1q array has      1 entries.
0      1q array has      1 entries.
0      1q array has      1 entries.
0      2q array has      1 entries.
0      * core allocated to array-data (by -1$$ or default) was   200000 words. *
1        * broad 3-group flux weighting factors *
0
0             therm =   .5134
0             res   =   .4563
0             fast  =  3.5488
0 user requested (see jadd) that only the nuclide transitions presently included in
0 origen library be updated.
1cross sections, available from ampx (normalized to thermal flux), barns

              10010 to  10020  2.86488E-01
              10010 tot-cap    2.86488E-01
              50100 to  40100  2.54618E-02
              50100 to  10010  2.54618E-02
              50100 to  40090  3.93698E-03
              50100 to  10020  3.93698E-03
              50100 to  30070  3.29413E+03
              50100 to  20040  3.29433E+03
              50100 to  10030  9.56629E-02
              50100 tot-cap    3.29428E+03
              50110 to  50100  1.13713E-05
              50110 to  50120  4.36372E-03
              50110 to  40110  1.45109E-06
              50110 to  10010  1.45109E-06
              50110 to  40090  1.29495E-05
              50110 to  10030  1.29495E-05
              50110 to  30080  1.69049E-04
              50110 to  20040  1.69049E-04
              50110 tot-cap    4.55864E-03
              80160 to  80170  1.53057E-04
              80160 to  70160  9.94968E-05
              80160 to  10010  9.94968E-05
              80160 to  70150  1.87650E-05
              80160 to  10020  1.87650E-05
              80160 to  60130  2.74917E-02
              80160 to  20040  2.74917E-02
              80160 to  80161  4.36868E-03
```

80160	tot-cap	2.77630E-02
360830	to 360820	2.25892E-02
360830	to 360810	2.38476E-09
360830	to 360840	1.56736E+02
360830	to 350830	9.19933E-04
360830	to 10010	9.19933E-04
360830	to 350820	7.46029E-06
360830	to 10020	7.46029E-06
360830	to 350810	2.60751E-06
360830	to 10030	2.60751E-06
360830	to 340810	4.22004E-03
360830	to 20030	4.22004E-03
360830	to 340800	4.95479E-05
360830	to 20040	4.95479E-05
360830	tot-cap	1.56760E+02
360850	to 360860	1.42215E+00
360850	tot-cap	1.42215E+00
380900	to 380910	6.37479E-01
380900	tot-cap	6.37479E-01
390890	to 390900	1.00873E+00
390890	tot-cap	1.00873E+00
400950	to 400940	1.39837E+01
400950	tot-cap	1.39837E+01
400940	to 400950	1.95314E-01
400940	tot-cap	1.95314E-01
400950	to 400960	2.31722E+00
400950	tot-cap	2.31722E+00
410940	to 410950	3.99247E+01
410940	tot-cap	3.99247E+01
420950	to 420960	3.88237E+01
420950	tot-cap	3.88237E+01
430990	to 430980	6.85361E-03
430990	to 431000	9.12749E+01
430990	tot-cap	9.12817E+01
441010	to 441020	2.95358E+01
441010	tot-cap	2.95358E+01
441060	to 441070	9.03144E-01
441060	tot-cap	9.03144E-01
451030	to 451020	2.48212E-03
451030	to 451040	3.49220E+02
451030	tot-cap	3.49222E+02
451050	to 451060	8.22852E+03
451050	tot-cap	8.22852E+03
461050	to 461060	3.50150E+01
461050	tot-cap	3.50150E+01
461080	to 461090	7.07706E+01
461080	tot-cap	7.07706E+01
471090	to 471080	5.77200E-03
471090	to 471100	3.78681E+02
471090	to 461090	3.25365E-04
471090	to 10010	3.25365E-04
471090	to 451060	2.70340E-04
471090	to 20040	2.70340E-04
471090	to 471091	6.66485E-01
471090	tot-cap	3.78687E+02
511240	to 511250	1.24499E+01
511240	tot-cap	1.24499E+01
541310	to 541300	6.99877E-02
541310	to 541290	1.46346E-05
541310	to 541320	2.57660E+02

541310	to 531310	4.17665E-05
541310	to 10010	4.17665E-05
541310	to 531300	5.86917E-07
541310	to 10020	5.86917E-07
541310	to 531250	6.01824E-07
541310	to 10030	6.01824E-07
541310	to 521200	1.99981E-05
541310	to 20040	1.99981E-05
541310	tot-cap	2.57760E+02
541320	to 541310	1.13062E-02
541320	to 541300	2.39798E-05
541320	to 541330	9.54927E-01
541320	to 531320	8.60085E-06
541320	to 10010	8.60085E-06
541320	to 531310	3.64400E-07
541320	to 10020	3.64400E-07
541320	to 531300	4.90665E-08
541320	to 10030	4.90665E-08
541320	to 521250	1.06259E-06
541320	to 20040	1.06259E-06
541320	tot-cap	9.66288E-01
541350	to 541360	1.48021E+06
541350	tot-cap	1.48021E+06
541360	to 541350	1.98400E-02
541360	to 541340	5.90690E-05
541360	to 541370	1.25298E-01
541360	to 531360	3.57113E-07
541360	to 10010	3.57113E-07
541360	to 531350	1.32956E-07
541360	to 10020	1.32956E-07
541360	to 531340	3.00573E-08
541360	to 10030	3.00573E-08
541360	to 521330	2.99573E-07
541360	to 20040	2.99573E-07
541360	tot-cap	1.44698E-01
551330	to 551320	9.05656E-03
551330	to 551340	1.03135E+02
551330	to 541330	9.72211E-04
551330	to 10010	9.72211E-04
551330	to 531300	1.54730E-05
551330	to 20040	1.54730E-05
551330	tot-cap	1.03145E+02
551340	to 551350	1.31999E+02
551340	tot-cap	1.31999E+02
551350	to 551360	2.21934E+01
551350	tot-cap	2.21934E+01
551370	to 551380	2.37725E-01
551370	tot-cap	2.37725E-01
561360	to 561370	9.33725E-01
561360	tot-cap	9.33725E-01
571390	to 571400	8.09313E+00
571390	tot-cap	8.09313E+00
581440	to 581450	1.27143E+00
581440	tot-cap	1.27143E+00
591410	to 591400	6.48971E-03
591410	to 591390	1.86465E-06
591410	to 571370	2.78096E-06
591410	to 20040	5.73896E-05
591410	to 581400	1.97727E-05
591410	to 10010	5.60874E-05

591410 to 591420	1.20857E+01
591410 to 581410	5.28492E-05
591410 to 10020	1.65345E-05
591410 to 581390	1.73401E-06
591410 to 10080	1.73401E-06
591410 to 571390	1.67463E-08
591410 to 20080	1.67463E-08
591410 to 571380	5.46036E-05
591410 tot-cap	1.20925E+01
591430 to 591440	1.00364E+02
591430 tot-cap	1.00364E+02
601430 to 601420	9.92510E-02
601430 to 601410	1.01344E-05
601430 to 581390	2.16519E-05
601430 to 20040	6.06348E-04
601430 to 591420	4.24225E-06
601430 to 10010	4.34810E-05
601430 to 601440	2.00818E+02
601430 to 591430	4.18828E-05
601430 to 10020	2.64399E-06
601430 to 591410	3.80998E-06
601430 to 10080	3.80998E-06
601430 to 581410	1.83054E-08
601430 to 20080	1.83054E-08
601430 to 581400	5.84692E-04
601430 tot-cap	2.00918E+02
601450 to 601440	1.27275E-01
601450 to 601430	1.29894E-04
601450 to 581410	9.05047E-06
601450 to 20040	2.26964E-04
601450 to 591440	2.43057E-06
601450 to 10010	1.57792E-05
601450 to 601460	8.02349E+01
601450 to 591450	1.48028E-05
601450 to 10020	1.46108E-06
601450 to 591430	2.30841E-06
601450 to 10080	2.30841E-06
601450 to 581430	4.68975E-09
601450 to 20080	4.68975E-09
601450 to 581420	2.17874E-04
601450 tot-cap	8.03625E+01
601470 to 601480	1.95601E+02
601470 tot-cap	1.95601E+02
611470 to 611460	3.48651E-02
611470 to 611450	1.08785E-04
611470 to 591430	9.62018E-06
611470 to 20040	8.85888E-05
611470 to 601460	1.33155E-05
611470 to 10010	3.02595E-05
611470 to 611480	5.95205E+02
611470 to 601470	2.69774E-05
611470 to 10020	1.00534E-05
611470 to 601450	3.78822E-06
611470 to 10080	3.78822E-06
611470 to 591450	5.69570E-09
611470 to 20080	5.69570E-09
611470 to 591440	7.93188E-05
611470 tot-cap	5.95340E+02
611480 to 611490	1.20952E+04
611480 tot-cap	1.20952E+04

621470 to 621460	9.09486E-02
621470 to 621450	8.18966E-03
621470 to 601430	7.01333E-05
621470 to 20040	1.33259E-03
621470 to 611460	1.65060E-04
621470 to 10010	2.34814E-04
621470 to 621480	2.40718E+02
621470 to 611470	2.09889E-04
621470 to 10020	1.37235E-04
621470 to 611450	1.47359E-04
621470 to 10030	1.47359E-04
621470 to 601450	6.78025E-06
621470 to 20030	6.78025E-06
621470 to 601440	1.26285E-08
621470 to 621471	1.74085E+00
621470 tot-cap	2.40819E+02
621480 to 621480	5.13940E-02
621480 to 621470	4.08219E-05
621480 to 621500	4.53374E+04
621480 to 611480	5.21771E-04
621480 to 10010	5.21771E-04
621480 to 601460	5.21771E-04
621480 to 20040	5.21771E-04
621480 tot-cap	4.53374E+04
621500 to 621510	1.35788E+02
621500 tot-cap	1.35789E+02
621510 to 621500	1.71085E-01
621510 to 621490	1.53609E-04
621510 to 601470	1.71465E-05
621510 to 20040	1.33173E-04
621510 to 611500	2.10336E-06
621510 to 10010	1.63148E-05
621510 to 621520	5.00646E+03
621510 to 611510	1.50259E-05
621510 to 10020	8.18289E-07
621510 to 611490	1.48719E-06
621510 to 10030	1.48719E-06
621510 to 601490	1.55209E-09
621510 to 20030	1.55209E-09
621510 to 601480	1.16026E-04
621510 tot-cap	5.00663E+03
621520 to 621510	2.05699E-02
621520 to 621500	1.38992E-04
621520 to 601480	3.10523E-06
621520 to 20040	1.28946E-05
621520 to 611510	8.90989E-07
621520 to 10010	2.62992E-06
621520 to 621530	7.36977E+02
621520 to 611520	2.33566E-06
621520 to 10020	5.97308E-07
621520 to 611500	1.55346E-07
621520 to 10030	1.55346E-07
621520 to 601500	4.70786E-10
621520 to 20030	4.70786E-10
621520 to 601490	9.78928E-06
621520 tot-cap	7.36997E+02
631530 to 631520	1.99788E-02
631530 to 631510	2.98338E-05
631530 to 611490	4.60126E-05
631530 to 20040	6.75843E-04

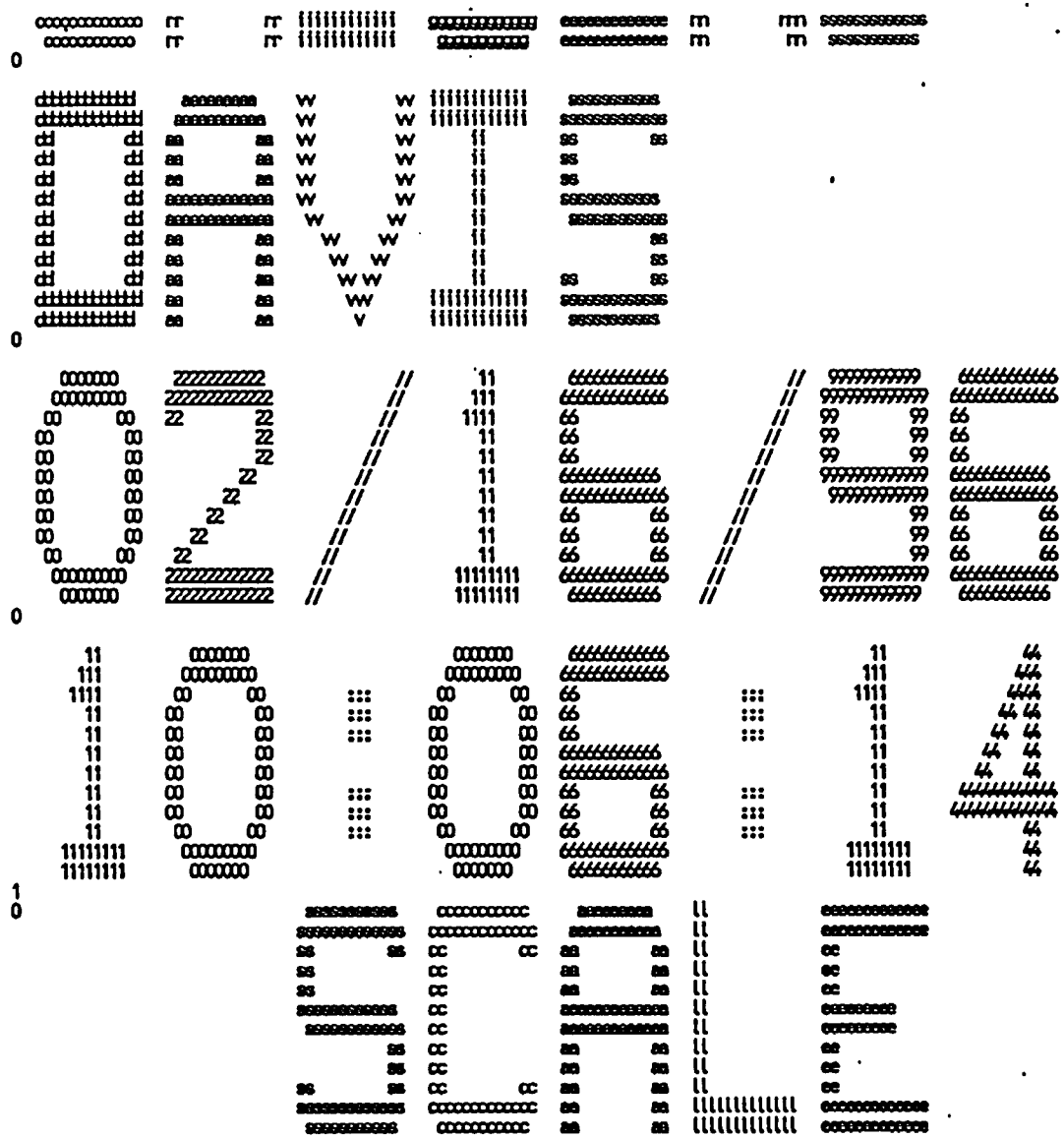
INFORMATION ONLY

631530	to 621520	8.34917E-06
631530	to 10010	6.99057E-05
631530	to 631540	6.35374E+02
631530	to 621530	6.70570E-05
631530	to 10020	5.50060E-06
631530	to 621510	1.23527E-06
631530	to 10030	1.23527E-06
631530	to 611510	2.81953E-08
631530	to 20030	2.81953E-08
631530	to 611500	6.27230E-04
631530	tot-cap	6.35395E+02
631540	to 631530	3.19577E-02
631540	to 631520	1.14727E-05
631540	to 611500	1.11551E-10
631540	to 20040	8.10863E-04
631540	to 621530	2.51107E-06
631540	to 10010	1.32751E-03
631540	to 631550	1.08235E+03
631540	to 621540	1.32730E-03
631540	to 10020	2.50967E-06
631540	to 621520	4.25037E-06
631540	to 10030	4.25037E-06
631540	to 611520	1.80255E-08
631540	to 20030	1.80255E-08
631540	to 611510	8.10863E-04
631540	tot-cap	1.08235E+03
631550	to 631540	2.62221E-02
631550	to 631530	7.34276E-05
631550	to 611510	1.97547E-06
631550	to 20040	9.72207E-06
631550	to 621540	4.00887E-06
631550	to 10010	8.39165E-06
631550	to 631560	2.57630E+03
631550	to 621550	6.44349E-06
631550	to 10020	2.05572E-06
631550	to 621530	6.80514E-07
631550	to 10030	6.80514E-07
631550	to 611530	1.54241E-10
631550	to 20030	1.54241E-10
631550	to 611520	7.74695E-06
631550	tot-cap	2.57633E+03
641550	to 641560	1.72582E+04
641550	tot-cap	1.72582E+04
922340	to 922330	6.86980E-03
922340	fission	4.66782E+00
922340	nu-sigf	1.22751E+01
922340	to 922320	9.98085E-05
922340	to 922350	1.91754E+02
922340	to 922341	3.11810E+00
922340	tot-cap	1.96423E+02
922350	to 922340	3.12804E-02
922350	fission	3.65849E+02
922350	nu-sigf	8.86019E+02
922350	to 922330	3.00055E-05
922350	to 922360	8.77685E+01
922350	to 922351	8.86841E-02
922350	tot-cap	4.53648E+02
922360	to 922350	3.49983E-02
922360	fission	2.00610E+00
922360	nu-sigf	5.51004E+00

922360	to 922340	4.6585E-04
922360	to 922370	7.2008E+01
922360	to 922361	3.4111E+00
922360	tot-cap	7.4050E+01
922380	to 922370	6.9888E-02
922380	fission	1.0070E+00
922380	nu-sigf	2.8372E+00
922380	to 922360	4.5170E-04
922380	to 922390	8.8031E+00
922380	tot-cap	9.8805E+00
932370	to 932360	1.5833E-02
932370	fission	5.4122E+00
932370	nu-sigf	1.6306E+01
932370	to 932350	6.0958E-05
932370	to 932380	3.0647E+02
932370	to 932371	7.9953E-01
932370	tot-cap	3.1190E+02
942380	to 942370	2.5615E-03
942380	fission	2.3079E+01
942380	nu-sigf	6.5474E+01
942380	to 942360	1.4333E-05
942380	to 942390	2.6870E+02
942380	to 942381	3.1387E+00
942380	tot-cap	2.9178E+02
942390	to 942380	1.3544E-02
942390	fission	8.3133E+02
942390	nu-sigf	2.3504E+03
942390	to 942370	2.3076E-05
942390	to 942360	2.2857E-03
942390	to 942400	4.6370E+02
942390	tot-cap	1.2950E+03
942400	to 942390	6.3784E-05
942400	fission	6.0838E+00
942400	nu-sigf	1.9077E+01
942400	to 942380	6.2232E-05
942400	to 942410	1.2394E+03
942400	tot-cap	1.2650E+03
942410	to 942400	8.0073E-02
942410	fission	8.9817E+02
942410	nu-sigf	2.6374E+03
942410	to 942390	1.3318E-04
942410	to 942420	2.9261E+02
942410	tot-cap	1.1975E+03
942420	to 942410	2.6000E-02
942420	fission	4.6948E+00
942420	nu-sigf	1.4714E+01
942420	to 942400	3.1610E-04
942420	to 942430	3.3710E+02
942420	tot-cap	3.4182E+02
952410	fission	1.2710E+01
952410	nu-sigf	4.1136E+01
952410	to 952420	1.0115E+03
952410	tot-cap	1.0362E+03
952430	fission	3.6253E+00
952430	nu-sigf	1.2197E+01
952430	to 952440	4.2974E+02
952430	tot-cap	4.3336E+02
962440	to 962430	6.2488E-05
962440	fission	1.6003E+01
962440	nu-sigf	5.3625E+01

```
               962440 to 962420  6.23160E-05
               962440 to 962450  1.46352E+02
               962440 to 962441  4.00345E+00
               962440 tot-cap    1.62362E+02
0the reaction   50100 to  30070 was not used, because   50100 is not in library., (in subr pool)
                              in the search of library number 3
0the reaction   50100 to  40090 was not used, because   50100 is not in library., (in subr pool)
                              in the search of library number 3
0the reaction   50110 to  40090 was not used, because   50110 is not in library., (in subr pool)
                              in the search of library number 3
0the reaction   50100 to  40100 was not used, because   50100 is not in library., (in subr pool)
                              in the search of library number 3
0the reaction   80160 to  80161 was not used, because   80161 is not in library., (in subr pool)
0the reaction  621470 to 621471 was not used, because  621471 is not in library., (in subr pool)
0the fission product transitions for  922340 were not used.  library fissile nuclides are
   922330   922350   942410   922380   942390
0use substitute nuclide in block 8 data.  or, update with new fission yield data.
0the reaction  922340 to 922341 was not used, because  922341 is not in library., (in subr pool)
0the reaction  922350 to 922351 was not used, because  922351 is not in library., (in subr pool)
0the fission product transitions for  922360 were not used.  library fissile nuclides are
   922330   922350   942410   922380   942390
0use substitute nuclide in block 8 data.  or, update with new fission yield data.
0the reaction  922360 to 922361 was not used, because  922361 is not in library., (in subr pool)
0the fission product transitions for  932370 were not used.  library fissile nuclides are
   922330   922350   942410   922380   942390
0use substitute nuclide in block 8 data.  or, update with new fission yield data.
0the reaction  932370 to 932371 was not used, because  932371 is not in library., (in subr pool)
0the fission product transitions for  942380 were not used.  library fissile nuclides are
   922330   922350   942410   922380   942390
0use substitute nuclide in block 8 data.  or, update with new fission yield data.
0the reaction  942380 to 942381 was not used, because  942381 is not in library., (in subr pool)
0the fission product transitions for  942400 were not used.  library fissile nuclides are
   922330   922350   942410   922380   942390
0use substitute nuclide in block 8 data.  or, update with new fission yield data.
0the fission product transitions for  942420 were not used.  library fissile nuclides are
   922330   922350   942410   922380   942390
0use substitute nuclide in block 8 data.  or, update with new fission yield data.
0the fission product transitions for  952410 were not used.  library fissile nuclides are
   922330   922350   942410   922380   942390
0use substitute nuclide in block 8 data.  or, update with new fission yield data.
0the fission product transitions for  952430 were not used.  library fissile nuclides are
   922330   922350   942410   922380   942390
0use substitute nuclide in block 8 data.  or, update with new fission yield data.
0the fission product transitions for  962440 were not used.  library fissile nuclides are
   922330   922350   942410   922380   942390
0use substitute nuclide in block 8 data.  or, update with new fission yield data.
0the reaction  962440 to 962441 was not used, because  962441 is not in library., (in subr pool)
1
0                             case completed.  date,   2/16/1996
0 * normal termination *
1  ccccccccccc   rrrrrrrrrrr   iiiiiiiiiiii   ggggggggggg   eeeeeeeeeeee  m       m  sssssssssss
  ccccccccccccc  rrrrrrrrrrrr  iiiiiiiiiiii  gggggggggggg   eeeeeeeeeeee  mm     mm sssssssssssss
  cc        cc  rr        rr       ii       gg        gg  ee            mmm   mmm ss        ss
  cc        cc  rr        rr       ii       gg            ee            mm m m mm ss
  cc        cc  rr        rr       ii       gg            ee            mm  m  mm ss
  cc        cc  rrrrrrrrrrrr       ii       gg   gggggg   eeeeeeeee     mm     mm sssssssssss
  cc        cc  rrrrrrrrrrr        ii       gg   gggggg   eeeeeeeee     mm     mm  sssssssssss
  cc        cc  rr    rr           ii       gg        gg  ee            mm     mm          ss
  cc        cc  rr     rr          ii       gg        gg  ee            mm     mm          ss
  cc        cc  rr      rr         ii       gg        gg  ee            mm     mm ss        ss
```

INFORMATION ONLY



```
*****************************************************************************
*****************************************************************************
*****************************************************************************
*****                                                                   *****
*****                  program verification information                 *****
*****                                                                   *****
*****                  code system:   scale  version:   4.2             *****
*****                                                                   *****
*****************************************************************************
*****************************************************************************
*****                                                                   *****
*****                                                                   *****
*****              program: c0c004                                      *****
*****                                                                   *****
*****        creation date: 04/27/95                                    *****
*****                                                                   *****
*****              library: /neutronics/scale/exe                       *****
*****                                                                   *****
*****                                                                   *****
*****     this is not a  scale  configuration controlled code           *****
*****                                                                   *****
*****              jobname: davis                                       *****
*****                                                                   *****
*****    date of execution: 02/16/96                                    *****
*****                                                                   *****
*****    time of execution: 10:06:14                                    *****
*****                                                                   *****
*****                                                                   *****
*****************************************************************************
*****************************************************************************
*****************************************************************************
1
0      -1q array has      1 entries.
0       0q array has      1 entries.
0       0q array has      1 entries.
0       0q array has      1 entries.
0       0q array has      1 entries.
0       dbl. prec. machine word applied has, at least, a 16 significant figure accuracy.
0          short-lived split test fraction, qpn =    9.1188E-04
0          half-norm of matrix used, amn =    7.0000E+00
0          4-place-accuracy-retention ratio, ratio4 =    6.4516E-13
0       1q array has     20 entries.
0       3q array has      1 entries.
0       3q array has      1 entries.
0       3q array has      1 entries.
0       3q array has      1 entries.
0       4q array has      1 entries.
0      54q array has     12 entries.
1library information...

        cross-section data taken from position number  1 of library on unit 33.

        pass  1
        pass  0
        *scale-system control module sas2 library*
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
```

```
        first library updated was...
        pass  1
        pass  0
        *scale-system control module sas2 library*
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        *********************************************************************
        *                                                                   *
        *         prelim lwr origen-s binary working library--id = 1143     *
        *       made from modified card-image origen-s libraries of scale 4.2 *
        *   data from the light element, actinide, and fission product libraries *
        *    decay data, including gamma and total energy, are from endf/b-vi *
        *                                                                   *
        *   neutron flux spectrum factors and cross sections were produced from *
        *  the "presas2" case updating all nuclides on the scale "burnup" library *
        *                                                                   *
        *              fission product yields are from endf/b-v.           *
        *                                                                   *
        *           photon libraries use an 18-energy-group structure      *
        *           the photon data are from the master photon data base,  *
        *           produced to include bremsstrahlung from uo2 matrix     *
        *                                                                   *
        *      see information above this box (if present) for later updates *
        *                                                                   *
        *********************************************************************
        *                                                                   *
0       *********************************************************************
0                .other identification and sizes of library.
0                  data set name:  ft33f001
0               2/16/1996    date library was produced
0                    1697    total number of nuclides in library
                      689    number of light-element nuclides
                      129    number of actinide nuclides
                      879    number of fission product nuclides
0                    7985    number of nonzero off-diagonal matrix elements
0       *********************************************************************
1
   sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp                  light elements       page   1
0                                          nuclide concentrations, grams
                                           basis =single reactor assembly
           initial   1E-18 d
  total    .00E+00   .00E+00
1
   sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp                     actinides         page   2
0                                          nuclide concentrations, grams
                                           basis =single reactor assembly
           initial   1E-18 d
     u234  1.11E+02  1.11E+02
     u235  1.39E+04  1.39E+04
     u236  6.40E+01  6.40E+01
     u238  4.50E+05  4.50E+05
  total    4.64E+05  4.64E+05
1  sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp                                       page   3
      power=   7.25mw, burnup=   1160.mwd, flux= 1.69E+13n/cm**2-sec
0                                          basis =
0  (note, k-infinities, clad and moderator absorptions are correct, only, if correctly weighted cross sections are applied.)
0                   initial        40.0 d        80.0 d       120.0 d       160.0 d       160.0 d
   productions  3.258919E+04  3.290367E+04  3.325273E+04  3.354246E+04  3.378176E+04  3.378195E+04
```

absorptions	2.44420E+04	2.53319E+04	2.56774E+04	2.59958E+04	2.62967E+04	2.63080E+04
k infinity	1.33332E+00	1.29869E+00	1.29501E+00	1.29030E+00	1.28463E+00	1.28333E+00
0	initial	40.0 d	80.0 d	120.0 d	160.0 d	160.0 d
actinide absorptions	2.44420E+04	2.46698E+04	2.48510E+04	2.51763E+04	2.54057E+04	2.54068E+04
non-actinide abs. fracs.	.000000E+00	2.61515E-02	2.90704E-02	3.15258E-02	3.38456E-02	3.40722E-02

1

sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp actinides page 4

power= 7.25mw, burnup= 1160.mwd, flux= 1.69E+13n/cm**2-sec

0 nuclide concentrations, gram atoms
basis = single reactor assembly

	charge	40.0 d	80.0 d	120.0 d	160.0 d	160.0 d
he 4	.00E+00	1.37E-06	5.40E-06	1.23E-05	2.22E-05	2.22E-05
th226	.00E+00	3.39E-21	1.00E-20	1.79E-20	2.67E-20	2.67E-20
th227	.00E+00	6.58E-18	4.57E-17	1.38E-16	2.97E-16	2.97E-16
th228	.00E+00	1.08E-12	4.34E-12	9.84E-12	1.78E-11	1.78E-11
th229	.00E+00	5.13E-14	2.07E-13	4.70E-13	8.44E-13	8.44E-13
th230	.00E+00	1.45E-07	2.85E-07	4.21E-07	5.52E-07	5.52E-07
th231	.00E+00	3.61E-10	4.72E-10	5.78E-10	6.80E-10	6.78E-10
th232	.00E+00	1.32E-09	3.51E-09	6.54E-09	1.04E-08	1.04E-08
th233	.00E+00	1.07E-15	2.83E-15	5.21E-15	8.23E-15	6.18E-15
th234	.00E+00	1.91E-08	2.51E-08	2.70E-08	2.76E-08	2.76E-08
pa231	.00E+00	7.55E-09	1.81E-08	3.14E-08	4.71E-08	4.71E-08
pa232	.00E+00	5.80E-12	1.38E-11	2.38E-11	3.55E-11	3.54E-11
pa233	.00E+00	5.98E-11	2.41E-10	4.92E-10	7.87E-10	7.87E-10
pa234m	.00E+00	6.43E-13	8.46E-13	9.10E-13	9.30E-13	9.30E-13
pa234	.00E+00	2.91E-13	3.95E-13	4.37E-13	4.64E-13	4.63E-13
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	.00E+00	3.25E-18	9.70E-18	1.73E-17	2.59E-17	2.58E-17
u231	.00E+00	1.47E-16	3.22E-16	5.06E-16	7.01E-16	7.01E-16
u232	.00E+00	2.08E-09	4.18E-09	6.52E-09	9.15E-09	9.15E-09
u233	.00E+00	2.08E-07	4.08E-07	5.94E-07	7.74E-07	7.72E-07
u234	4.76E-01	4.71E-01	4.67E-01	4.62E-01	4.58E-01	4.58E-01
u235	5.98E+01	5.77E+01	5.63E+01	5.46E+01	5.34E+01	5.34E+01
u236	2.71E-01	5.44E-01	8.07E-01	1.08E+00	1.31E+00	1.31E+00
u237	.00E+00	1.80E-03	2.07E-03	2.31E-03	2.53E-03	2.53E-03
u238	1.88E+03	1.88E+03	1.88E+03	1.88E+03	1.88E+03	1.88E+03
u239	.00E+00	4.74E-04	4.70E-04	4.67E-04	4.65E-04	3.54E-04
u240	.00E+00	.00E+00	1.14E-38	8.79E-37	1.92E-35	1.92E-35
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	.00E+00	5.53E-12	2.80E-11	6.92E-11	1.30E-10	1.30E-10
np236m	.00E+00	9.07E-11	2.21E-10	3.64E-10	5.20E-10	5.18E-10
np236	.00E+00	3.83E-10	1.98E-09	5.00E-09	9.58E-09	9.58E-09
np237	.00E+00	5.39E-03	1.32E-02	2.19E-02	3.14E-02	3.14E-02
np238	.00E+00	6.47E-06	1.58E-05	2.60E-05	3.71E-05	3.71E-05
np239	.00E+00	6.84E-02	6.79E-02	6.75E-02	6.71E-02	6.71E-02
np240m	.00E+00	.00E+00	9.72E-41	7.50E-39	1.64E-37	1.64E-37
np240	.00E+00	1.13E-06	1.11E-06	1.10E-06	1.09E-06	9.85E-07
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	.00E+00	5.02E-10	2.62E-09	6.57E-09	1.25E-08	1.25E-08
pu237	.00E+00	2.88E-10	9.86E-10	1.86E-09	2.81E-09	2.81E-09
pu238	.00E+00	3.19E-05	1.71E-04	4.34E-04	8.31E-04	8.31E-04
pu239	.00E+00	7.08E-01	1.42E+00	2.08E+00	2.68E+00	2.68E+00
pu240	.00E+00	1.08E-02	4.03E-02	8.48E-02	1.41E-01	1.41E-01
pu241	.00E+00	4.33E-04	3.18E-03	9.97E-03	2.20E-02	2.20E-02
pu242	.00E+00	1.97E-06	2.84E-05	1.34E-04	3.98E-04	3.98E-04
pu243	.00E+00	2.42E-10	3.47E-09	1.63E-08	4.79E-08	4.68E-08
pu244	.00E+00	3.31E-31	5.68E-28	4.38E-26	9.57E-25	9.57E-25
pu245	.00E+00	2.51E-37	4.25E-34	3.28E-32	7.14E-31	7.09E-31

```
    pu246    .00E+00 2.10E-40 6.08E-37 6.00E-35 1.53E-33 1.53E-33
    am239    .00E+00 8.52E-18 1.22E-16 5.69E-16 1.67E-15 1.68E-15
    am240    .00E+00 3.68E-15 5.22E-14 2.44E-13 7.16E-13 7.15E-13
1
    sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp                    actinides       page   5
    power=  7.25mw, burnup=  1160.mwd, flux= 1.69E+13n/cm**2-sec
0                                          nuclide concentrations, gram atoms
                                           basis = single reactor assembly
          charge    40.0 d    80.0 d   120.0 d   160.0 d   160.0 d
    am241   .00E+00 5.91E-07 8.50E-06 3.95E-05 1.18E-04 1.18E-04
    am242m  .00E+00 1.12E-09 3.08E-08 2.04E-07 7.73E-07 7.73E-07
    am242   .00E+00 7.01E-10 1.00E-08 4.68E-08 1.37E-07 1.36E-07
    am243   .00E+00 6.68E-09 1.90E-07 1.34E-06 5.31E-06 5.31E-06
    am244m  .00E+00  .00E+00  .00E+00  .00E+00  .00E+00  .00E+00
    am244   .00E+00 2.18E-12 6.14E-11 4.32E-10 1.70E-09 1.68E-09
    am245   .00E+00 2.30E-35 3.87E-32 2.95E-30 6.30E-29 6.30E-29
    am246   .00E+00  .00E+00 1.51E-39 1.50E-37 3.83E-36 3.83E-36
    cm241   .00E+00 3.37E-21 3.33E-19 4.68E-18 2.94E-17 2.94E-17
    cm242   .00E+00 4.75E-09 1.31E-07 9.06E-07 3.49E-06 3.49E-06
    cm243   .00E+00 3.13E-12 1.71E-10 1.75E-09 8.97E-09 8.97E-09
    cm244   .00E+00 2.43E-11 1.36E-09 1.45E-08 7.66E-08 7.67E-08
    cm245   .00E+00 2.50E-14 2.75E-12 4.31E-11 3.00E-10 3.00E-10
    cm246   .00E+00 4.53E-17 9.92E-15 2.32E-13 2.15E-12 2.15E-12
    cm247   .00E+00 1.35E-20 5.86E-18 2.08E-16 2.49E-15 2.49E-15
    cm248   .00E+00 1.73E-23 1.49E-20 7.66E-19 1.25E-17 1.25E-17
    cm249   .00E+00 1.04E-28 8.86E-26 4.53E-24 7.37E-23 6.67E-23
    cm250   .00E+00 8.14E-34 1.38E-30 1.08E-28 2.27E-27 2.27E-27
    cm251   .00E+00 2.04E-41 3.47E-38 2.63E-36 5.66E-35 3.87E-35
  totals    1.95E+03 1.95E+03 1.95E+03 1.95E+03 1.94E+03 1.94E+03
0   flux              1.71E+13 1.70E+13 1.69E+13 1.68E+13 1.68E-02
0      1q array has      20 entries.
0      3q array has       1 entries.
0      3q array has       1 entries.
0      3q array has       1 entries.
0      4q array has       1 entries.
0      5q array has      12 entries.
1library information...

        cross-section data taken from position number  2 of library on unit 33.

        pass  1
        pass  0
        *scale-system control module sas2 library*
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        pass  1
        pass  0
        *scale-system control module sas2 library*
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        ********************************************************************
        *                                                                  *
        *          prelim lwr origen-s binary working library--id = 1143   *
        *        made from modified card-image origen-s libraries of scale 4.2 *
        *      data from the light element, actinide, and fission product libraries *
        *        decay data, including gamma and total energy, are from endf/b-vi *
```

```
*                                                                          *
*     neutron flux spectrum factors and cross sections were produced from  *
*     the "presas2" case updating all nuclides on the scale "burnup" library *
*                                                                          *
*              fission product yields are from endf/b-v                    *
*                                                                          *
*           photon libraries use an 18-energy-group structure              *
*          the photon data are from the master photon data base,           *
*          produced to include bremsstrahlung from uo2 matrix              *
*                                                                          *
*       see information above this box (if present) for later updates      *
*                                                                          *
****************************************************************************
*                                                                          *
****************************************************************************
```

0
0 .other identification and sizes of library.
0 data set name: ft33f001
0 2/16/1996 date library was produced
0 1697 total number of nuclides in library
689 number of light-element nuclides
129 number of actinide nuclides
879 number of fission product nuclides
0 7985 number of nonzero off-diagonal matrix elements
0 **

1 sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp page 6
power= 7.25mw, burnup= 2320.mwd, flux= 1.64E+13n/cm**2-sec
0 basis =
0 (note, k-infinities, clad and moderator absorptions are correct, only, if correctly weighted cross sections are applied.)

0	initial	200.0 d	240.0 d	280.0 d	320.0 d	320.0 d
productions	3.427559E+04	3.450159E+04	3.469840E+04	3.484916E+04	3.497630E+04	3.497669E+04
absorptions	2.700098E+04	2.729749E+04	2.758232E+04	2.786215E+04	2.810795E+04	2.811999E+04
k infinity	1.269420E+00	1.263911E+00	1.257777E+00	1.251220E+00	1.244356E+00	1.243837E+00

0	initial	200.0 d	240.0 d	280.0 d	320.0 d	320.0 d
actinide absorptions	2.609392E+04	2.632092E+04	2.653591E+04	2.673766E+04	2.692678E+04	2.692698E+04
non-actinide abs. fracs.	3.359377E-02	3.577524E-02	3.795770E-02	4.001468E-02	4.202268E-02	4.242539E-02

1
sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 7
power= 7.25mw, burnup= 2320.mwd, flux= 1.64E+13n/cm**2-sec
0 nuclide concentrations, gram atoms
basis = single reactor assembly

	charge	200.0 d	240.0 d	280.0 d	320.0 d	320.0 d
he 4	2.22E-05	3.60E-05	5.44E-05	7.89E-05	1.11E-04	1.11E-04
th226	2.67E-20	3.86E-20	5.16E-20	6.63E-20	8.34E-20	8.33E-20
th227	2.97E-16	5.39E-16	8.77E-16	1.32E-15	1.89E-15	1.89E-15
th228	1.78E-11	2.84E-11	4.23E-11	5.98E-11	8.14E-11	8.14E-11
th229	8.44E-13	1.34E-12	1.96E-12	2.71E-12	3.61E-12	3.61E-12
th230	5.52E-07	6.79E-07	8.02E-07	9.21E-07	1.04E-06	1.04E-06
th231	6.78E-10	8.06E-10	9.04E-10	1.00E-09	1.09E-09	1.09E-09
th232	1.04E-08	1.50E-08	2.03E-08	2.64E-08	3.33E-08	3.33E-08
th233	6.18E-15	1.23E-14	1.67E-14	2.17E-14	2.72E-14	1.53E-14
th234	2.78E-08	2.78E-08	2.78E-08	2.78E-08	2.78E-08	2.78E-08
pa231	4.71E-08	6.57E-08	8.66E-08	1.10E-07	1.36E-07	1.36E-07
pa232	3.54E-11	5.07E-11.	6.67E-11	8.43E-11	1.03E-10	1.03E-10
pa233	7.87E-10	1.12E-09	1.49E-09	1.88E-09	2.31E-09	2.31E-09
pa234m	9.30E-13	9.36E-13	9.38E-13	9.38E-13	9.38E-13	9.38E-13
pa234	4.63E-13	4.89E-13	5.13E-13	5.38E-13	5.66E-13	5.60E-13
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	2.58E-17	3.74E-17	5.00E-17	6.43E-17	8.08E-17	8.07E-17

u231	7.01E-16	9.83E-16	1.25E-15	1.56E-15	1.91E-15	1.91E-15
u232	9.15E-09	1.23E-08	1.60E-08	2.00E-08	2.52E-08	2.52E-08
u233	7.74E-07	9.55E-07	1.14E-06	1.30E-06	1.47E-06	1.47E-06
u234	4.58E-01	4.54E-01	4.49E-01	4.45E-01	4.41E-01	4.41E-01
u235	5.36E+01	5.23E+01	5.10E+01	4.98E+01	4.88E+01	4.88E+01
u236	1.31E+00	1.55E+00	1.78E+00	2.00E+00	2.22E+00	2.22E+00
u237	2.53E-03	2.87E-03	3.09E-03	3.30E-03	3.50E-03	3.50E-03
u238	1.88E+03	1.88E+03	1.88E+03	1.88E+03	1.88E+03	1.88E+03
u239	3.54E-04	4.81E-04	4.79E-04	4.78E-04	4.77E-04	2.78E-04
u240	1.92E-35	2.19E-34	1.60E-33	8.50E-33	3.57E-32	3.57E-32
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	1.30E-10	2.17E-10	3.28E-10	4.61E-10	6.18E-10	6.18E-10
np236m	5.18E-10	7.48E-10	9.48E-10	1.16E-09	1.39E-09	1.37E-09
np236	9.58E-09	1.63E-08	2.51E-08	3.60E-08	4.92E-08	4.92E-08
np237	3.14E-02	4.21E-02	5.35E-02	6.57E-02	7.85E-02	7.85E-02
np238	3.71E-05	5.08E-05	6.44E-05	7.88E-05	9.41E-05	9.37E-05
np239	6.71E-02	6.95E-02	6.92E-02	6.90E-02	6.88E-02	6.88E-02
np240m	1.64E-37	1.87E-36	1.37E-35	7.28E-35	3.05E-34	3.05E-34
np240	9.82E-07	1.17E-06	1.14E-06	1.15E-06	1.15E-06	9.34E-07
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	1.25E-08	2.12E-08	3.23E-08	4.60E-08	6.23E-08	6.23E-08
pu237	2.81E-09	3.95E-09	5.05E-09	6.10E-09	7.12E-09	7.12E-09
pu238	8.31E-04	1.35E-03	2.11E-03	3.00E-03	4.08E-03	4.08E-03
pu239	2.68E+00	3.26E+00	3.81E+00	4.31E+00	4.77E+00	4.77E+00
pu240	1.41E-01	2.08E-01	2.78E-01	3.57E-01	4.40E-01	4.40E-01
pu241	2.20E-02	3.88E-02	6.13E-02	9.03E-02	1.26E-01	1.26E-01
pu242	3.96E-04	8.88E-04	1.70E-03	2.92E-03	4.68E-03	4.68E-03
pu243	4.68E-08	1.12E-07	2.13E-07	3.66E-07	5.82E-07	5.58E-07
pu244	9.57E-25	1.05E-23	7.98E-23	4.23E-22	1.78E-21	1.78E-21
pu245	7.07E-31	8.01E-30	5.83E-29	3.05E-28	1.30E-27	1.27E-27
pu246	1.53E-33	1.91E-32	1.51E-31	8.53E-31	3.77E-30	3.77E-30
am239	1.65E-15	3.95E-15	7.51E-15	1.28E-14	2.03E-14	1.99E-14
am240	7.15E-13	1.70E-12	3.23E-12	5.53E-12	8.74E-12	8.71E-12

1

ses2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 8
power= 7.25mw, burnup= 2520.md, flux= 1.64E+13n/cm**2-sec

0 nuclide concentrations, gram atoms
basis = single reactor assembly

	charge	200.0 d	240.0 d	280.0 d	320.0 d	320.0 d
am241	1.18E-04	2.65E-04	5.05E-04	8.64E-04	1.37E-03	1.37E-03
am242m	7.73E-07	2.10E-06	4.66E-06	9.07E-06	1.58E-05	1.58E-05
am242	1.36E-07	3.05E-07	5.80E-07	9.91E-07	1.57E-06	1.55E-06
am243	5.31E-06	1.56E-05	3.65E-05	7.37E-05	1.35E-04	1.35E-04
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	1.68E-09	5.17E-09	1.20E-08	2.42E-08	4.43E-08	4.33E-08
am245	6.30E-29	7.41E-28	5.34E-27	2.79E-26	1.14E-25	1.14E-25
am246	3.83E-36	4.77E-35	3.78E-34	2.13E-33	9.41E-33	9.41E-33
cm241	2.94E-17	1.27E-16	3.92E-16	9.88E-16	2.15E-15	2.15E-15
cm242	3.49E-06	9.65E-06	2.17E-05	4.26E-05	7.56E-05	7.56E-05
cm243	8.97E-09	3.20E-08	8.74E-08	2.00E-07	4.08E-07	4.08E-07
cm244	7.67E-08	2.87E-07	8.21E-07	1.99E-06	4.13E-06	4.13E-06
cm245	3.00E-10	1.42E-09	4.88E-09	1.36E-08	3.26E-08	3.26E-08
cm246	2.15E-12	1.23E-11	5.14E-11	1.69E-10	4.68E-10	4.68E-10
cm247	2.49E-15	1.83E-14	9.15E-14	3.53E-13	1.12E-12	1.12E-12
cm248	1.25E-17	1.17E-16	7.08E-16	3.19E-15	1.14E-14	1.14E-14
cm249	6.67E-23	7.20E-22	4.33E-21	1.95E-20	7.12E-20	5.83E-20
cm250	2.27E-27	2.66E-26	1.94E-25	1.03E-24	4.29E-24	4.29E-24
cm251	3.87E-35	6.50E-34	4.71E-33	2.48E-32	1.04E-31	4.85E-32
totals	1.94E+03	1.94E+03	1.94E+03	1.94E+03	1.94E+03	1.94E+03
0 flux		1.65E+13	1.64E+13	1.64E+13	1.64E+13	1.64E-02

```
0       1q array has     20 entries.
0       3q array has      1 entries.
0       3q array has      1 entries.
0       3q array has      1 entries.
0       4q array has      1 entries.
0      54q array has     12 entries.
1library information...

        cross-section data taken from position number  3 of library on unit 33.

        pass  1
        pass  0
        *scale-system control module sas2 library*
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        pass  1
        pass  0
        *scale-system control module sas2 library*
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        ********************************************************************
        *                                                                  *
        *          prelim lwr origen-s binary working library--id = 1143   *
        *        made from modified card-image origen-s libraries of scale 4.2 *
        *      data from the light element, actinide, and fission product libraries *
        *       decay data, including gamma and total energy, are from endf/b-vi *
        *                                                                  *
        *      neutron flux spectrum factors and cross sections were produced from *
        *     the "presas2" case updating all nuclides on the scale "bump1" library *
        *                                                                  *
        *                 fission product yields are from endf/b-v         *
        *                                                                  *
        *              photon libraries use an 18-energy-group structure   *
        *             the photon data are from the master photon data base, *
        *              produced to include bremsstrahlung from us2 matrix  *
        *                                                                  *
        *       see information above this box (if present) for later updates *
        *                                                                  *
        ********************************************************************
        *                                                                  *
        ********************************************************************
0
0               .other identification and sizes of library.
0                 data set name:  ft33f001
0              2/16/1996    date library was produced
0                   1697    total number of nuclides in library
                     689    number of light-element nuclides
                     129    number of actinide nuclides
                     879    number of fission product nuclides
0                   7985    number of nonzero off-diagonal matrix elements
        ********************************************************************
0
0
1   sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp                    page   9
       power=  7.25mw, burnup=  3480.mwd, flux= 1.62e+13n/cm**2-sec
0                                        basis =
0   (note, k-infinities, clad and moderator absorptions are correct, only, if correctly weighted cross sections are applied.)
0                 initial       360.0 d       400.0 d       440.0 d       480.0 d       480.0 d
    productions  3.533429e+04  3.549952e+04  3.556331e+04  3.564504e+04  3.570724e+04  3.570783e+04
```

absorptions	2.863199E+04	2.887506E+04	2.911586E+04	2.934422E+04	2.956090E+04	2.957839E+04
k infinity	1.234084E+00	1.228033E+00	1.221441E+00	1.214721E+00	1.207921E+00	1.207227E+00
0	initial	360.0 d	400.0 d	440.0 d	480.0 d	480.0 d
actinide absorptions	2.742413E+04	2.760863E+04	2.778306E+04	2.794630E+04	2.809889E+04	2.809919E+04
non-actinide abs. fracs.	4.218566E-02	4.386889E-02	4.577571E-02	4.763854E-02	4.945773E-02	5.000957E-02

1

sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp actinides page 10

power= 7.25mw, burnup= 3480.mwd, flux= 1.62E+13n/cm**2-sec

0 nuclide concentrations, gram atoms basis = single reactor assembly

	charge	360.0 d	400.0 d	440.0 d	480.0 d	480.0 d
he 4	1.11E-04	1.54E-04	2.11E-04	2.85E-04	3.80E-04	3.80E-04
th226	8.33E-20	1.07E-19	1.32E-19	1.60E-19	1.93E-19	1.93E-19
th227	1.89E-15	2.59E-15	3.44E-15	4.44E-15	5.60E-15	5.61E-15
th228	8.14E-11	1.08E-10	1.40E-10	1.78E-10	2.24E-10	2.24E-10
th229	3.61E-12	4.67E-12	5.90E-12	7.33E-12	8.98E-12	8.98E-12
th230	1.04E-06	1.19E-06	1.25E-06	1.35E-06	1.45E-06	1.45E-06
th231	1.09E-09	1.22E-09	1.31E-09	1.39E-09	1.48E-09	1.46E-09
th232	3.33E-08	4.08E-08	4.89E-08	5.77E-08	6.72E-08	6.72E-08
th233	1.53E-14	3.44E-14	4.12E-14	4.88E-14	5.66E-14	2.39E-14
th234	2.78E-08	2.78E-08	2.78E-08	2.78E-08	2.78E-08	2.78E-08
pa231	1.35E-07	1.63E-07	1.95E-07	2.25E-07	2.58E-07	2.58E-07
pa232	1.03E-10	1.28E-10	1.51E-10	1.75E-10	2.01E-10	1.99E-10
pa233	2.31E-09	2.78E-09	3.23E-09	3.71E-09	4.26E-09	4.26E-09
pa234m	9.38E-13	9.38E-13	9.37E-13	9.37E-13	9.37E-13	9.36E-13
pa234	5.60E-13	5.99E-13	6.30E-13	6.63E-13	6.97E-13	6.84E-13
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	8.07E-17	1.04E-16	1.28E-16	1.56E-16	1.87E-16	1.87E-16
u231	1.91E-15	2.42E-15	2.90E-15	3.46E-15	4.08E-15	4.07E-15
u232	2.52E-08	3.10E-08	3.78E-08	4.56E-08	5.45E-08	5.45E-08
u233	1.47E-06	1.63E-06	1.79E-06	1.94E-06	2.08E-06	2.08E-06
u234	4.41E-01	4.36E-01	4.32E-01	4.28E-01	4.24E-01	4.24E-01
u235	4.86E+01	4.74E+01	4.63E+01	4.52E+01	4.41E+01	4.41E+01
u236	2.22E+00	2.44E+00	2.64E+00	2.84E+00	3.04E+00	3.04E+00
u237	3.50E-03	3.80E-03	4.00E-03	4.19E-03	4.38E-03	4.37E-03
u238	1.88E+03	1.88E+03	1.88E+03	1.88E+03	1.88E+03	1.88E+03
u239	2.76E-04	4.91E-04	4.90E-04	4.89E-04	4.89E-04	2.16E-04
u240	3.57E-32	1.28E-31	3.99E-31	1.11E-30	2.81E-30	2.81E-30
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	6.18E-10	8.11E-10	1.03E-09	1.27E-09	1.54E-09	1.54E-09
np236m	1.37E-09	1.72E-09	1.99E-09	2.27E-09	2.55E-09	2.52E-09
np236	4.90E-08	6.58E-08	8.50E-08	1.07E-07	1.32E-07	1.32E-07
np237	7.85E-02	9.22E-02	1.07E-01	1.22E-01	1.37E-01	1.37E-01
np238	9.37E-05	1.12E-04	1.30E-04	1.48E-04	1.67E-04	1.66E-04
np239	6.88E-02	7.08E-02	7.07E-02	7.06E-02	7.06E-02	7.05E-02
np240m	3.05E-34	1.09E-33	3.41E-33	9.49E-33	2.40E-32	2.40E-32
np240	9.34E-07	1.22E-06	1.21E-06	1.21E-06	1.21E-06	8.88E-07
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	6.23E-08	8.25E-08	1.06E-07	1.32E-07	1.62E-07	1.62E-07
pu237	7.12E-09	8.37E-09	9.53E-09	1.06E-08	1.17E-08	1.17E-08
pu238	4.08E-03	5.37E-03	6.88E-03	8.60E-03	1.06E-02	1.06E-02
pu239	4.77E+00	5.22E+00	5.66E+00	6.05E+00	6.42E+00	6.42E+00
pu240	4.40E-01	5.27E-01	6.18E-01	7.11E-01	8.04E-01	8.04E-01
pu241	1.28E-01	1.63E-01	2.06E-01	2.56E-01	3.09E-01	3.09E-01
pu242	4.66E-03	6.95E-03	9.82E-03	1.34E-02	1.78E-02	1.78E-02
pu243	5.58E-07	8.97E-07	1.27E-06	1.73E-06	2.30E-06	2.16E-06
pu244	1.78E-21	6.36E-21	1.99E-20	5.54E-20	1.40E-19	1.40E-19
pu245	1.27E-27	4.58E-27	1.43E-26	3.98E-26	1.01E-25	9.75E-26

```
    pu246  3.77E-30  1.38E-29  4.48E-29  1.29E-28  3.34E-28  3.33E-28
    am239  1.99E-14  3.14E-14  4.43E-14  6.01E-14  7.91E-14  7.70E-14
    am240  8.71E-12  1.36E-11  1.91E-11  2.59E-11  3.42E-11  3.40E-11
1
    sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp                    actinides       page  11
    power=   7.25mw, burnup=  3480.mwd, flux= 1.62E+13n/cm**2-sec
0                                                  nuclide concentrations, gram atoms
                                                   basis = single reactor assembly
            charge   360.0 d  400.0 d  440.0 d  480.0 d  480.0 d
    am241  1.37E-03  2.03E-03  2.87E-03  3.89E-03  5.12E-03  5.12E-03
    am242m 1.58E-05  2.55E-05  3.88E-05  5.64E-05  7.87E-05  7.87E-05
    am242  1.59E-06  2.31E-06  3.25E-06  4.42E-06  5.81E-06  5.70E-06
    am243  1.35E-04  2.31E-04  3.70E-04  5.62E-04  8.20E-04  8.20E-04
    am244m  .00E+00   .00E+00   .00E+00   .00E+00   .00E+00   .00E+00
    am244  4.33E-08  7.79E-08  1.25E-07  1.89E-07  2.78E-07  2.67E-07
    am245  1.16E-25  4.20E-25  1.31E-24  3.59E-24  8.98E-24  8.98E-24
    am246  9.41E-33  3.46E-32  1.12E-31  3.21E-31  8.34E-31  8.34E-31
    cm241  2.15E-15  4.40E-15  8.06E-15  1.37E-14  2.20E-14  2.20E-14
    cm242  7.56E-05  1.24E-04  1.91E-04  2.81E-04  3.98E-04  3.98E-04
    cm243  4.08E-07  7.61E-07  1.31E-06  2.13E-06  3.29E-06  3.29E-06
    cm244  4.13E-06  8.04E-06  1.45E-05  2.45E-05  3.93E-05  3.93E-05
    cm245  3.28E-08  7.17E-08  1.43E-07  2.66E-07  4.64E-07  4.64E-07
    cm246  4.68E-10  1.15E-09  2.56E-09  5.20E-09  1.01E-08  1.01E-08
    cm247  1.12E-12  3.16E-12  7.88E-12  1.78E-11  3.73E-11  3.73E-11
    cm248  1.16E-14  3.74E-14  1.05E-13  2.63E-13  6.08E-13  6.08E-13
    cm249  5.83E-20  2.37E-19  6.63E-19  1.66E-18  3.83E-18  2.84E-18
    cm250  4.29E-24  1.54E-23  4.89E-23  1.36E-22  3.44E-22  3.44E-22
    cm251  4.85E-32  3.74E-31  1.17E-30  3.28E-30  8.24E-30  2.62E-30
   totals  1.94E+03  1.94E+03  1.94E+03  1.94E+03  1.93E+03  1.93E+03
0   flux             1.62E+13  1.62E+13  1.62E+13  1.62E+13  1.61E-02
0      1q array has      20 entries.
0      3q array has       1 entries.
0      3q array has       1 entries.
0      3q array has       1 entries.
0      4q array has       1 entries.
0      5q array has      12 entries.
1library information...

        cross-section data taken from position number  4 of library on unit 33.

        pass   1
        pass   0
        *scale-system control module sas2 library*
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        pass   1
        pass   0
        *scale-system control module sas2 library*
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        ********************************************************************
        *                                                                  *
        *            prelim lwr origen-s binary working library--id = 1143 *
        *          made from modified card-image origen-s libraries of scale 4.2 *
        *       data from the light element, actinide, and fission product libraries *
        *         decay data, including gamma and total energy, are from endf/b-vi *
```

INFORMATION ONLY

```
*                                                                              *
*     neutron flux spectrum factors and cross sections were produced from     *
*     the "presas2" case updating all nuclides on the scale "burnup" library  *
*                                                                              *
*                 fission product yields are from endf/b-v                    *
*                                                                              *
*               photon libraries use an 18-energy-group structure             *
*              the photon data are from the master photon data base,          *
*              produced to include bremsstrahlung from uo2 matrix             *
*                                                                              *
*         see information above this box (if present) for later updates       *
*                                                                              *
********************************************************************************
*                                                                              *
********************************************************************************
0
0              .other identification and sizes of library.
0               data set name:  ft33f001
0            2/16/1996   date library was produced
0                 1697   total number of nuclides in library
                   689   number of light-element nuclides
                   129   number of actinide nuclides
                   879   number of fission product nuclides
0                 7985   number of nonzero off-diagonal matrix elements
0       ************************************************************************
1  sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp                         page  12
      power=  7.25mw, burnup=  4640.mwd, flux= 1.60E+13n/cm**2-sec
0                                           basis =
0  (note, k-infinities, clad and moderator absorptions are correct, only, if correctly weighted cross sections are applied.)
0                 initial       520.0 d      560.0 d      600.0 d      640.0 d      640.1 d
   productions  3.597085E+04 .3.603198E+04 3.607921E+04 3.611125E+04 3.612969E+04 3.613048E+04
   absorptions  2.993967E+04  3.013748E+04 3.034138E+04 3.053502E+04 3.071900E+04 3.074160E+04
   k infinity   1.201443E+00  1.195587E+00 1.189109E+00 1.182618E+00 1.176135E+00 1.175296E+00
0                 initial       520.0 d      560.0 d      600.0 d      640.0 d      640.1 d
   actinide
   absorptions  2.844444E+04  2.859273E+04 2.873273E+04 2.886341E+04 2.898521E+04 2.898562E+04
   non-actinide
   abs. fracs.  4.994160E-02  5.125684E-02 5.301845E-02 5.474389E-02 5.644029E-02 5.712068E-02
1
   sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp                  actinides     page  13
   power=  7.25mw, burnup=  4640.mwd, flux= 1.60E+13n/cm**2-sec
0                                          nuclide concentrations, gram atoms
                                           basis = single reactor assembly
```

	charge	520.0 d	560.0 d	600.0 d	640.0 d	640.1 d
he 4	3.80E-04	5.02E-04	6.56E-04	8.48E-04	1.08E-03	1.08E-03
pb206	9.74E-18	1.41E-17	1.97E-17	2.70E-17	3.63E-17	3.63E-17
pb207	2.44E-14	3.30E-14	4.37E-14	5.67E-14	7.26E-14	7.26E-14
pb208	3.04E-11	4.02E-11	5.23E-11	6.71E-11	8.51E-11	8.51E-11
pb209	1.93E-18	2.40E-18	2.96E-18	3.61E-18	4.37E-18	4.37E-18
pb210	2.80E-15	3.55E-15	4.42E-15	5.42E-15	6.58E-15	6.58E-15
pb211	6.96E-18	8.69E-18	1.07E-17	1.29E-17	1.54E-17	1.54E-17
pb212	1.43E-13	1.77E-13	2.18E-13	2.66E-13	3.19E-13	3.19E-13
pb214	2.99E-19	3.47E-19	3.98E-19	4.52E-19	5.09E-19	4.97E-19
th226	1.93E-19	2.36E-19	2.82E-19	3.32E-19	3.88E-19	3.88E-19
th227	5.61E-15	6.95E-15	8.47E-15	1.03E-14	1.21E-14	1.21E-14
th228	2.26E-10	2.78E-10	3.42E-10	4.15E-10	5.01E-10	5.01E-10
th229	8.96E-12	1.08E-11	1.30E-11	1.54E-11	1.82E-11	1.82E-11
th230	1.45E-06	1.55E-06	1.64E-06	1.73E-06	1.81E-06	1.81E-06
th231	1.46E-09	1.60E-09	1.68E-09	1.75E-09	1.83E-09	1.80E-09
th232	6.72E-08	7.72E-08	8.79E-08	9.91E-08	1.11E-07	1.11E-07
th233	2.39E-14	6.67E-14	7.59E-14	8.56E-14	9.59E-14	3.08E-14

th234	2.78E-08	2.77E-08	2.77E-08	2.77E-08	2.77E-08	2.77E-08
pa231	2.58E-07	2.94E-07	3.31E-07	3.70E-07	4.10E-07	4.10E-07
pa232	1.99E-10	2.33E-10	2.63E-10	2.94E-10	3.26E-10	3.22E-10
pa233	4.28E-09	4.80E-09	5.37E-09	5.98E-09	6.56E-09	6.56E-09
pa234m	9.36E-13	9.36E-13	9.36E-13	9.36E-13	9.36E-13	9.36E-13
pa234	6.84E-13	7.41E-13	7.79E-13	8.18E-13	8.59E-13	8.32E-13
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	1.87E-16	2.29E-16	2.73E-16	3.21E-16	3.76E-16	3.75E-16
u231	4.07E-15	4.98E-15	5.80E-15	6.73E-15	7.78E-15	7.74E-15
u232	5.45E-08	6.47E-08	7.63E-08	8.95E-08	1.04E-07	1.04E-07
u233	2.08E-06	2.23E-06	2.37E-06	2.50E-06	2.63E-06	2.63E-06
u234	4.24E-01	4.19E-01	4.15E-01	4.11E-01	4.07E-01	4.07E-01
u235	4.41E+01	4.30E+01	4.20E+01	4.10E+01	4.00E+01	4.00E+01
u236	3.04E+00	3.23E+00	3.41E+00	3.59E+00	3.77E+00	3.77E+00
u237	4.37E-03	4.63E-03	4.89E-03	4.99E-03	5.17E-03	5.15E-03
u238	1.88E+03	1.88E+03	1.88E+03	1.88E+03	1.88E+03	1.88E+03
u239	2.14E-04	5.01E-04	5.01E-04	5.01E-04	5.01E-04	1.69E-04
u240	2.81E-30	6.61E-30	1.46E-29	3.08E-29	6.04E-29	6.04E-29
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	1.54E-09	1.86E-09	2.20E-09	2.56E-09	2.96E-09	2.96E-09
np236m	2.52E-09	2.99E-09	3.52E-09	3.66E-09	4.00E-09	3.93E-09
np236	1.32E-07	1.61E-07	1.94E-07	2.30E-07	2.70E-07	2.70E-07
np237	1.37E-01	1.53E-01	1.70E-01	1.87E-01	2.05E-01	2.05E-01
np238	1.66E-04	1.88E-04	2.10E-04	2.32E-04	2.54E-04	2.51E-04
np239	7.05E-02	7.23E-02	7.23E-02	7.23E-02	7.23E-02	7.21E-02
np240m	2.40E-32	5.64E-32	1.25E-31	2.60E-31	5.15E-31	5.15E-31
np240	8.88E-07	1.27E-06	1.27E-06	1.27E-06	1.27E-06	8.43E-07
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	1.62E-07	1.98E-07	2.34E-07	2.78E-07	3.21E-07	3.21E-07
pu237	1.17E-08	1.31E-08	1.43E-08	1.55E-08	1.67E-08	1.67E-08
pu238	1.08E-02	1.28E-02	1.53E-02	1.80E-02	2.10E-02	2.10E-02
pu239	6.42E+00	6.79E+00	7.13E+00	7.44E+00	7.74E+00	7.74E+00
pu240	8.04E-01	9.03E-01	1.00E+00	1.10E+00	1.20E+00	1.20E+00

1

sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 14
power= 7.25mw, burnup= 4640.mwd, flux= 1.60E+13n/cm**2-sec

0 nuclide concentrations, gram atoms
basis = single reactor assembly

	charge	520.0 d	560.0 d	600.0 d	640.0 d	640.1 d
pu241	3.09E-01	3.62E-01	4.19E-01	4.82E-01	5.48E-01	5.48E-01
pu242	1.78E-02	2.25E-02	2.83E-02	3.57E-02	4.34E-02	4.34E-02
pu243	2.16E-06	3.04E-06	3.83E-06	4.73E-06	5.77E-06	5.25E-06
pu244	1.40E-19	3.25E-19	7.27E-19	1.52E-18	3.01E-18	3.01E-18
pu245	9.75E-26	2.35E-25	5.19E-25	1.08E-24	2.15E-24	2.06E-24
pu246	3.33E-28	7.98E-28	1.80E-27	3.82E-27	7.70E-27	7.69E-27
am239	7.70E-14	1.08E-13	1.31E-13	1.61E-13	1.95E-13	1.88E-13
am240	3.40E-11	4.53E-11	5.67E-11	6.98E-11	8.42E-11	8.35E-11
am241	5.12E-03	6.57E-03	8.21E-03	1.01E-02	1.22E-02	1.22E-02
am242m	7.87E-05	1.06E-04	1.39E-04	1.78E-04	2.23E-04	2.23E-04
am242	5.70E-06	7.41E-06	9.28E-06	1.14E-05	1.38E-05	1.34E-05
am243	8.20E-04	1.16E-03	1.60E-03	2.13E-03	2.79E-03	2.79E-03
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	2.67E-07	3.98E-07	5.47E-07	7.32E-07	9.58E-07	9.19E-07
am245	8.98E-24	2.12E-23	4.67E-23	9.66E-23	1.88E-22	1.86E-22
am246	8.34E-31	1.99E-30	4.49E-30	9.54E-30	1.92E-29	1.92E-29
cm241	2.20E-14	3.46E-14	5.15E-14	7.38E-14	1.02E-13	1.02E-13
cm242	3.98E-04	5.40E-04	7.15E-04	9.25E-04	1.17E-03	1.17E-03
cm243	3.29E-06	4.90E-06	7.04E-06	9.79E-06	1.32E-05	1.32E-05
cm244	3.93E-05	6.08E-05	9.09E-05	1.31E-04	1.85E-04	1.85E-04
cm245	4.64E-07	7.81E-07	1.26E-06	1.94E-06	2.91E-06	2.91E-06

```
    cm246  1.01E-08 1.84E-08 3.20E-08 5.33E-08 8.58E-08 8.58E-08
    cm247  3.73E-11 7.47E-11 1.41E-10 2.52E-10 4.34E-10 4.34E-10
    cm248  6.08E-13 1.32E-12 2.71E-12 5.25E-12 9.70E-12 9.70E-12
    cm249  2.84E-18 8.62E-18 1.76E-17 3.42E-17 6.33E-17 4.25E-17
    cm250  3.44E-22 8.20E-22 1.82E-21 3.81E-21 7.57E-21 7.57E-21
    cm251  2.62E-30 1.95E-29 4.34E-29 9.08E-29 1.81E-28 3.94E-29
   totals  1.93E+03 1.93E+03 1.93E+03 1.93E+03 1.93E+03 1.93E+03
0   flux            1.60E+13 1.60E+13 1.60E+13 1.61E+13 1.61E-02
0       1q array has     20 entries.
0       3q array has      1 entries.
0       3q array has      1 entries.
0       3q array has      1 entries.
0       4q array has      1 entries.
0      54q array has     12 entries.
1library information...

        cross-section data taken from position number  5 of library on unit 33.

        pass  1
        pass  0
        "scale-system control module sas2 library"
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        pass  1
        pass  0
        "scale-system control module sas2 library"
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        ************************************************************************
        *                                                                      *
        *          prelim lwr origen-s binary working library--id = 1143       *
        *        made from modified card-image origen-s libraries of scale 4.2 *
        *      data from the light element, actinide, and fission product libraries *
        *        decay data, including gamma and total energy, are from endf/b-vi *
        *                                                                      *
        *      neutron flux spectrum factors and cross sections were produced from *
        *      the "presas2" case updating all nuclides on the scale "burnup" library *
        *                                                                      *
        *                 fission product yields are from endf/b-v             *
        *                                                                      *
        *              photon libraries use an 18-energy-group structure       *
        *             the photon data are from the master photon data base,    *
        *              produced to include bremsstrahlung from uo2 matrix      *
        *                                                                      *
        *       see information above this box (if present) for later updates  *
        *                                                                      *
        ************************************************************************
        *                                                                      *
        ************************************************************************
0
0               .other identification and sizes of library.
0                 data set name:  ft33f001
0              2/16/1996    date library was produced
0                   1697    total number of nuclides in library
                     689    number of light-element nuclides
                     129    number of actinide nuclides
                     879    number of fission product nuclides
```

0 7935 number of nonzero off-diagonal matrix elements
0 **********
1 sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp page 15
power= 7.25mw, burnup= 5800.mwd, flux= 1.60E+13n/cm**2-sec
0 basis =
0 (note, k-infinities, clad and moderator absorptions are correct, only, if correctly weighted cross sections are applied.)

0	initial	680.1 d	720.1 d	760.1 d	800.1 d	800.1 d
productions	3.632766E+04	3.634378E+04	3.635084E+04	3.634718E+04	3.633388E+04	3.633488E+04
absorptions	3.099263E+04	3.115259E+04	3.132613E+04	3.149116E+04	3.164824E+04	3.167582E+04
k infinity	1.172139E+00	1.166637E+00	1.160400E+00	1.154208E+00	1.148054E+00	1.147085E+00

0	initial	680.1 d	720.1 d	760.1 d	800.1 d	800.1 d
actinide absorptions	2.922103E+04	2.933953E+04	2.945092E+04	2.955483E+04	2.965138E+04	2.965189E+04
non-actinide abs. fracs.	5.716181E-02	5.820584E-02	5.986065E-02	6.148809E-02	6.309545E-02	6.389511E-02

1 sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 16
power= 7.25mw, burnup= 5800.mwd, flux= 1.60E+13n/cm**2-sec
0 nuclide concentrations, gram atoms
basis = single reactor assembly

	charge	680.1 d	720.1 d	760.1 d	800.1 d	800.1 d
he 4	1.08E-03	1.37E-03	1.72E-03	2.13E-03	2.61E-03	2.61E-03
pb206	3.63E-17	4.79E-17	6.21E-17	7.95E-17	1.00E-16	1.00E-16
pb207	7.24E-14	9.09E-14	1.13E-13	1.39E-13	1.67E-13	1.67E-13
pb208	8.51E-11	1.07E-10	1.32E-10	1.63E-10	1.95E-10	1.95E-10
pb209	4.37E-18	5.23E-18	6.24E-18	7.39E-18	8.69E-18	8.70E-18
pb210	6.58E-15	7.90E-15	9.39E-15	1.11E-14	1.30E-14	1.30E-14
pb211	1.54E-17	1.82E-17	2.12E-17	2.46E-17	2.83E-17	2.82E-17
pb212	3.19E-13	3.82E-13	4.53E-13	5.35E-13	6.27E-13	6.27E-13
pb214	4.97E-19	5.68E-19	6.30E-19	6.94E-19	7.61E-19	7.40E-19
th226	3.88E-19	4.60E-19	5.34E-19	6.15E-19	7.04E-19	7.03E-19
th227	1.21E-14	1.42E-14	1.66E-14	1.91E-14	2.19E-14	2.19E-14
th228	5.01E-10	5.99E-10	7.11E-10	8.39E-10	9.83E-10	9.83E-10
th229	1.82E-11	2.13E-11	2.48E-11	2.88E-11	3.33E-11	3.33E-11
th230	1.81E-06	1.85E-06	1.97E-06	2.04E-06	2.11E-06	2.11E-06
th231	1.80E-09	1.94E-09	2.01E-09	2.08E-09	2.14E-09	2.10E-09
th232	1.11E-07	1.23E-07	1.36E-07	1.49E-07	1.63E-07	1.63E-07
th233	3.05E-14	1.09E-13	1.20E-13	1.32E-13	1.45E-13	3.45E-14
th234	2.77E-08	2.77E-08	2.77E-08	2.77E-08	2.76E-08	2.76E-08
pa231	4.10E-07	4.52E-07	4.95E-07	5.39E-07	5.84E-07	5.84E-07
pa232	3.22E-10	3.65E-10	4.01E-10	4.37E-10	4.75E-10	4.67E-10
pa233	6.56E-09	7.18E-09	7.82E-09	8.47E-09	9.14E-09	9.14E-09
pa234m	9.34E-13	9.35E-13	9.35E-13	9.34E-13	9.34E-13	9.32E-13
pa234	8.32E-13	9.11E-13	9.56E-13	1.00E-12	1.05E-12	1.00E-12
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	3.75E-16	4.46E-16	5.18E-16	5.98E-16	6.83E-16	6.81E-16
u231	7.74E-15	9.19E-15	1.05E-14	1.20E-14	1.36E-14	1.35E-14
u232	1.04E-07	1.20E-07	1.38E-07	1.58E-07	1.80E-07	1.80E-07
u233	2.63E-06	2.75E-06	2.87E-06	2.99E-06	3.10E-06	3.10E-06
u234	4.07E-01	4.03E-01	3.99E-01	3.95E-01	3.91E-01	3.91E-01
u235	4.00E+01	3.90E+01	3.81E+01	3.71E+01	3.62E+01	3.62E+01
u236	3.77E+00	3.94E+00	4.10E+00	4.27E+00	4.42E+00	4.42E+00
u237	5.15E-03	5.35E-03	5.56E-03	5.72E-03	5.89E-03	5.87E-03
u238	1.88E+03	1.87E+03	1.87E+03	1.87E+03	1.87E+03	1.87E+03
u239	1.69E-04	5.11E-04	5.11E-04	5.12E-04	5.12E-04	1.31E-04
u240	6.04E-29	1.15E-28	2.10E-28	3.72E-28	6.39E-28	6.39E-28
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	2.98E-09	3.40E-09	3.88E-09	4.36E-09	4.87E-09	4.87E-09
np236m	3.98E-09	4.52E-09	4.91E-09	5.30E-09	5.70E-09	5.57E-09
np236	2.70E-07	3.15E-07	3.64E-07	4.17E-07	4.74E-07	4.74E-07

INFORMATION ONLY

np237	2.05E-01	2.25E-01	2.42E-01	2.61E-01	2.80E-01	2.80E-01
np238	2.51E-04	2.79E-04	3.03E-04	3.27E-04	3.52E-04	3.49E-04
np239	7.21E-02	7.37E-02	7.38E-02	7.39E-02	7.39E-02	7.36E-02
np240m	5.15E-31	9.79E-31	1.79E-30	3.18E-30	5.45E-30	5.45E-30
np240	8.43E-07	1.33E-06	1.33E-06	1.33E-06	1.34E-06	7.97E-07
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	3.21E-07	3.72E-07	4.26E-07	4.84E-07	5.46E-07	5.46E-07
pu237	1.67E-08	1.82E-08	1.97E-08	2.11E-08	2.25E-08	2.24E-08
pu238	2.10E-02	2.44E-02	2.80E-02	3.20E-02	3.62E-02	3.62E-02
pu239	7.74E+00	8.03E+00	8.31E+00	8.56E+00	8.80E+00	8.80E+00
pu240	1.20E+00	1.30E+00	1.40E+00	1.50E+00	1.60E+00	1.60E+00

1

sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 17
power= 7.23mw, burnup= 5800.mwd, flux= 1.60E+13n/cm**2-sec

0 nuclide concentrations, gram atoms
basis = single reactor assembly

	charge	680.1 d	720.1 d	760.1 d	800.1 d	800.1 d
pu241	5.48E-01	6.10E-01	6.77E-01	7.46E-01	8.20E-01	8.20E-01
pu242	4.34E-02	5.20E-02	6.15E-02	7.20E-02	8.35E-02	8.35E-02
pu243	5.29E-06	7.04E-06	8.34E-06	9.77E-06	1.13E-05	1.02E-05
pu244	3.01E-18	5.72E-18	1.05E-17	1.85E-17	3.18E-17	3.18E-17
pu245	2.06E-24	4.07E-24	7.47E-24	1.33E-23	2.28E-23	2.16E-23
pu246	7.69E-27	1.48E-26	2.76E-26	4.95E-26	8.61E-26	8.60E-26
am239	1.88E-13	2.38E-13	2.80E-13	3.25E-13	3.74E-13	3.58E-13
am240	8.35E-11	1.03E-10	1.21E-10	1.41E-10	1.62E-10	1.60E-10
am241	1.22E-02	1.45E-02	1.70E-02	1.97E-02	2.26E-02	2.26E-02
am242m	2.23E-04	2.75E-04	3.33E-04	3.97E-04	4.69E-04	4.69E-04
am242	1.34E-05	1.63E-05	1.98E-05	2.23E-05	2.56E-05	2.48E-05
am243	2.79E-03	3.59E-03	4.54E-03	5.66E-03	6.94E-03	6.95E-03
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	9.19E-07	1.25E-06	1.59E-06	1.98E-06	2.43E-06	2.31E-06
am245	1.85E-22	3.61E-22	6.57E-22	1.15E-21	1.96E-21	1.96E-21
am246	1.98E-29	3.70E-29	6.88E-29	1.24E-28	2.15E-28	2.15E-28
cm241	1.02E-13	1.41E-13	1.88E-13	2.45E-13	3.13E-13	3.13E-13
cm242	1.17E-03	1.46E-03	1.78E-03	2.15E-03	2.56E-03	2.56E-03
cm243	1.32E-05	1.76E-05	2.29E-05	2.93E-05	3.66E-05	3.66E-05
cm244	1.85E-04	2.55E-04	3.45E-04	4.57E-04	5.93E-04	5.98E-04
cm245	2.91E-06	4.26E-06	6.09E-06	8.50E-06	1.16E-05	1.16E-05
cm246	8.58E-08	1.34E-07	2.04E-07	3.03E-07	4.38E-07	4.38E-07
cm247	4.34E-10	7.26E-10	1.17E-09	1.85E-09	2.82E-09	2.82E-09
cm248	9.70E-12	1.74E-11	3.01E-11	5.02E-11	8.15E-11	8.15E-11
cm249	4.25E-17	1.16E-16	2.01E-16	3.36E-16	5.47E-16	3.32E-16
cm250	7.57E-21	1.45E-20	2.68E-20	4.78E-20	8.22E-20	8.22E-20
cm251	3.94E-29	3.46E-28	6.39E-28	1.14E-27	1.98E-27	2.98E-28
totals	1.93E+03	1.93E+03	1.93E+03	1.93E+03	1.92E+03	1.92E+03
0 flux		1.60E+13	1.60E+13	1.60E+13	1.61E+13	1.61E-02

0 1q array has 20 entries.
0 3q array has 1 entries.
0 3q array has 1 entries.
0 3q array has 1 entries.
0 4q array has 1 entries.
0 54q array has 12 entries.
1library information...

cross-section data taken from position number 6 of library on unit 33.

pass 1
pass 0
'scale-system control module sas2 library'
used a time-dependent neutron spectrum, for each of the above passes

```
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        pass   1
        pass   0
        *scale-system control module sas2 library*
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        ***********************************************************************
        *                                                                     *
        *          prelim lwr origen-s binary working library--id = 1143      *
        *         made from modified card-image origen-s libraries of scale 4.2 *
        *      data from the light element, actinide, and fission product libraries *
        *       decay data, including gamma and total energy, are from endf/b-vi *
        *                                                                     *
        *     neutron flux spectrum factors and cross sections were produced from *
        *     the "presas2" case updating all nuclides on the scale "burnup" library *
        *                                                                     *
        *                fission product yields are from endf/b-v             *
        *                                                                     *
        *             photon libraries use an 18-energy-group structure       *
        *             the photon data are from the master photon data base,   *
        *             produced to include bremsstrahlung from uo2 matrix      *
        *                                                                     *
        *          see information above this box (if present) for later updates *
        *                                                                     *
        ***********************************************************************
        *                                                                     *
0       ***********************************************************************
0                 .other identification and sizes of library.
0                 data set name:  ft33f001
0             2/16/1996   date library was produced
0                  1697   total number of nuclides in library
                    689   number of light-element nuclides
                    129   number of actinide nuclides
                    879   number of fission product nuclides
0                  7985   number of nonzero off-diagonal matrix elements
0       ***********************************************************************
1   sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp                                   page  18
       power=  7.25mw, burnup=   6960.mwd, flux= 1.61E+13n/cm**2-sec
0                                              basis =
0   (note, k-infinities, clad and moderator absorptions are correct, only, if correctly weighted cross sections are applied.)
0                    initial        840.1 d        880.1 d        920.1 d        960.1 d        960.1 d
    productions   3.648544E+04   3.646848E+04   3.644588E+04   3.641576E+04   3.637886E+04   3.638007E+04
    absorptions   3.184782E+04   3.197600E+04   3.212463E+04   3.226626E+04   3.240135E+04   3.243368E+04
    k infinity    1.145618E+00   1.140495E+00   1.134515E+00   1.128602E+00   1.122757E+00   1.121676E+00
0                    initial        840.1 d        880.1 d        920.1 d        960.1 d        960.1 d
    actinide
    absorptions   2.980953E+04   2.990328E+04   2.999171E+04   3.007383E+04   3.014992E+04   3.015054E+04
    non-actinide
    abs. fracs.   6.400120E-02   6.482118E-02   6.639504E-02   6.794798E-02   6.948555E-02   7.039404E-02
1
    sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp                      actinides        page  19
    power=  7.25mw, burnup=   6960.mwd, flux= 1.61E+13n/cm**2-sec
0                                              nuclide concentrations, gram atoms
                                               basis = single reactor assembly
              charge   840.1 d   880.1 d   920.1 d   960.1 d   960.1 d
    he 4    2.61E-03  3.17E-03  3.82E-03  4.57E-03  5.42E-03  5.42E-03
```

pb206	1.00E-16	1.25E-16	1.55E-16	1.90E-16	2.31E-16	2.31E-16
pb207	1.67E-13	2.01E-13	2.39E-13	2.82E-13	3.30E-13	3.30E-13
pb208	1.99E-10	2.40E-10	2.86E-10	3.45E-10	4.10E-10	4.10E-10
pb209	8.70E-18	1.02E-17	1.18E-17	1.37E-17	1.58E-17	1.59E-17
pb210	1.30E-14	1.51E-14	1.74E-14	2.00E-14	2.29E-14	2.29E-14
pb211	2.88E-17	3.22E-17	3.68E-17	4.12E-17	4.61E-17	4.61E-17
pb212	6.27E-13	7.31E-13	8.47E-13	9.78E-13	1.12E-12	1.12E-12
pb214	7.40E-19	8.30E-19	9.01E-19	9.73E-19	1.05E-18	1.00E-18
th226	7.03E-19	8.15E-19	9.27E-19	1.05E-18	1.18E-18	1.18E-18
th227	2.19E-14	2.50E-14	2.82E-14	3.17E-14	3.55E-14	3.55E-14
th228	9.83E-10	1.15E-09	1.33E-09	1.53E-09	1.76E-09	1.76E-09
th229	3.33E-11	3.84E-11	4.42E-11	5.06E-11	5.78E-11	5.78E-11
th230	2.11E-06	2.18E-06	2.24E-06	2.30E-06	2.36E-06	2.36E-06
th231	2.10E-09	2.24E-09	2.31E-09	2.36E-09	2.42E-09	2.30E-09
th232	1.63E-07	1.78E-07	1.92E-07	2.08E-07	2.27E-07	2.27E-07
th233	3.45E-14	1.60E-13	1.74E-13	1.88E-13	2.08E-13	3.63E-14
th234	2.78E-08	2.78E-08	2.78E-08	2.78E-08	2.78E-08	2.78E-08
pa231	5.84E-07	6.31E-07	6.79E-07	7.27E-07	7.76E-07	7.76E-07
pa232	4.67E-10	5.20E-10	5.60E-10	6.01E-10	6.43E-10	6.30E-10
pa233	9.14E-09	9.82E-09	1.05E-08	1.12E-08	1.19E-08	1.19E-08
pa234m	9.33E-13	9.34E-13	9.33E-13	9.33E-13	9.33E-13	9.30E-13
pa234	1.00E-12	1.11E-12	1.14E-12	1.21E-12	1.28E-12	1.18E-12
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	6.81E-16	7.89E-16	8.98E-16	1.02E-15	1.14E-15	1.14E-15
u231	1.35E-14	1.57E-14	1.77E-14	1.99E-14	2.22E-14	2.21E-14
u232	1.80E-07	2.04E-07	2.30E-07	2.58E-07	2.88E-07	2.88E-07
u233	3.10E-06	3.21E-06	3.32E-06	3.42E-06	3.52E-06	3.52E-06
u234	3.91E-01	3.87E-01	3.83E-01	3.79E-01	3.75E-01	3.75E-01
u235	3.62E+01	3.53E+01	3.45E+01	3.36E+01	3.28E+01	3.28E+01
u236	4.42E+00	4.57E+00	4.72E+00	4.87E+00	5.01E+00	5.01E+00
u237	5.87E-03	6.08E-03	6.24E-03	6.39E-03	6.54E-03	6.52E-03
u238	1.87E+03	1.87E+03	1.87E+03	1.87E+03	1.87E+03	1.87E+03
u239	1.31E-04	5.21E-04	5.21E-04	5.22E-04	5.23E-04	1.00E-04
u240	6.39E-28	1.07E-27	1.74E-27	2.77E-27	4.32E-27	4.32E-27
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	4.87E-09	5.44E-09	6.04E-09	6.66E-09	7.30E-09	7.30E-09
np236m	5.57E-09	6.25E-09	6.73E-09	7.17E-09	7.62E-09	7.61E-09
np236	4.74E-07	5.37E-07	6.04E-07	6.76E-07	7.53E-07	7.53E-07
np237	2.80E-01	3.00E-01	3.20E-01	3.40E-01	3.61E-01	3.61E-01
np238	3.46E-04	3.81E-04	4.07E-04	4.34E-04	4.61E-04	4.55E-04
np239	7.36E-02	7.52E-02	7.53E-02	7.54E-02	7.55E-02	7.51E-02
np240m	5.45E-30	9.10E-30	1.48E-29	2.36E-29	3.69E-29	3.69E-29
np240	7.97E-07	1.38E-06	1.39E-06	1.39E-06	1.40E-06	7.51E-07
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	5.44E-07	6.15E-07	6.87E-07	7.63E-07	8.43E-07	8.43E-07
pu237	2.24E-08	2.42E-08	2.59E-08	2.78E-08	2.98E-08	2.98E-08
pu238	3.63E-02	4.09E-02	4.59E-02	5.12E-02	5.69E-02	5.69E-02
pu239	8.80E+00	9.04E+00	9.26E+00	9.47E+00	9.66E+00	9.66E+00
pu240	1.60E+00	1.71E+00	1.81E+00	1.91E+00	2.01E+00	2.01E+00

1

sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 20
power= 7.2mw, burnup= 6960.wd, flux= 1.61E+13n/cm**2-sec

0 nuclide concentrations, gram atoms
basis = single reactor assembly

	charge	840.1 d	880.1 d	920.1 d	960.1 d	980.1 d
pu241	8.20E-01	8.87E-01	9.57E-01	1.03E+00	1.11E+00	1.11E+00
pu242	8.35E-02	9.58E-02	1.09E-01	1.23E-01	1.39E-01	1.39E-01
pu243	1.02E-05	1.32E-05	1.50E-05	1.70E-05	1.92E-05	1.69E-05
pu244	3.18E-17	5.31E-17	8.66E-17	1.38E-16	2.15E-16	2.15E-16
pu246	2.16E-23	3.80E-23	6.20E-23	9.90E-23	1.55E-22	1.46E-22

```
    pu246  8.60E-26 1.45E-25 2.40E-25 3.87E-25 6.10E-25 6.09E-25
    am239  3.56E-13 4.36E-13 4.93E-13 5.53E-13 6.17E-13 5.85E-13
    am240  1.60E-10 1.89E-10 2.14E-10 2.40E-10 2.67E-10 2.64E-10
    am241  2.26E-02 2.58E-02 2.91E-02 3.26E-02 3.63E-02 3.63E-02
    am242m 4.69E-04 5.46E-04 6.30E-04 7.21E-04 8.18E-04 8.18E-04
    am242  2.48E-05 2.91E-05 3.25E-05 3.70E-05 4.12E-05 3.96E-05
    am243  6.95E-03 8.44E-03 1.01E-02 1.21E-02 1.42E-02 1.42E-02
    am244m  .00E+00  .00E+00  .00E+00  .00E+00  .00E+00  .00E+00
    am244  2.31E-06 2.99E-06 3.60E-06 4.29E-06 5.07E-06 4.76E-06
    am245  1.98E-21 3.27E-21 5.31E-21 8.40E-21 1.30E-20 1.30E-20
    am246  2.15E-28 3.63E-28 5.99E-28 9.66E-28 1.52E-27 1.52E-27
    cm241  3.13E-13 4.00E-13 4.99E-13 6.12E-13 7.40E-13 7.40E-13
    cm242  2.56E-03 3.01E-03 3.50E-03 4.04E-03 4.62E-03 4.62E-03
    cm243  3.66E-05 4.54E-05 5.55E-05 6.70E-05 8.01E-05 8.01E-05
    cm244  5.98E-04 7.66E-04 9.72E-04 1.22E-03 1.51E-03 1.51E-03
    cm245  1.14E-05 1.57E-05 2.08E-05 2.72E-05 3.50E-05 3.50E-05
    cm246  4.38E-07 6.24E-07 8.72E-07 1.20E-06 1.62E-06 1.62E-06
    cm247  2.82E-09 4.25E-09 6.25E-09 9.01E-09 1.28E-08 1.28E-08
    cm248  8.15E-11 1.30E-10 2.02E-10 3.06E-10 4.56E-10 4.56E-10
    cm249  3.32E-16 8.88E-16 1.38E-15 2.10E-15 3.14E-15 1.73E-15
    cm250  8.22E-20 1.35E-19 2.28E-19 3.66E-19 5.72E-19 5.72E-19
    cm251  2.95E-28 3.31E-27 5.44E-27 8.73E-27 1.37E-26 1.40E-27
   totals  1.92E+03 1.92E+03 1.92E+03 1.92E+03 1.92E+03 1.92E+03
0   flux            1.60E+13 1.61E+13 1.61E+13 1.61E+13 1.61E-02
0       1q array has     20 entries.
0       3q array has      1 entries.
0       3q array has      1 entries.
0       3q array has      1 entries.
0       4q array has      1 entries.
0      5+q array has     12 entries.
1library information...

        cross-section data taken from position number  7 of library on unit 33.

        pass  1
        pass  0
        'scale-system control module sas2 library'
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        pass  1
        pass  0
        'scale-system control module sas2 library'
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        ************************************************************
        *                                                          *
        *          prelim lwr origen-s binary working library--id = 1143          *
        *        made from modified card-image origen-s libraries of scale 4.2     *
        *      data from the light element, actinide, and fission product libraries *
        *        decay data, including gamma and total energy, are from endf/b-vi  *
        *                                                          *
        *      neutron flux spectrum factors and cross sections were produced from *
        *    the 'presas2' case updating all nuclides on the scale 'burnup' library *
        *                                                          *
        *                  fission product yields are from endf/b-v                *
        *                                                          *
```

INFORMATION ONLY

```
      *            photon libraries use an 18-energy-group structure            *
      *          the photon data are from the master photon data base,          *
      *           produced to include bremsstrahlung from uo2 matrix            *
      *                                                                         *
      *       see information above this box (if present) for later updates     *
      *                                                                         *
      ***************************************************************************
      *                                                                         *
0     ***************************************************************************
0               .other identification and sizes of library.
0                 data set name:  ft33f001
0              2/16/1996    date library was produced
0                  1697    total number of nuclides in library
                    689    number of light-element nuclides
                    129    number of actinide nuclides
                    879    number of fission product nuclides
0                  7285    number of nonzero off-diagonal matrix elements
0     ***************************************************************************
1   sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp                                  page  21
       power=  7.25mw, burnup=  8120.mwd, flux= 1.62e+13n/cm**2-sec
0                                                  basis =
0   (note, k-infinities, clad and moderator absorptions are correct, only, if correctly weighted cross sections are applied.)
0                    initial      1000.1 d      1040.1 d      1080.1 d      1120.1 d      1120.2 d
    productions  3.64963E+04  3.66547E+04  3.64100E+04  3.63608E+04  3.63068E+04  3.63072E+04
    absorptions  3.25483E+04  3.26478E+04  3.27780E+04  3.29005E+04  3.30178E+04  3.30546E+04
    k infinity   1.12125E+00  1.11653E+00  1.11080E+00  1.10515E+00  1.09958E+00  1.09840E+00
0                    initial      1000.1 d      1040.1 d      1080.1 d      1120.1 d      1120.2 d
    actinide
    absorptions  3.02524E+04  3.03627E+04  3.03959E+04  3.04604E+04  3.05200E+04  3.05207E+04
    non-actinide
    abs. fracs.  7.05360E-02  7.11646E-02  7.26730E-02  7.41654E-02  7.56440E-02  7.66567E-02
1
    sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp                  actinides       page  22
    power=  7.25mw, burnup=  8120.mwd, flux= 1.62e+13n/cm**2-sec
0                                  nuclide concentrations, gram atoms
                                   basis = single reactor assembly
          charge  1000.1 d  1040.1 d  1080.1 d  1120.1 d  1120.2 d
    he  4 5.42E-03 6.39E-03 7.47E-03 8.68E-03 1.00E-02 1.00E-02
    pb206 2.31E-16 2.78E-16 3.32E-16 3.95E-16 4.66E-16 4.67E-16
    pb207 3.30E-13 3.84E-13 4.44E-13 5.11E-13 5.84E-13 5.84E-13
    pb208 4.10E-10 4.84E-10 5.69E-10 6.66E-10 7.74E-10 7.74E-10
    pb209 1.59E-17 1.81E-17 2.08E-17 2.37E-17 2.69E-17 2.71E-17
    pb210 2.29E-14 2.60E-14 2.95E-14 3.33E-14 3.74E-14 3.74E-14
    pb211 4.61E-17 5.15E-17 5.71E-17 6.31E-17 6.95E-17 6.94E-17
    pb212 1.12E-12 1.28E-12 1.46E-12 1.65E-12 1.87E-12 1.87E-12
    pb214 1.02E-18 1.12E-18 1.20E-18 1.28E-18 1.34E-18 1.32E-18
    ra222 2.43E-20 2.71E-20 3.07E-20 3.42E-20 3.79E-20 3.80E-20
    ra223 2.11E-14 2.35E-14 2.60E-14 2.88E-14 3.17E-14 3.17E-14
    ra224 9.28E-12 1.06E-11 1.20E-11 1.37E-11 1.54E-11 1.54E-11
    ra225 1.72E-15 1.98E-15 2.28E-15 2.57E-15 2.92E-15 2.91E-15
    ra226 3.29E-11 3.53E-11 3.77E-11 4.03E-11 4.28E-11 4.28E-11
    ra228 9.78E-18 1.09E-17 1.21E-17 1.33E-17 1.47E-17 1.47E-17
    th226 1.18E-18 1.34E-18 1.50E-18 1.67E-18 1.85E-18 1.85E-18
    th227 3.55E-14 3.95E-14 4.38E-14 4.83E-14 5.31E-14 5.31E-14
    th228 1.78E-09 2.01E-09 2.25E-09 2.59E-09 2.93E-09 2.93E-09
    th229 5.78E-11 6.59E-11 7.50E-11 8.51E-11 9.63E-11 9.63E-11
    th230 2.36E-06 2.41E-06 2.46E-06 2.51E-06 2.56E-06 2.56E-06
    th231 2.37E-09 2.51E-09 2.56E-09 2.61E-09 2.66E-09 2.59E-09
    th232 2.22E-07 2.39E-07 2.56E-07 2.73E-07 2.90E-07 2.90E-07
    th233 3.63E-14 2.21E-13 2.36E-13 2.53E-13 2.69E-13 3.61E-14
```

th234	2.76E-08	2.76E-08	2.76E-08	2.75E-08	2.75E-08	2.75E-08
pa231	7.76E-07	8.27E-07	8.77E-07	9.25E-07	9.80E-07	9.80E-07
pa232	6.30E-10	6.93E-10	7.37E-10	7.82E-10	8.27E-10	8.08E-10
pa233	1.19E-08	1.27E-08	1.34E-08	1.42E-08	1.49E-08	1.49E-08
pa234m	9.30E-13	9.32E-13	9.32E-13	9.32E-13	9.31E-13	9.28E-13
pa234	1.18E-12	1.33E-12	1.38E-12	1.44E-12	1.50E-12	1.38E-12
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	1.14E-15	1.30E-15	1.45E-15	1.62E-15	1.79E-15	1.79E-15
u231	2.21E-14	2.52E-14	2.80E-14	3.10E-14	3.42E-14	3.39E-14
u232	2.89E-07	3.22E-07	3.58E-07	3.96E-07	4.37E-07	4.37E-07
u233	3.52E-06	3.61E-06	3.70E-06	3.79E-06	3.87E-06	3.87E-06
u234	3.75E-01	3.71E-01	3.67E-01	3.63E-01	3.59E-01	3.59E-01
u235	3.28E+01	3.20E+01	3.12E+01	3.04E+01	2.97E+01	2.97E+01
u236	5.01E+00	5.14E+00	5.27E+00	5.40E+00	5.53E+00	5.53E+00
u237	6.52E-03	6.71E-03	6.86E-03	7.00E-03	7.14E-03	7.11E-03
u238	1.87E+03	1.87E+03	1.87E+03	1.86E+03	1.86E+03	1.86E+03
u239	1.02E-04	5.30E-04	5.31E-04	5.32E-04	5.34E-04	7.90E-05
u240	4.32E-27	6.61E-27	9.94E-27	1.47E-26	2.14E-26	2.14E-26
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	7.30E-09	7.99E-09	8.71E-09	9.45E-09	1.02E-08	1.02E-08
np236m	7.41E-09	8.28E-09	8.76E-09	9.25E-09	9.74E-09	9.42E-09
np236	7.53E-07	8.36E-07	9.24E-07	1.02E-06	1.12E-06	1.12E-06
np237	3.61E-01	3.81E-01	4.03E-01	4.24E-01	4.46E-01	4.46E-01
np238	4.55E-04	4.92E-04	5.21E-04	5.50E-04	5.79E-04	5.70E-04
np239	7.51E-02	7.66E-02	7.67E-02	7.66E-02	7.70E-02	7.65E-02
np240m	3.66E-29	5.64E-29	8.48E-29	1.26E-28	1.83E-28	1.83E-28
np240	7.51E-07	1.44E-06	1.44E-06	1.45E-06	1.46E-06	7.02E-07

1

ssa2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp actinides page 23
power= 7.25mw, burnup= 8120.mwd, flux= 1.62E+13n/cm**2-sec

0 nuclide concentrations, gram atoms
basis = single reactor assembly

	charge	1000.1 d	1040.1 d	1080.1 d	1120.1 d	1120.2 d
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	8.43E-07	9.30E-07	1.02E-06	1.11E-06	1.21E-06	1.21E-06
pu237	2.92E-08	3.13E-08	3.33E-08	3.53E-08	3.73E-08	3.73E-08
pu238	5.69E-02	6.29E-02	6.94E-02	7.62E-02	8.34E-02	8.34E-02
pu239	9.66E+00	9.85E+00	1.00E+01	1.02E+01	1.04E+01	1.04E+01
pu240	2.01E+00	2.11E+00	2.22E+00	2.31E+00	2.41E+00	2.41E+00
pu241	1.11E+00	1.17E+00	1.25E+00	1.32E+00	1.40E+00	1.40E+00
pu242	1.39E-01	1.55E-01	1.72E-01	1.90E-01	2.09E-01	2.09E-01
pu243	1.69E-05	2.16E-05	2.40E-05	2.66E-05	2.93E-05	2.52E-05
pu244	2.15E-16	3.25E-16	4.95E-16	7.33E-16	1.07E-15	1.07E-15
pu245	1.46E-22	2.37E-22	3.57E-22	5.30E-22	7.75E-22	7.21E-22
pu246	6.03E-25	9.42E-25	1.43E-24	2.15E-24	3.16E-24	3.15E-24
am239	5.85E-13	6.96E-13	7.68E-13	8.42E-13	9.19E-13	8.63E-13
am240	2.64E-10	3.02E-10	3.33E-10	3.65E-10	3.98E-10	3.92E-10
am241	3.63E-02	4.01E-02	4.41E-02	4.82E-02	5.25E-02	5.25E-02
am242m	8.18E-04	9.20E-04	1.03E-03	1.14E-03	1.26E-03	1.26E-03
am242	3.96E-05	4.56E-05	5.02E-05	5.51E-05	6.01E-05	5.74E-05
am243	1.42E-02	1.66E-02	1.93E-02	2.22E-02	2.55E-02	2.55E-02
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	4.76E-06	5.99E-06	6.97E-06	8.03E-06	9.24E-06	8.58E-06
am245	1.30E-20	1.98E-20	2.97E-20	4.36E-20	6.30E-20	6.30E-20
am246	1.52E-27	2.35E-27	3.58E-27	5.36E-27	7.90E-27	7.85E-27
cm241	7.40E-13	8.97E-13	1.07E-12	1.26E-12	1.47E-12	1.47E-12
cm242	4.62E-03	5.25E-03	5.91E-03	6.62E-03	7.37E-03	7.37E-03
cm243	8.01E-05	9.48E-05	1.11E-04	1.29E-04	1.49E-04	1.49E-04
cm244	1.51E-03	1.85E-03	2.25E-03	2.72E-03	3.25E-03	3.25E-03
cm245	3.50E-05	4.47E-05	5.64E-05	7.03E-05	8.69E-05	8.69E-05

```
    cm246   1.62E-06  2.17E-06  2.85E-06  3.74E-06  4.82E-06  4.82E-06
    cm247   1.28E-08  1.79E-08  2.46E-08  3.35E-08  4.49E-08  4.49E-08
    cm248   4.56E-10  6.70E-10  9.67E-10  1.37E-09  1.93E-09  1.93E-09
    cm249   1.73E-15  4.69E-15  6.78E-15  9.67E-15  1.36E-14  6.75E-15
    cm250   5.72E-19  8.83E-19  1.34E-18  1.99E-18  2.92E-18  2.92E-18
    cm251   1.40E-27  2.12E-26  3.22E-26  4.81E-26  7.06E-26  4.90E-27
  totals    1.92E+03  1.92E+03  1.92E+03  1.92E+03  1.91E+03  1.91E+03
0   flux              1.61E+13  1.61E+13  1.62E+13  1.62E+13  1.62E-02
0       1q array has      20 entries.
0       3q array has       1 entries.
0       3q array has       1 entries.
0       3q array has       1 entries.
0       4q array has       1 entries.
0      5*q array has      12 entries.
1library information...

        cross-section data taken from position number  1 of library on unit 15.

        pass  8
        pass  1
        pass  0
        *scale-system control module sas2 library*
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        pass  1
        pass  0
        *scale-system control module sas2 library*
        used a time-dependent neutron spectrum, for each of the above passes
          pass 0 applies start-up fuel densities
          pass n applies mid time densities of nth library interval
        first library updated was...
        ************************************************************
        *                                                          *
        *          prelim lwr origen-s binary working library--id = 1143          *
        *          made from modified card-image origen-s libraries of scale 4.2   *
        *        data from the light element, actinide, and fission product libraries *
        *          decay data, including gamma and total energy, are from endf/b-vi *
        *                                                          *
        *        neutron flux spectrum factors and cross sections were produced from *
        *       the "pressa2" case updating all nuclides on the scale "burnup" library *
        *                                                          *
        *                    fission product yields are from endf/b-v              *
        *                                                          *
        *                photon libraries use an 18-energy-group structure         *
        *               the photon data are from the master photon data base,      *
        *                produced to include bremsstrahlung from ul2 matrix        *
        *                                                          *
        *          see information above this box (if present) for later updates   *
        *                                                          *
        ************************************************************
        *                                                          *
        ************************************************************
0
0               .other identification and sizes of library.
0                 data set name:  ft15f001
0               2/16/1996     date library was produced
0                    1697     total number of nuclides in library
                      689     number of light-element nuclides
                      129     number of actinide nuclides
```

879 number of fission product nuclides
7225 number of nonzero off-diagonal matrix elements

1 sas2h: babcock wilcox 15x15, 3.00w%, 20gd/mtu burn high temp page 24
power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
basis =
(note, k-infinities, clad and moderator absorptions are correct, only, if correctly weighted cross sections are applied.)

	initial	1160.2 d	1200.2 d	1240.2 d	1280.2 d
productions	3.63987E+04	3.63392E+04	3.62780E+04	3.62138E+04	3.61467E+04
absorptions	3.31285E+04	3.32072E+04	3.33188E+04	3.34257E+04	3.35285E+04
k infinity	1.09871E+00	1.09430TE+00	1.08881E+00	1.08341E+00	1.07809E+00

	initial	1160.2 d	1200.2 d	1240.2 d	1280.2 d
actinide absorptions	3.05835E+04	3.06412TE+04	3.06958E+04	3.07462E+04	3.07926E+04
non-actinide abs. fracs.	7.68154E-02	7.72714OE-02	7.87846E-02	8.01652E-02	8.15908E-02

1 sas2h: babcock wilcox 15x15, 3.00w%, 20gd/mtu burn high temp actinides page 25
power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
nuclide concentrations, gram atoms
basis = single reactor assembly

	charge	1160.2 d	1200.2 d	1240.2 d	1280.2 d
he 4	1.00E-02	1.15E-02	1.31E-02	1.49E-02	1.69E-02
pb206	4.67E-16	5.48E-16	6.40E-16	7.44E-16	8.60E-16
pb207	5.84E-13	6.68E-13	7.53E-13	8.49E-13	9.54E-13
pb208	7.74E-10	8.97E-10	1.03E-09	1.19E-09	1.36E-09
pb209	2.71E-17	3.04E-17	3.43E-17	3.85E-17	4.32E-17
pb210	3.74E-14	4.19E-14	4.67E-14	5.20E-14	5.77E-14
pb211	6.94E-17	7.62E-17	8.32E-17	9.08E-17	9.84E-17
pb212	1.87E-12	2.10E-12	2.35E-12	2.63E-12	2.95E-12
pb214	1.32E-18	1.49E-18	1.53E-18	1.62E-18	1.70E-18
ra222	3.80E-20	4.23E-20	4.68E-20	5.14E-20	5.64E-20
ra223	3.17E-14	3.47E-14	3.80E-14	4.13E-14	4.49E-14
ra224	1.54E-11	1.73E-11	1.94E-11	2.17E-11	2.42E-11
ra225	2.91E-15	3.29E-15	3.71E-15	4.17E-15	4.67E-15
ra226	4.28E-11	4.54E-11	4.80E-11	5.07E-11	5.34E-11
ra228	1.47E-17	1.61E-17	1.76E-17	1.91E-17	2.08E-17
th226	1.85E-18	2.08E-18	2.28E-18	2.51E-18	2.75E-18
th227	5.31E-14	5.81E-14	6.34E-14	6.90E-14	7.48E-14
th228	2.93E-09	3.25E-09	3.69E-09	4.12E-09	4.59E-09
th229	9.63E-11	1.09E-10	1.23E-10	1.38E-10	1.55E-10
th230	2.56E-06	2.60E-06	2.64E-06	2.68E-06	2.71E-06
th231	2.59E-09	2.74E-09	2.78E-09	2.83E-09	2.87E-09
th232	2.90E-07	3.08E-07	3.26E-07	3.44E-07	3.63E-07
th233	3.61E-14	2.89E-13	3.07E-13	3.25E-13	3.44E-13
th234	2.75E-08	2.75E-08	2.75E-08	2.75E-08	2.75E-08
pa231	9.80E-07	1.03E-06	1.09E-06	1.14E-06	1.19E-06
pa232	8.08E-10	8.81E-10	9.28E-10	9.76E-10	1.03E-09
pa233	1.49E-08	1.57E-08	1.64E-08	1.72E-08	1.80E-08
pa234m	9.28E-13	9.31E-13	9.31E-13	9.30E-13	9.30E-13
pa234	1.38E-12	1.57E-12	1.63E-12	1.69E-12	1.75E-12
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	1.79E-15	2.00E-15	2.21E-15	2.43E-15	2.67E-15
u231	3.39E-14	3.82E-14	4.20E-14	4.60E-14	5.02E-14
u232	4.37E-07	4.81E-07	5.27E-07	5.77E-07	6.25E-07
u233	3.87E-06	3.95E-06	4.03E-06	4.11E-06	4.18E-06
u234	3.59E-01	3.55E-01	3.52E-01	3.48E-01	3.44E-01
u235	2.97E+01	2.89E+01	2.82E+01	2.75E+01	2.68E+01
u236	5.53E+00	5.65E+00	5.76E+00	5.88E+00	5.99E+00
u237	7.11E-03	7.30E-03	7.43E-03	7.57E-03	7.70E-03

INFORMATION ONLY

u238	1.86E+03	1.86E+03	1.86E+03	1.86E+03	1.86E+03
u239	7.90E-05	5.40E-04	5.41E-04	5.43E-04	5.44E-04
u240	2.14E-26	3.08E-26	4.37E-26	6.13E-26	8.49E-26
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	1.02E-08	1.10E-08	1.19E-08	1.27E-08	1.36E-08
np236m	9.42E-09	1.04E-08	1.10E-08	1.15E-08	1.20E-08
np236	1.12E-06	1.22E-06	1.33E-06	1.45E-06	1.57E-06
np237	4.46E-01	4.67E-01	4.89E-01	5.11E-01	5.33E-01
np238	5.70E-04	6.12E-04	6.42E-04	6.73E-04	7.04E-04
np239	7.66E-02	7.80E-02	7.82E-02	7.83E-02	7.85E-02
np240m	1.83E-28	2.63E-28	3.73E-28	5.23E-28	7.25E-28
np240	7.00E-07	1.49E-06	1.50E-06	1.51E-06	1.52E-06

1

sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 26

power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec

0 nuclide concentrations, gram atoms

basis = single reactor assembly

	charge	1160.2 d	1200.2 d	1240.2 d	1280.2 d
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	1.21E-06	1.32E-06	1.43E-06	1.54E-06	1.66E-06
pu237	3.73E-08	3.97E-08	4.21E-08	4.45E-08	4.69E-08
pu238	8.34E-02	9.10E-02	9.91E-02	1.07E-01	1.16E-01
pu239	1.04E+01	1.05E+01	1.07E+01	1.08E+01	1.09E+01
pu240	2.61E+00	2.51E+00	2.61E+00	2.71E+00	2.80E+00
pu241	1.40E+00	1.46E+00	1.53E+00	1.61E+00	1.68E+00
pu242	2.09E-01	2.28E-01	2.49E-01	2.70E-01	2.93E-01
pu243	2.52E-05	3.21E-05	3.51E-05	3.83E-05	4.15E-05
pu244	1.07E-15	1.54E-15	2.18E-15	3.08E-15	4.23E-15
pu245	7.21E-22	1.12E-21	1.59E-21	2.23E-21	3.10E-21
pu246	3.15E-26	4.58E-26	6.58E-26	9.31E-26	1.30E-25
am239	8.63E-13	1.01E-12	1.10E-12	1.18E-12	1.27E-12
am240	3.98E-10	4.39E-10	4.75E-10	5.12E-10	5.51E-10
am241	5.25E-02	5.69E-02	6.14E-02	6.61E-02	7.08E-02
am242m	1.26E-03	1.39E-03	1.51E-03	1.65E-03	1.78E-03
am242	5.74E-05	6.51E-05	7.04E-05	7.59E-05	8.16E-05
am243	2.55E-02	2.90E-02	3.28E-02	3.70E-02	4.15E-02
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	8.58E-06	1.06E-05	1.20E-05	1.36E-05	1.53E-05
am245	6.30E-20	9.02E-20	1.27E-19	1.77E-19	2.44E-19
am246	7.89E-27	1.15E-26	1.64E-26	2.33E-26	3.26E-26
cm241	1.47E-12	1.72E-12	1.98E-12	2.28E-12	2.57E-12
cm242	7.37E-03	8.15E-03	8.98E-03	9.84E-03	1.07E-02
cm243	1.49E-04	1.71E-04	1.95E-04	2.21E-04	2.48E-04
cm244	3.25E-03	3.86E-03	4.55E-03	5.33E-03	6.20E-03
cm245	8.69E-05	1.07E-04	1.30E-04	1.56E-04	1.87E-04
cm246	4.82E-06	6.16E-06	7.80E-06	9.79E-06	1.22E-05
cm247	4.49E-08	5.97E-08	7.84E-08	1.02E-07	1.31E-07
cm248	1.93E-09	2.67E-09	3.66E-09	4.95E-09	6.62E-09
cm249	6.75E-15	1.91E-14	2.62E-14	3.56E-14	4.77E-14
cm250	2.93E-18	4.23E-18	6.05E-18	8.54E-18	1.19E-17
cm251	4.90E-27	1.03E-25	1.47E-25	2.08E-25	2.91E-25
bk249	1.62E-11	2.33E-11	3.28E-11	4.57E-11	6.28E-11
bk250	4.54E-15	8.26E-15	1.17E-14	1.63E-14	2.25E-14
bk251	3.75E-20	1.19E-19	1.66E-19	2.34E-19	3.28E-19
totals	1.91E+03	1.91E+03	1.91E+03	1.91E+03	1.91E+03
0 flux		1.62E+13	1.63E+13	1.63E+13	1.64E+13

0 .results on logical unit no. 71, position 1, for time step 4, subcase 9. (run position 1, case position 1)

title: sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp

1

sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp light elements page 27

decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 nuclide concentrations, grams
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
total	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp light elements page 28
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 element radioactivity, curies
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
totals	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp light elements page 29
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 element thermal power, watts
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
totals	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1

sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp light elements page 30
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 nuclide gamma power, watts
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
total	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 31
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 nuclide concentrations, gram atoms
basis = single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
he 4	1.69E-02	2.64E-02	3.03E-02	3.28E-02	3.48E-02	3.69E-02	3.88E-02
th230	2.71E-06	3.52E-06	4.34E-06	5.15E-06	5.96E-06	6.78E-06	7.60E-06
th232	3.63E-07	5.10E-07	6.58E-07	8.06E-07	9.53E-07	1.10E-06	1.25E-06
pa231	1.19E-06	1.22E-06	1.24E-06	1.26E-06	1.28E-06	1.30E-06	1.33E-06
u232	6.25E-07	9.24E-07	1.14E-06	1.35E-06	1.51E-06	1.63E-06	1.73E-06
u233	4.18E-06	4.34E-06	4.51E-06	4.67E-06	4.84E-06	5.00E-06	5.17E-06
u234	3.44E-01	3.45E-01	3.46E-01	3.47E-01	3.47E-01	3.48E-01	3.49E-01
u235	2.68E+01	2.68E+01	2.68E+01	2.68E+01	2.68E+01	2.68E+01	2.68E+01
u236	5.99E+00	5.99E+00	5.99E+00	5.99E+00	5.99E+00	5.99E+00	5.99E+00
u238	1.86E+03	1.86E+03	1.86E+03	1.86E+03	1.86E+03	1.86E+03	1.86E+03
np236	1.57E-06	1.57E-06	1.57E-06	1.57E-06	1.57E-06	1.57E-06	1.57E-06
np237	5.33E-01	5.41E-01	5.41E-01	5.42E-01	5.42E-01	5.43E-01	5.43E-01
pu238	1.14E-01	1.24E-01	1.25E-01	1.25E-01	1.25E-01	1.24E-01	1.23E-01
pu239	1.09E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01
pu240	2.80E+00	2.80E+00	2.80E+00	2.80E+00	2.80E+00	2.80E+00	2.80E+00
pu241	1.68E+00	1.61E+00	1.55E+00	1.49E+00	1.43E+00	1.37E+00	1.32E+00
pu242	2.93E-01	2.93E-01	2.93E-01	2.93E-01	2.93E-01	2.93E-01	2.93E-01
am241	7.08E-02	1.37E-01	2.00E-01	2.61E-01	3.20E-01	3.75E-01	4.25E-01
am242m	1.78E-03	1.78E-03	1.77E-03	1.76E-03	1.76E-03	1.75E-03	1.74E-03
am243	4.15E-02	4.15E-02	4.15E-02	4.15E-02	4.15E-02	4.15E-02	4.15E-02
cm242	1.07E-02	2.97E-03	8.16E-04	2.27E-04	6.55E-05	2.12E-05	9.12E-06
cm243	2.48E-04	2.43E-04	2.38E-04	2.33E-04	2.29E-04	2.24E-04	2.20E-04
cm244	6.20E-03	6.00E-03	5.83E-03	5.66E-03	5.47E-03	5.30E-03	5.13E-03
cm245	1.87E-04	1.87E-04	1.87E-04	1.87E-04	1.87E-04	1.87E-04	1.87E-04
cm246	1.22E-05	1.22E-05	1.22E-05	1.22E-05	1.22E-05	1.22E-05	1.22E-05
total	1.91E+03	1.91E+03	1.91E+03	1.91E+03	1.91E+03	1.91E+03	1.91E+03

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sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 32

INFORMATION ONLY

decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 element concentrations, gram atoms
basis = single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
he	1.69E-02	2.64E-02	3.08E-02	3.28E-02	3.48E-02	3.69E-02	3.89E-02
th	3.11E-06	4.07E-06	5.04E-06	6.00E-06	6.97E-06	7.94E-06	8.91E-06
pa	1.21E-06	1.23E-06	1.26E-06	1.28E-06	1.30E-06	1.33E-06	1.34E-06
u	1.89E+03	1.89E+03	1.89E+03	1.89E+03	1.89E+03	1.89E+03	1.89E+03
np	6.13E-01	5.41E-01	5.41E-01	5.42E-01	5.42E-01	5.43E-01	5.43E-01
pu	1.58E+01	1.58E+01	1.58E+01	1.57E+01	1.57E+01	1.56E+01	1.55E+01
am	1.14E-01	1.80E-01	2.44E-01	3.04E-01	3.63E-01	4.19E-01	4.72E-01
cm	1.74E-02	9.43E-03	7.09E-03	6.31E-03	5.97E-03	5.75E-03	5.56E-03
totals	1.91E+03	1.91E+03	1.91E+03	1.91E+03	1.91E+03	1.91E+03	1.91E+03

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sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 33
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 nuclide concentrations, grams
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
he 4	6.76E-02	1.06E-01	1.21E-01	1.31E-01	1.39E-01	1.47E-01	1.56E-01
pb208	2.83E-07	7.04E-07	1.43E-06	2.44E-06	3.88E-06	5.55E-06	7.58E-06
th228	1.05E-06	2.06E-06	3.24E-06	4.44E-06	5.63E-06	6.73E-06	7.71E-06
th230	6.24E-04	8.10E-04	9.97E-04	1.18E-03	1.37E-03	1.56E-03	1.75E-03
th232	8.41E-05	1.18E-04	1.53E-04	1.87E-04	2.21E-04	2.55E-04	2.90E-04
th234	6.43E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06
pa231	2.75E-04	2.81E-04	2.88E-04	2.97E-04	2.96E-04	3.01E-04	3.06E-04
pa233	4.19E-06	4.36E-06	4.36E-06	4.36E-06	4.37E-06	4.37E-06	4.37E-06
u232	1.46E-04	2.14E-04	2.70E-04	3.14E-04	3.50E-04	3.78E-04	4.01E-04
u233	9.73E-04	1.01E-03	1.05E-03	1.09E-03	1.13E-03	1.17E-03	1.20E-03
u234	8.05E+01	8.07E+01	8.09E+01	8.11E+01	8.13E+01	8.15E+01	8.17E+01
u235	6.30E+03	6.30E+03	6.30E+03	6.30E+03	6.30E+03	6.30E+03	6.30E+03
u236	1.41E+03	1.41E+03	1.41E+03	1.41E+03	1.41E+03	1.41E+03	1.41E+03
u237	1.82E+00	1.18E-05	1.13E-05	1.09E-05	1.04E-05	1.00E-05	9.64E-06
u238	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05
np236	3.71E-04	3.71E-04	3.71E-04	3.71E-04	3.71E-04	3.71E-04	3.71E-04
np237	1.26E+02	1.26E+02	1.26E+02	1.26E+02	1.26E+02	1.25E+02	1.25E+02
np239	1.88E+01	8.68E-06	8.68E-06	8.68E-06	8.68E-06	8.67E-06	8.67E-06
pu236	3.91E-04	3.22E-04	2.64E-04	2.14E-04	1.77E-04	1.45E-04	1.19E-04
pu238	2.77E+01	2.95E+01	2.98E+01	2.98E+01	2.98E+01	2.95E+01	2.93E+01
pu239	2.61E+03	2.63E+03	2.63E+03	2.63E+03	2.63E+03	2.63E+03	2.63E+03
pu240	6.72E+02	6.72E+02	6.72E+02	6.72E+02	6.72E+02	6.72E+02	6.72E+02
pu241	4.05E+02	3.86E+02	3.75E+02	3.59E+02	3.45E+02	3.31E+02	3.18E+02
pu242	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01
am241	1.71E+01	3.30E+01	4.83E+01	6.25E+01	7.70E+01	9.05E+01	1.03E+02
am242m	4.32E-01	4.30E-01	4.28E-01	4.27E-01	4.25E-01	4.23E-01	4.21E-01
am242	1.97E-02	5.55E-06	5.53E-06	5.50E-06	5.48E-06	5.46E-06	5.44E-06
am243	1.01E+01	1.01E+01	1.01E+01	1.01E+01	1.01E+01	1.01E+01	1.01E+01
cm242	2.60E+00	7.18E-01	1.97E-01	5.49E-02	1.58E-02	5.14E-03	2.21E-03
cm243	6.03E-02	5.91E-02	5.79E-02	5.67E-02	5.56E-02	5.45E-02	5.34E-02
cm244	1.51E+00	1.47E+00	1.42E+00	1.38E+00	1.34E+00	1.29E+00	1.25E+00
cm245	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02
cm246	3.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03
cm247	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05
cm248	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
total	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05

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sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp actinides page 34
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 element concentrations, grams
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
hc	6.76E-02	1.08E-01	1.21E-01	1.31E-01	1.39E-01	1.47E-01	1.56E-01
pb	2.84E-07	7.08E-07	1.43E-06	2.49E-06	3.89E-06	5.60E-06	7.59E-06
sb	7.14E-04	9.37E-04	1.14E-03	1.38E-03	1.61E-03	1.83E-03	2.08E-03
u	2.79E-04	2.88E-04	2.90E-04	2.95E-04	3.00E-04	3.06E-04	3.11E-04
np	4.50E+05	4.50E+05	4.50E+05	4.50E+05	4.50E+05	4.50E+05	4.50E+05
pu	1.43E+02	1.28E+02	1.28E+02	1.28E+02	1.28E+02	1.28E+02	1.28E+02
am	3.79E+03	3.79E+03	3.78E+03	3.76E+03	3.75E+03	3.73E+03	3.72E+03
cm	2.76E+01	4.35E+01	5.88E+01	7.35E+01	8.75E+01	1.01E+02	1.14E+02
sm	4.22E+00	2.29E+00	1.73E+00	1.54E+00	1.46E+00	1.40E+00	1.36E+00
totals	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05

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sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp actinides page 35
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 element radioactivity, curies
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
tl	3.11E-04	6.09E-04	9.58E-04	1.32E-03	1.67E-03	1.99E-03	2.28E-03
pb	8.64E-04	1.69E-03	2.66E-03	3.67E-03	4.64E-03	5.54E-03	6.35E-03
bi	8.64E-04	1.69E-03	2.66E-03	3.67E-03	4.64E-03	5.54E-03	6.35E-03
po	1.42E-03	2.78E-03	4.37E-03	6.01E-03	7.61E-03	9.08E-03	1.04E-02
at	8.64E-04	1.69E-03	2.66E-03	3.67E-03	4.64E-03	5.54E-03	6.35E-03
rn	8.64E-04	1.69E-03	2.66E-03	3.67E-03	4.64E-03	5.54E-03	6.35E-03
ac	5.99E-07	8.95E-07	1.22E-06	1.55E-06	1.87E-06	2.19E-06	2.51E-06
th	5.05E-01	1.64E-01	1.65E-01	1.66E-01	1.67E-01	1.68E-01	1.69E-01
pa	3.40E-01	2.40E-01	2.40E-01	2.40E-01	2.40E-01	2.40E-01	2.40E-01
u	4.51E+06	1.72E+00	1.69E+00	1.65E+00	1.62E+00	1.59E+00	1.56E+00
np	4.40E+06	2.13E+00	2.13E+00	2.12E+00	2.12E+00	2.12E+00	2.12E+00
pu	6.85E+04	4.10E+04	3.95E+04	3.79E+04	3.65E+04	3.51E+04	3.37E+04
am	2.08E+04	1.24E+02	1.77E+02	2.27E+02	2.75E+02	3.21E+02	3.66E+02
cm	8.74E+03	2.50E+03	7.72E+02	2.98E+02	1.66E+02	1.25E+02	1.12E+02
bk	4.76E-05	1.33E-05	6.86E-06	3.55E-06	1.80E-06	9.50E-07	4.91E-07
totals	9.01E+06	4.37E+04	4.04E+04	3.85E+04	3.69E+04	3.55E+04	3.42E+04

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sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp actinides page 36
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 element thermal power, watts
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
tl	7.26E-06	1.42E-05	2.24E-05	3.08E-05	3.90E-05	4.65E-05	5.34E-05
pb	1.63E-06	3.20E-06	5.04E-06	6.95E-06	8.77E-06	1.05E-05	1.20E-05
bi	1.45E-05	2.84E-05	4.46E-05	6.14E-05	7.77E-05	9.28E-05	1.06E-04
po	6.47E-05	1.27E-04	2.00E-04	2.75E-04	3.47E-04	4.15E-04	4.76E-04
at	3.28E-05	6.43E-05	1.01E-04	1.39E-04	1.76E-04	2.10E-04	2.41E-04
rn	2.96E-05	5.81E-05	9.14E-05	1.26E-04	1.59E-04	1.90E-04	2.18E-04
th	4.82E-04	1.32E-04	1.64E-04	1.97E-04	2.29E-04	2.58E-04	2.85E-04
pa	1.64E-03	9.63E-04	9.63E-04	9.63E-04	9.63E-04	9.63E-04	9.64E-04
u	1.21E+04	2.31E-02	2.31E-02	2.31E-02	2.31E-02	2.31E-02	2.31E-02
np	1.13E+04	7.77E-03	7.77E-03	7.77E-03	7.78E-03	7.78E-03	7.78E-03
pu	5.71E+01	2.79E+01	2.80E+01	2.79E+01	2.78E+01	2.76E+01	2.75E+01
am	5.21E+01	3.85E+00	5.60E+00	7.28E+00	8.80E+00	1.04E+01	1.19E+01
cm	3.19E+02	9.10E+01	2.80E+01	1.05E+01	5.80E+00	4.39E+00	3.92E+00
cf	1.73E-08	1.63E-08	1.50E-08	1.38E-08	1.27E-08	1.17E-08	1.09E-08
totals	2.38E+04	1.23E+02	6.16E+01	4.59E+01	4.25E+01	4.25E+01	4.34E+01

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sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp actinides page 37
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 nuclide gamma power, watts
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d

tl208	6.18E-06	1.21E-05	1.91E-05	2.62E-05	3.32E-05	3.98E-05	4.54E-05
pb212	7.42E-07	1.46E-06	2.29E-06	3.15E-06	3.98E-06	4.78E-06	5.46E-06
bi212	5.38E-07	1.06E-06	1.66E-06	2.29E-06	2.89E-06	3.45E-06	3.96E-06
rn220	3.12E-09	6.12E-09	9.63E-09	1.33E-08	1.68E-08	2.00E-08	2.30E-08
ra224	5.15E-08	1.01E-07	1.59E-07	2.19E-07	2.77E-07	3.30E-07	3.79E-07
th228	1.79E-08	3.53E-08	5.54E-08	7.62E-08	9.64E-08	1.15E-07	1.32E-07
th231	6.47E-05	2.50E-06	2.50E-06	2.50E-06	2.50E-06	2.50E-06	2.50E-06
th234	8.56E-06	8.56E-06	8.56E-06	8.56E-06	8.56E-06	8.56E-06	8.56E-06
pa233	1.15E-04	1.20E-04	1.20E-04	1.20E-04	1.20E-04	1.20E-04	1.20E-04
pa234m	9.84E-06	9.79E-06	9.79E-06	9.79E-06	9.79E-06	9.79E-06	9.79E-06
pa234	9.50E-06	2.25E-06	2.25E-06	2.25E-06	2.25E-06	2.25E-06	2.25E-06
u232	4.15E-08	6.00E-08	7.66E-08	8.92E-08	9.92E-08	1.07E-07	1.14E-07
u234	4.78E-06	4.79E-06	4.80E-06	4.82E-06	4.83E-06	4.84E-06	4.85E-06
u235	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05
u236	9.21E-07	9.21E-07	9.21E-07	9.21E-07	9.21E-07	9.21E-07	9.22E-07
u237	1.26E+02	8.13E-04	7.81E-04	7.50E-04	7.21E-04	6.93E-04	6.66E-04
u238	1.19E-06	1.19E-06	1.19E-06	1.19E-06	1.19E-06	1.19E-06	1.19E-06
np235	1.86E-07	1.09E-07	6.42E-08	3.77E-08	2.21E-08	1.30E-08	7.63E-09
np237	1.85E-05	1.85E-05	1.85E-05	1.85E-05	1.85E-05	1.85E-05	1.85E-05
np238	1.67E+02	7.78E-05	7.75E-05	7.72E-05	7.69E-05	7.66E-05	7.63E-05
np239	4.74E+03	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03
pu236	2.83E-06	2.32E-06	1.90E-06	1.56E-06	1.28E-06	1.05E-06	8.58E-07
pu238	5.34E-03	5.70E-03	5.76E-03	5.75E-03	5.72E-03	5.68E-03	5.65E-03
pu239	7.79E-04	7.84E-04	7.84E-04	7.84E-04	7.84E-04	7.84E-04	7.84E-04
pu240	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03
pu241	4.34E-04	4.17E-04	4.01E-04	3.85E-04	3.70E-04	3.55E-04	3.41E-04
pu242	2.44E-06	2.44E-06	2.44E-06	2.44E-06	2.44E-06	2.44E-06	2.44E-06
am241	9.92E-03	1.92E-02	2.81E-02	3.66E-02	4.48E-02	5.26E-02	6.00E-02
am242m	1.64E-04	1.63E-04	1.62E-04	1.62E-04	1.61E-04	1.60E-04	1.60E-04
am242	1.84E+00	5.17E-04	5.15E-04	5.13E-04	5.10E-04	5.08E-04	5.06E-04
am243	7.00E-04	7.01E-04	7.01E-04	7.01E-04	7.01E-04	7.01E-04	7.01E-04
cm242	1.08E-01	2.97E-02	8.18E-03	2.27E-03	6.57E-04	2.13E-04	9.14E-05
cm243	2.45E-03	2.40E-03	2.35E-03	2.31E-03	2.26E-03	2.22E-03	2.17E-03
cm244	1.35E-03	1.31E-03	1.27E-03	1.23E-03	1.19E-03	1.15E-03	1.12E-03
cm245	4.34E-06	4.34E-06	4.34E-06	4.34E-06	4.34E-06	4.34E-06	4.34E-06
cm246	2.71E-08	2.71E-08	2.71E-08	2.71E-08	2.71E-08	2.71E-08	2.71E-08
total	6.41E+03	6.57E-02	5.30E-02	5.54E-02	6.19E-02	6.91E-02	7.63E-02

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sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp fission products page 38
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 nuclide concentrations, grams
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
h 3	1.36E-02	1.30E-02	1.24E-02	1.18E-02	1.13E-02	1.07E-02	1.03E-02
li 6	7.46E-05	7.46E-05	7.46E-05	7.46E-05	7.46E-05	7.46E-05	7.46E-05
li 7	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06
be 9	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06
be 10	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05
c 14	7.47E-06	7.47E-06	7.47E-06	7.47E-06	7.47E-06	7.46E-06	7.46E-06
zn 70	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06
ga 71	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05
ge 72	1.29E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03
ge 73	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03
ge 74	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03
as 75	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02
ge 76	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
se 76	6.29E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04
se 77	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01
se 78	7.24E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01
se 79	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00

br 79	5.12E-05	7.58E-05	1.00E-04	1.25E-04	1.49E-04	1.74E-04	1.98E-04
se 80	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00
kr 80	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05
kr 81	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00
kr 81	7.13E-07	7.13E-07	7.13E-07	7.13E-07	7.13E-07	7.13E-07	7.13E-07
se 82	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00
kr 82	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01
kr 83	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01
kr 84	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01
kr 85	6.65E+00	6.31E+00	5.97E+00	5.66E+00	5.36E+00	5.08E+00	4.82E+00
rb 85	2.80E+01	2.83E+01	2.86E+01	2.90E+01	2.93E+01	2.95E+01	2.98E+01
kr 86	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01
sr 86	6.19E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02
rb 87	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01
sr 87	3.03E-04	3.03E-04	3.03E-04	3.03E-04	3.03E-04	3.03E-04	3.03E-04
sr 88	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02
y 89	1.33E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02
sr 90	1.63E+02	1.59E+02	1.56E+02	1.53E+02	1.50E+02	1.47E+02	1.44E+02
y 90	4.30E-02	4.14E-02	4.05E-02	3.97E-02	3.89E-02	3.81E-02	3.74E-02
zr 90	7.74E+00	1.10E+01	1.43E+01	1.74E+01	2.05E+01	2.36E+01	2.66E+01
zr 91	1.68E+02	1.78E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02
zr 92	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02
zr 93	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02
nb 93	8.41E-06	1.32E-05	1.97E-05	2.78E-05	3.74E-05	4.86E-05	6.12E-05
nb 93m	1.10E-04	1.56E-04	2.04E-04	2.48E-04	2.91E-04	3.32E-04	3.72E-04
zr 94	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02
nb 94	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04
zr 95	1.55E+01	5.76E-01	2.13E-02	7.90E-04	2.93E-05	1.08E-06	4.02E-08
nb 95	8.53E+00	6.66E-01	2.56E-02	9.51E-04	3.52E-05	1.30E-06	4.83E-08
mo 95	2.00E+02	2.23E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02
zr 96	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02
mo 96	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00
mo 97	2.17E+02	2.17E+02	2.17E+02	2.17E+02	2.17E+02	2.17E+02	2.17E+02
mo 98	2.33E+02	2.33E+02	2.33E+02	2.33E+02	2.33E+02	2.33E+02	2.33E+02
tc 98	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03

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ss3h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high bap fission products page 39
decay, following reactor irradiation identified by: power= 7.2mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 nuclide concentrations, grams
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
tc 99	2.30E+02	2.31E+02	2.31E+02	2.31E+02	2.31E+02	2.31E+02	2.31E+02
ru 99	9.13E-03	9.76E-03	1.04E-02	1.10E-02	1.17E-02	1.23E-02	1.29E-02
mo100	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02
ru100	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01
ru101	2.18E+02	2.18E+02	2.18E+02	2.18E+02	2.18E+02	2.18E+02	2.18E+02
ru102	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02
rh102	2.17E-04	1.78E-04	1.46E-04	1.19E-04	9.72E-05	8.02E-05	6.57E-05
rh103	1.34E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02
ru104	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02
pd104	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01
pd105	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02
ru106	3.37E+01	1.91E+01	1.08E+01	6.14E+00	3.48E+00	1.97E+00	1.12E+00
rh106	3.22E-05	1.77E-05	1.00E-05	5.69E-06	3.23E-06	1.83E-06	1.04E-06
pd106	4.57E+01	6.03E+01	6.86E+01	7.33E+01	7.59E+01	7.74E+01	7.83E+01
pd107	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01
ag107	7.30E-06	1.18E-05	1.64E-05	2.09E-05	2.55E-05	3.00E-05	3.46E-05
pd108	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01
ag108m	4.21E-05	4.19E-05	4.17E-05	4.14E-05	4.14E-05	4.12E-05	4.10E-05
cd108	4.34E-05	4.34E-05	4.34E-05	4.34E-05	4.35E-05	4.35E-05	4.35E-05

INFORMATION ONLY

ag109	2.18E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01
pd110	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00
ag110m	1.04E-01	4.44E-02	1.92E-02	8.23E-03	3.54E-03	1.52E-03	6.53E-04
cd110	5.66E+00	5.72E+00	5.74E+00	5.75E+00	5.76E+00	5.76E+00	5.76E+00
cd111	4.98E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00
cd112	2.63E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00
cd113	4.52E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02
cd113m	2.80E-02	2.66E-02	2.58E-02	2.48E-02	2.38E-02	2.29E-02	2.19E-02
in113	1.97E-03	3.10E-03	4.18E-03	5.21E-03	6.21E-03	7.16E-03	8.08E-03
cd114	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00
sn114	6.61E-05	7.50E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05
in115	4.53E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01
sn115	4.55E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02
cd116	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00
sn116	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01
sn117	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00
sn118	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01
sn119	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00
sn119m	2.29E-03	1.12E-03	5.43E-04	2.64E-04	1.29E-04	6.26E-05	3.05E-05
sn120	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00
sn121m	1.08E-02	1.07E-02	1.05E-02	1.04E-02	1.03E-02	1.02E-02	1.01E-02
sb121	1.03E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00
sn122	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00
te122	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02
sn123	1.57E-02	3.07E-03	6.00E-04	1.17E-04	2.29E-05	4.47E-06	8.72E-07
sb123	1.22E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00
te123	2.99E-04	3.56E-04	3.66E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04
sn124	2.20E+00	2.20E+00	2.20E+00	2.20E+00	2.20E+00	2.20E+00	2.20E+00
te124	3.43E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02
sb125	1.85E+00	1.50E+00	1.22E+00	9.84E-01	7.98E-01	6.45E-01	5.22E-01
te125	8.02E-01	1.14E+00	1.45E+00	1.68E+00	1.87E+00	2.03E+00	2.15E+00
te125m	2.33E-02	2.13E-02	1.73E-02	1.40E-02	1.13E-02	9.16E-03	7.41E-03
sn126	4.89E+00	4.89E+00	4.89E+00	4.89E+00	4.89E+00	4.89E+00	4.89E+00

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sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high terp fission products page 40
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0
nuclide concentrations, grams
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
te126	7.78E-02	7.84E-02	7.84E-02	7.85E-02	7.85E-02	7.85E-02	7.85E-02
te127m	2.94E-01	4.41E-02	6.57E-03	9.19E-04	1.33E-04	1.92E-05	2.77E-06
i127	1.08E+01	1.11E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01	1.12E+01
te128	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01
xe128	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01
i129	4.95E+01	4.95E+01	4.95E+01	4.95E+01	4.95E+01	4.95E+01	4.95E+01
xe129	1.18E-03	1.20E-03	1.21E-03	1.21E-03	1.21E-03	1.21E-03	1.21E-03
te130	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02
xe130	1.14E+00	1.14E+00	1.14E+00	1.14E+00	1.14E+00	1.14E+00	1.14E+00
xe131	1.36E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02
xe132	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02
ba132	4.82E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05
cs133	3.38E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02
xe134	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02
cs134	2.08E+01	1.57E+01	1.19E+01	8.99E+00	6.79E+00	5.13E+00	3.88E+00
ba134	8.91E+00	1.40E+01	1.79E+01	2.08E+01	2.30E+01	2.46E+01	2.59E+01
cs135	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02
ba135	3.81E-02	3.83E-02	3.83E-02	3.83E-02	3.84E-02	3.84E-02	3.84E-02
xe136	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02
ba136	4.65E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00
cs137	3.46E+02	3.39E+02	3.33E+02	3.28E+02	3.20E+02	3.14E+02	3.08E+02

ba137	1.43E+01	2.09E+01	2.74E+01	3.37E+01	3.99E+01	4.60E+01	5.20E+01
ba137m	5.31E-05	5.18E-05	5.08E-05	4.99E-05	4.89E-05	4.80E-05	4.71E-05
ba138	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02
la138	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03
la139	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02
ce140	3.61E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02
pr141	3.10E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02
ce142	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02
nd142	3.23E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00
nd143	2.66E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02
ce144	8.57E+01	4.09E+01	1.95E+01	9.30E+00	4.44E+00	2.12E+00	1.01E+00
pr144	3.62E-03	1.72E-03	8.22E-04	3.92E-04	1.87E-04	8.91E-05	4.25E-05
nd144	2.56E+02	3.01E+02	3.22E+02	3.33E+02	3.38E+02	3.40E+02	3.41E+02
nd145	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02
pm145	7.90E-05	1.19E-04	1.38E-04	1.45E-04	1.47E-04	1.46E-04	1.43E-04
sm145	9.31E-05	5.00E-05	2.69E-05	1.45E-05	7.78E-06	4.18E-06	2.25E-06
nd146	1.87E+02	1.87E+02	1.87E+02	1.87E+02	1.87E+02	1.87E+02	1.87E+02
pm146	1.87E-03	1.69E-03	1.52E-03	1.37E-03	1.23E-03	1.11E-03	1.00E-03
sm146	1.95E-03	2.01E-03	2.07E-03	2.12E-03	2.17E-03	2.21E-03	2.24E-03
pm147	5.78E+01	4.77E+01	3.83E+01	3.07E+01	2.46E+01	1.98E+01	1.59E+01
sm147	3.03E+01	4.20E+01	5.14E+01	5.90E+01	6.51E+01	6.99E+01	7.38E+01
nd148	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02
sm148	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01
sm149	1.17E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00
nd150	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01
sm150	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01
sm151	6.15E+00	6.16E+00	6.12E+00	6.08E+00	6.04E+00	6.01E+00	5.97E+00
eu151	1.55E-02	5.51E-02	9.46E-02	1.34E-01	1.73E-01	2.11E-01	2.50E-01
sm152	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01
eu152	2.68E-02	2.54E-02	2.43E-02	2.33E-02	2.23E-02	2.14E-02	2.05E-02
gd152	2.45E-02	2.48E-02	2.52E-02	2.54E-02	2.57E-02	2.60E-02	2.62E-02

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sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp fission products page 41
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0

nuclide concentrations, grams
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
eu153	2.68E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01
gd153	7.13E-04	2.98E-04	1.24E-04	5.19E-05	2.17E-05	9.05E-06	3.78E-06
sm154	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00
eu154	7.30E+00	6.83E+00	6.38E+00	5.97E+00	5.58E+00	5.22E+00	4.88E+00
gd154	6.33E-01	1.11E+00	1.55E+00	1.97E+00	2.36E+00	2.72E+00	3.06E+00
eu155	3.12E+00	2.78E+00	2.44E+00	2.16E+00	1.91E+00	1.69E+00	1.49E+00
gd155	5.34E-02	4.16E-01	7.37E-01	1.02E+00	1.27E+00	1.49E+00	1.69E+00
gd156	9.00E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00
gd157	2.88E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02
gd158	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00	3.25E+00
tb159	5.02E-01	5.03E-01	5.03E-01	5.03E-01	5.03E-01	5.03E-01	5.03E-01
gd160	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01
dy160	3.04E-02	3.88E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02
dy161	8.12E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02
dy162	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02
dy163	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02
dy164	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
ho165	9.46E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03
ho166m	2.38E-05	2.38E-05	2.38E-05	2.38E-05	2.38E-05	2.37E-05	2.37E-05
er166	1.54E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03
er167	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05
er168	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05
tm169	7.25E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07

er170	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07
yb171	3.69E-07	5.46E-07	6.77E-07	7.75E-07	8.46E-07	9.00E-07	9.39E-07
total	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03

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sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp fission products page 42
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 element radioactivity, curies
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
h	1.31E+02	1.25E+02	1.20E+02	1.14E+02	1.09E+02	1.04E+02	9.91E+01
be	8.26E-07	8.26E-07	8.26E-07	8.26E-07	8.26E-07	8.26E-07	8.26E-07
c	3.33E-05	3.33E-05	3.33E-05	3.33E-05	3.33E-05	3.33E-05	3.33E-05
sr90	2.20E+05	1.92E-01	1.92E-01	1.92E-01	1.92E-01	1.92E-01	1.92E-01
sr	9.07E+05	2.47E+03	2.35E+03	2.22E+03	2.11E+03	2.00E+03	1.89E+03
nb	1.29E+06	2.64E-03	6.24E-06	6.21E-06	6.21E-06	6.21E-06	6.21E-06
sr	1.90E+06	2.54E+04	2.21E+04	2.16E+04	2.11E+04	2.07E+04	2.03E+04
y	2.46E+06	2.98E+04	2.22E+04	2.16E+04	2.11E+04	2.07E+04	2.03E+04
zr	2.03E+06	1.24E+04	4.59E+02	1.73E+01	9.78E-01	3.72E-01	3.50E-01
nb	2.95E+06	2.64E+04	1.01E+03	3.76E+01	1.46E+00	1.31E-01	9.06E-02
ru	2.04E+06	3.95E+00	3.95E+00	3.95E+00	3.95E+00	3.95E+00	3.95E+00
rh	8.68E+05	6.47E+04	3.59E+04	2.03E+04	1.15E+04	6.54E+03	3.71E+03
rh	1.11E+06	6.47E+04	3.59E+04	2.03E+04	1.15E+04	6.54E+03	3.71E+03
pd	8.87E+04	2.63E-02	2.63E-02	2.63E-02	2.63E-02	2.63E-02	2.63E-02
ag	1.23E+05	2.15E+02	9.23E+01	3.97E+01	1.71E+01	7.33E+00	3.15E+00
cd	1.75E+04	6.66E+00	5.81E+00	5.57E+00	5.35E+00	5.13E+00	4.92E+00
sn	2.79E+05	3.06E+01	8.11E+00	3.09E+00	1.79E+00	1.38E+00	1.22E+00
sb	7.37E+05	1.58E+03	1.27E+03	1.03E+03	8.35E+02	6.76E+02	5.47E+02
te	1.64E+06	1.24E+03	4.30E+02	2.69E+02	2.06E+02	1.66E+02	1.34E+02
i	2.35E+06	8.82E-03	8.82E-03	8.82E-03	8.82E-03	8.82E-03	8.82E-03
cs	1.59E+06	4.99E+04	4.44E+04	4.00E+04	3.67E+04	3.40E+04	3.18E+04
ba	1.98E+06	2.79E+04	2.73E+04	2.66E+04	2.63E+04	2.58E+04	2.53E+04
la	1.56E+06	1.31E+05	6.21E+04	2.96E+04	1.41E+04	6.74E+03	3.21E+03
ce	1.33E+06	1.32E+05	6.30E+04	3.00E+04	1.43E+04	6.83E+03	3.26E+03
pr	2.92E+05	4.43E+04	3.55E+04	2.85E+04	2.28E+04	1.83E+04	1.47E+04
nd	8.12E+04	1.62E+02	1.61E+02	1.60E+02	1.59E+02	1.58E+02	1.57E+02
pm	2.66E+04	3.21E+03	2.98E+03	2.68E+03	2.45E+03	2.24E+03	2.06E+03
sm	1.14E+03	1.06E+00	4.40E-01	1.84E-01	7.66E-02	3.20E-02	1.34E-02
eu	3.82E+02	5.44E+00	2.94E-01	1.59E-02	8.59E-04	4.64E-05	2.51E-06
gd	4.24E+00	4.27E-05	4.27E-05	4.27E-05	4.26E-05	4.26E-05	4.26E-05
tb	1.67E-03	5.51E-04	4.07E-04	3.01E-04	2.23E-04	1.66E-04	1.22E-04
totals	3.45E+07	6.17E+05	3.57E+05	2.46E+05	1.86E+05	1.52E+05	1.31E+05

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sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp fission products page 43
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec
0 element thermal power, watts
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
h	4.43E-03	4.23E-03	4.03E-03	3.85E-03	3.67E-03	3.50E-03	3.34E-03
c	9.77E-09	9.76E-09	9.76E-09	9.76E-09	9.76E-09	9.76E-09	9.76E-09
sr90	3.96E+03	6.03E-05	6.03E-05	6.03E-05	6.03E-05	6.03E-05	6.03E-05
sr	1.48E+04	3.71E+00	3.52E+00	3.33E+00	3.16E+00	2.99E+00	2.84E+00
y	2.76E+04	3.63E+01	2.57E+01	2.51E+01	2.45E+01	2.40E+01	2.36E+01
zr	4.05E+04	1.42E+02	1.23E+02	1.20E+02	1.17E+02	1.15E+02	1.12E+02
nb	2.03E+04	6.24E+01	2.31E+00	8.56E-02	3.21E-03	1.57E-04	4.37E-05
ru	4.16E+04	1.26E+02	4.84E+00	1.80E-01	6.66E-03	2.60E-04	2.46E-05
rh	2.36E+04	1.98E-03	1.98E-03	1.98E-03	1.98E-03	1.98E-03	1.98E-03
rh	4.60E+03	8.43E+00	2.16E+00	1.21E+00	6.86E-01	3.89E-01	2.20E-01
pd	5.01E+03	6.07E+02	3.44E+02	1.95E+02	1.11E+02	6.27E+01	3.55E+01
ag	2.95E+02	1.45E-06	1.45E-06	1.45E-06	1.45E-06	1.45E-06	1.45E-06
cd	4.89E+02	3.56E+00	1.53E+00	6.57E-01	2.82E-01	1.21E-01	5.21E-02

cd	2.07E+02	8.85E-03	6.33E-03	6.00E-03	5.81E-03	5.58E-03	5.36E-03
sn	3.71E+03	8.18E-02	1.71E-02	4.17E-03	1.48E-03	8.70E-04	7.11E-04
sb	1.36E+04	5.02E+00	4.08E+00	3.26E+00	2.64E+00	2.14E+00	1.73E+00
te	1.57E+04	1.19E+00	3.74E-01	2.28E-01	1.74E-01	1.39E-01	1.12E-01
i	3.59E+04	4.13E-06	4.13E-06	4.13E-06	4.13E-06	4.13E-06	4.13E-06
cs	2.98E+04	2.41E+02	1.89E+02	1.50E+02	1.21E+02	9.81E+01	8.10E+01
ba	1.73E+04	1.10E+02	1.07E+02	1.05E+02	1.03E+02	1.01E+02	9.95E+01
la	7.13E+03	8.59E+01	4.05E+01	1.94E+01	9.24E+00	4.41E+00	2.10E+00
pr	1.06E+04	9.56E+02	4.56E+02	2.17E+02	1.04E+02	4.95E+01	2.36E+01
pm	1.35E+03	1.69E+01	1.30E+01	1.05E+01	8.39E+00	6.73E+00	5.40E+00
sm	2.00E+02	1.97E-02	1.90E-02	1.88E-02	1.87E-02	1.86E-02	1.85E-02
eu	2.36E+02	1.78E+01	1.66E+01	1.55E+01	1.45E+01	1.35E+01	1.26E+01
gd	3.47E+00	9.25E-04	3.86E-04	1.61E-04	6.74E-05	2.81E-05	1.17E-05
tb	2.21E+00	4.77E-02	2.58E-03	1.39E-04	7.53E-06	4.07E-07	2.20E-08
ho	1.82E-02	4.46E-07	4.46E-07	4.46E-07	4.46E-07	4.46E-07	4.46E-07
tm	5.59E-06	8.70E-08	6.32E-08	4.66E-08	3.44E-08	2.55E-08	1.88E-08
totals	4.30E+05	2.43E+03	1.33E+03	8.67E+02	6.19E+02	4.81E+02	4.01E+02

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sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high burp fission products page 44
decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec

0 nuclide gamma power, watts
basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
kr 85	3.45E-02	3.27E-02	3.10E-02	2.94E-02	2.78E-02	2.64E-02	2.50E-02
y 90	2.35E-04	2.27E-04	2.22E-04	2.17E-04	2.13E-04	2.09E-04	2.05E-04
y 91	5.30E+00	1.45E-01	3.94E-03	1.07E-04	2.91E-06	7.85E-08	2.14E-09
rb 86m	2.93E-07	4.19E-07	5.41E-07	6.59E-07	7.73E-07	8.82E-07	9.88E-07
rb 94	2.18E-07	2.18E-07	2.18E-07	2.18E-07	2.18E-07	2.18E-07	2.18E-07
zr 95	1.45E+03	5.37E+01	1.99E+00	7.37E-02	2.73E-03	1.01E-04	3.74E-06
nb 95	1.52E+03	1.19E+02	4.56E+00	1.69E-01	6.27E-03	2.32E-04	8.61E-06
nb 95m	1.57E+00	5.98E-02	2.19E-03	8.12E-05	3.01E-06	1.11E-07	4.13E-09
tc 98	9.81E-09	9.81E-09	9.81E-09	9.81E-09	9.81E-09	9.81E-09	9.81E-09
tc 99	1.44E-08	1.45E-08	1.45E-08	1.45E-08	1.45E-08	1.45E-08	1.45E-08
rh102	3.36E-03	2.75E-03	2.26E-03	1.86E-03	1.52E-03	1.24E-03	1.02E-03
rh106	1.41E+02	7.73E+01	4.38E+01	2.48E+01	1.41E+01	7.98E+00	4.52E+00
ag108	1.74E-05	1.04E-08	1.03E-08	1.03E-08	1.02E-08	1.02E-08	1.01E-08
ag108m	1.06E-05	1.05E-05	1.05E-05	1.04E-05	1.04E-05	1.03E-05	1.03E-05
ag110	3.54E+00	5.25E-04	2.25E-04	9.69E-05	4.16E-05	1.79E-05	7.69E-06
ag110m	8.01E+00	3.44E+00	1.48E+00	6.36E-01	2.73E-01	1.17E-01	5.04E-02
cd113m	2.64E-06	2.53E-06	2.43E-06	2.33E-06	2.24E-06	2.15E-06	2.06E-06
sn119m	5.82E-04	2.83E-04	1.38E-04	6.71E-05	3.27E-05	1.59E-05	7.74E-06
sn121m	1.71E-05	1.70E-05	1.68E-05	1.66E-05	1.64E-05	1.63E-05	1.61E-05
sn123	5.29E-03	1.03E-03	2.02E-04	3.94E-05	7.70E-06	1.50E-06	2.93E-07
te123m	5.38E-04	9.24E-05	1.58E-05	2.72E-06	4.66E-07	8.00E-08	1.37E-08
sb124	1.03E+00	3.15E-02	9.47E-04	2.85E-05	8.55E-07	2.57E-08	7.73E-10
sb125	4.98E+00	4.05E+00	3.28E+00	2.65E+00	2.15E+00	1.74E+00	1.41E+00
te125m	8.84E-02	8.08E-02	6.57E-02	5.32E-02	4.30E-02	3.48E-02	2.82E-02
sn126	1.07E-04	1.07E-04	1.07E-04	1.07E-04	1.07E-04	1.07E-04	1.07E-04
sb126	1.04E+00	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04	3.17E-04
sb126m	7.41E-01	1.28E-03	1.28E-03	1.28E-03	1.28E-03	1.28E-03	1.28E-03
te127	4.78E-01	1.18E-02	1.71E-03	2.47E-04	3.56E-05	5.14E-06	7.42E-07
te127m	1.83E-01	2.74E-02	3.95E-03	5.71E-04	8.24E-05	1.19E-05	1.72E-06
i129	1.28E-06	1.28E-06	1.28E-06	1.28E-06	1.28E-06	1.28E-06	1.28E-06
ba133	1.54E-08	1.46E-08	1.38E-08	1.30E-08	1.24E-08	1.17E-08	1.11E-08
cs134	2.46E+02	1.88E+02	1.42E+02	1.07E+02	8.11E+01	6.13E+01	4.63E+01
ba137m	1.01E+02	9.90E+01	9.71E+01	9.52E+01	9.34E+01	9.16E+01	8.99E+01
ce139	2.19E-05	4.73E-06	1.02E-06	2.21E-07	4.78E-08	1.03E-08	2.22E-09
ce144	3.07E+01	1.47E+01	6.99E+00	3.36E+00	1.59E+00	7.59E-01	3.62E-01
pr144	4.65E+01	2.23E+01	1.06E+01	5.07E+00	2.42E+00	1.15E+00	5.50E-01
pr144m	2.84E-01	1.35E-01	6.44E-02	3.07E-02	1.47E-02	6.99E-03	3.33E-03

pm145	2.11E-06	3.17E-06	3.67E-06	3.88E-06	3.93E-06	3.90E-06	3.82E-06
sm145	9.50E-05	5.11E-05	2.75E-05	1.48E-05	7.94E-06	4.27E-06	2.30E-06
pm146	3.69E-03	3.33E-03	3.00E-03	2.70E-03	2.43E-03	2.19E-03	1.97E-03
pm147	1.39E-03	1.15E-03	9.21E-04	7.39E-04	5.93E-04	4.76E-04	3.82E-04
eu150	1.30E-07	1.28E-07	1.26E-07	1.24E-07	1.22E-07	1.20E-07	1.18E-07
sm151	1.36E-05	1.36E-05	1.36E-05	1.35E-05	1.34E-05	1.33E-05	1.32E-05
eu152	3.23E-02	3.09E-02	2.96E-02	2.83E-02	2.71E-02	2.60E-02	2.49E-02
gd153	1.61E-03	6.71E-04	2.80E-04	1.17E-04	4.89E-05	2.04E-05	8.52E-06
eu154	1.47E+01	1.37E+01	1.28E+01	1.20E+01	1.12E+01	1.05E+01	9.80E+00
eu155	5.91E-01	5.22E-01	4.61E-01	4.08E-01	3.61E-01	3.19E-01	2.83E-01
tb160	7.30E-01	3.94E-02	2.13E-03	1.15E-04	6.22E-06	3.36E-07	1.82E-08
ho166m	4.12E-07	4.12E-07	4.12E-07	4.12E-07	4.11E-07	4.11E-07	4.11E-07
total	2.13E+05	6.01E+02	3.25E+02	2.52E+02	2.07E+02	1.78E+02	1.53E+02

1

sas2h: babcock wilcox 15x15, 3.00w/o, 20gd/mtu burn high temp fission products page 45

decay, following reactor irradiation identified by: power= 7.25mw, burnup= 9280.mwd, flux= 1.63E+13n/cm**2-sec

0 element gamma power, watts

basis =single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
kr	7.71E+03	3.27E-02	3.10E-02	2.94E-02	2.78E-02	2.64E-02	2.50E-02
y	1.47E+04	1.47E-01	4.19E-03	3.25E-04	2.16E-04	2.09E-04	2.05E-04
zr	8.12E+03	5.37E+01	1.99E+00	7.37E-02	2.73E-03	1.01E-04	3.74E-06
nb	1.75E+04	1.19E+02	4.56E+00	1.69E-01	6.28E-03	2.34E-04	9.82E-06
rh	1.21E+04	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08
ag	1.55E+03	7.73E+01	4.38E+01	2.48E+01	1.41E+01	7.98E+00	4.53E+00
cd	1.30E+02	3.44E+00	1.48E+00	6.36E-01	2.73E-01	1.17E-01	5.04E-02
sn	9.93E+01	1.20E-04	3.48E-06	2.36E-06	2.24E-06	2.19E-06	2.08E-06
sb	2.40E+03	1.44E-03	4.64E-04	2.30E-04	1.64E-04	1.41E-04	1.31E-04
te	9.36E+03	4.08E+00	3.28E+00	2.66E+00	2.15E+00	1.74E+00	1.41E+00
i	9.32E+03	1.30E-01	7.14E-02	5.40E-02	4.31E-02	3.48E-02	2.83E-02
xe	2.38E+04	1.29E-06	1.29E-06	1.29E-06	1.29E-06	1.29E-06	1.29E-06
cs	1.44E+04	1.88E+02	1.42E+02	1.07E+02	8.11E+01	6.13E+01	4.63E+01
ba	7.30E+03	9.90E+01	9.71E+01	9.52E+01	9.34E+01	9.16E+01	8.99E+01
la	3.37E+03	1.49E+01	6.99E+00	3.34E+00	1.59E+00	7.59E-01	3.62E-01
ce	3.19E+03	2.24E+01	1.07E+01	5.10E+00	2.43E+00	1.16E+00	5.54E-01
pr	5.12E+02	5.99E-01	7.47E-03	3.46E-03	3.03E-03	2.67E-03	2.36E-03
nd	4.66E+01	6.47E-05	4.10E-05	2.83E-05	2.13E-05	1.78E-05	1.55E-05
pm	1.61E+02	1.43E+01	1.33E+01	1.24E+01	1.16E+01	1.08E+01	1.01E+01
sm	1.08E+00	6.71E-04	2.80E-04	1.17E-04	4.89E-05	2.04E-05	8.52E-06
eu	1.52E+00	3.94E-02	2.13E-03	1.15E-04	6.22E-06	3.36E-07	1.82E-08
ho	7.42E-04	4.12E-07	4.12E-07	4.12E-07	4.11E-07	4.11E-07	4.11E-07
totals	2.13E+05	6.01E+02	3.25E+02	2.52E+02	2.07E+02	1.78E+02	1.53E+02

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photon spectrum as a function of time for light elements, cladding and structural materials

0 sas2h: babcock wilcox 15x15, 3.00w/o, 20gd/mtu burn high temp

power= 7.25 mw, burnup= 9280.mwd, flux= 1.63E+13 n**2-sec

0 spectrum of photon release rates, photons/sec

basis = single reactor assembly

0

emean	time after discharge						
(mev)	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
1.00E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
3.00E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
5.50E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
8.50E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
1.20E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
1.70E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
3.00E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
6.50E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

	1.13E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
	1.58E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
	2.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
	2.40E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
	2.80E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
	3.25E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
	3.75E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
	4.25E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
	4.75E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
	5.50E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
0	total	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
0	mev/sec	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

0 spectrum of energy release rates, mev/watt-sec
basis = single reactor assembly

0

emean	time after discharge						
(mev)	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
1.00E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
3.00E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
5.50E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
8.50E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
1.20E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
1.70E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
3.00E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
6.50E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
1.13E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
1.58E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
2.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
2.40E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
2.80E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
3.25E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
3.75E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
4.25E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
4.75E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
5.50E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
0 total	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
0 gamma watts	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1 photon spectrum as a function of time for fission products

0 sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
power= 7.25 mw, burnup= 9280.mwd, flux= 1.63E+13 n**2-sec

0 spectrum of photon release rates, photons/sec
basis = single reactor assembly

0

emean	time after discharge						
(mev)	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
1.00E-02	4.22E+17	6.46E+15	3.54E+15	2.14E+15	1.43E+15	1.05E+15	8.42E+14
3.00E-02	1.87E+17	2.77E+15	1.52E+15	9.21E+14	6.14E+14	4.54E+14	3.68E+14
5.50E-02	9.88E+16	1.51E+15	8.32E+14	5.00E+14	3.23E+14	2.39E+14	1.91E+14
8.50E-02	6.82E+16	9.54E+14	5.17E+14	3.05E+14	1.96E+14	1.39E+14	1.08E+14
1.20E-01	5.58E+16	1.20E+15	6.29E+14	3.51E+14	2.13E+14	1.42E+14	1.05E+14
1.70E-01	9.03E+16	6.24E+14	3.35E+14	1.96E+14	1.25E+14	8.75E+13	6.74E+13
3.00E-01	1.91E+17	7.19E+14	3.86E+14	2.25E+14	1.41E+14	9.75E+13	7.41E+13
6.50E-01	3.90E+17	5.53E+15	2.94E+15	2.28E+15	1.87E+15	1.59E+15	1.39E+15
1.13E+00	1.26E+17	1.80E+14	1.20E+14	8.40E+13	6.61E+13	5.37E+13	4.55E+13
1.58E+00	6.53E+16	6.03E+13	3.63E+13	2.30E+13	1.53E+13	1.07E+13	7.78E+12
2.00E+00	1.92E+16	4.68E+13	2.27E+13	1.11E+13	5.41E+12	2.66E+12	1.32E+12
2.40E+00	1.58E+16	2.84E+12	1.57E+12	8.74E+11	4.87E+11	2.72E+11	1.53E+11
2.80E+00	6.55E+15	4.44E+11	2.46E+11	1.40E+11	7.84E+10	4.41E+10	2.49E+10

INFORMATION ONLY

	3.25E+00	3.37E+15	7.07E+10	4.01E+10	2.27E+10	1.29E+10	7.30E+09	4.14E+09
	3.75E+00	1.60E+15	3.12E+07	1.77E+07	1.00E+07	5.68E+06	3.22E+06	1.82E+06
	4.25E+00	1.58E+15	9.80E-06	1.00E-05	1.02E-05	1.04E-05	1.05E-05	1.06E-05
	4.75E+00	4.67E+14	4.92E-06	5.04E-06	5.14E-06	5.22E-06	5.28E-06	5.33E-06
	5.50E+00	3.59E+14	3.65E-06	3.74E-06	3.81E-06	3.87E-06	3.92E-06	3.95E-06
0	total	1.7E+18	2.01E+16	1.09E+16	7.04E+15	5.00E+15	3.86E+15	3.20E+15
0	mev/sec	7.22E+17	4.77E+15	2.58E+15	1.88E+15	1.48E+15	1.25E+15	1.06E+15

0 spectrum of energy release rates, mev/watt-sec
basis = single reactor assembly

0

	mean (mev)	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
	1.00E-02	5.82E+08	8.90E+06	4.88E+06	2.98E+06	1.97E+06	1.44E+06	1.16E+06
	3.00E-02	7.73E+08	1.15E+07	6.30E+06	3.81E+06	2.54E+06	1.88E+06	1.52E+06
	5.50E-02	7.50E+08	1.15E+07	6.31E+06	3.79E+06	2.50E+06	1.82E+06	1.45E+06
	8.50E-02	8.00E+08	1.12E+07	6.07E+06	3.57E+06	2.29E+06	1.63E+06	1.27E+06
	1.20E-01	9.23E+08	1.99E+07	1.04E+07	5.81E+06	3.52E+06	2.35E+06	1.75E+06
	1.70E-01	2.12E+09	1.46E+07	7.85E+06	4.60E+06	2.98E+06	2.05E+06	1.58E+06
	3.00E-01	7.91E+09	2.98E+07	1.61E+07	9.32E+06	5.85E+06	4.03E+06	3.07E+06
	6.50E-01	3.50E+10	4.96E+08	2.64E+08	2.04E+08	1.68E+08	1.43E+08	1.25E+08
	1.13E+00	1.96E+10	2.75E+07	1.85E+07	1.33E+07	1.03E+07	8.33E+06	7.03E+06
	1.58E+00	1.42E+10	1.31E+07	7.88E+06	4.99E+06	3.33E+06	2.32E+06	1.69E+06
	2.00E+00	5.31E+09	1.25E+07	6.26E+06	3.05E+06	1.49E+06	7.34E+05	3.64E+05
	2.40E+00	5.22E+09	9.39E+05	5.21E+05	2.89E+05	1.61E+05	9.02E+04	5.05E+04
	2.80E+00	2.53E+09	1.71E+05	9.60E+04	5.36E+04	3.03E+04	1.70E+04	9.60E+03
	3.25E+00	1.51E+09	3.17E+04	1.80E+04	1.02E+04	5.78E+03	3.27E+03	1.86E+03
	3.75E+00	8.27E+08	1.61E+01	9.14E+00	5.18E+00	2.94E+00	1.67E+00	9.44E-01
	4.25E+00	9.28E+08	5.75E-12	5.85E-12	6.01E-12	6.10E-12	6.17E-12	6.25E-12
	4.75E+00	3.06E+08	3.22E-12	3.30E-12	3.37E-12	3.42E-12	3.46E-12	3.49E-12
	5.50E+00	2.71E+08	2.77E-12	2.84E-12	2.89E-12	2.94E-12	2.97E-12	3.00E-12
0	total	9.95E+10	6.58E+08	3.55E+08	2.60E+08	2.05E+08	1.69E+08	1.46E+08
0	gamma watts	1.16E+05	7.65E+02	4.13E+02	3.02E+02	2.38E+02	1.97E+02	1.69E+02

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0 principal photon sources in group 1, photons/sec
mean energy = .0100 mev. nuclides exceeding 1.0E-05 of total group release rate (1.03E+15) at 1521.9 d

nuclide	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
kr 85	1.38E+13	1.31E+13	1.24E+13	1.17E+13	1.11E+13	1.05E+13	9.98E+12
sr 90	9.35E+13	9.16E+13	8.97E+13	8.79E+13	8.61E+13	8.44E+13	8.27E+13
y 90	4.68E+14	4.50E+14	4.41E+14	4.32E+14	4.23E+14	4.15E+14	4.06E+14
rh106	3.42E+15	1.88E+15	1.07E+15	6.05E+14	3.43E+14	1.95E+14	1.10E+14
sb125	4.63E+12	3.77E+12	3.05E+12	2.47E+12	2.00E+12	1.62E+12	1.31E+12
cs134	8.74E+13	6.60E+13	4.99E+13	3.77E+13	2.85E+13	2.15E+13	1.63E+13
cs137	1.03E+14	1.03E+14	1.02E+14	1.00E+14	9.83E+13	9.68E+13	9.46E+13
ba137m	5.07E+12	4.89E+12	4.72E+12	4.70E+12	4.61E+12	4.52E+12	4.44E+12
ce144	5.25E+14	2.51E+14	1.20E+14	5.70E+13	2.72E+13	1.30E+13	6.18E+12
pr144	6.98E+15	3.32E+15	1.58E+15	7.55E+14	3.60E+14	1.72E+14	8.19E+13
pm147	6.23E+13	5.14E+13	4.12E+13	3.31E+13	2.65E+13	2.13E+13	1.71E+13
eu154	1.30E+13	1.21E+13	1.13E+13	1.06E+13	9.91E+12	9.27E+12	8.67E+12
eu155	4.07E+12	3.60E+12	3.18E+12	2.81E+12	2.49E+12	2.20E+12	1.94E+12

0 principal photon sources in group 2, photons/sec
mean energy = .0300 mev. nuclides exceeding 1.0E-05 of total group release rate (4.54E+14) at 1521.9 d

nuclide	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
kr 85	4.02E+12	3.81E+12	3.61E+12	3.42E+12	3.24E+12	3.07E+12	2.91E+12
sr 90	2.64E+13	2.59E+13	2.54E+13	2.48E+13	2.43E+13	2.38E+13	2.34E+13
y 90	1.52E+14	1.47E+14	1.44E+14	1.41E+14	1.38E+14	1.35E+14	1.32E+14
rh106	1.14E+15	6.23E+14	3.57E+14	2.02E+14	1.15E+14	6.50E+13	3.68E+13
sb125	3.55E+13	2.89E+13	2.34E+13	1.89E+13	1.53E+13	1.24E+13	1.00E+13
te125m	1.79E+13	1.64E+13	1.33E+13	1.08E+13	8.72E+12	7.08E+12	5.71E+12

cs134	3.26E+13	2.46E+13	1.86E+13	1.41E+13	1.06E+13	8.03E+12	6.07E+12
cs137	2.96E+13	2.90E+13	2.85E+13	2.79E+13	2.74E+13	2.69E+13	2.64E+13
ba137m	8.60E+13	8.39E+13	8.23E+13	8.08E+13	7.93E+13	7.77E+13	7.62E+13
ce144	1.22E+15	5.82E+14	2.78E+14	1.32E+14	6.31E+13	3.01E+13	1.44E+13
pr144	2.31E+15	1.10E+15	5.24E+14	2.50E+14	1.19E+14	5.68E+13	2.71E+13
pr144m	4.72E+13	2.24E+13	1.07E+13	5.10E+12	2.43E+12	1.16E+12	5.54E+11
pm147	1.37E+13	1.13E+13	9.07E+12	7.27E+12	5.84E+12	4.68E+12	3.76E+12
eu154	2.83E+12	2.64E+12	2.47E+12	2.31E+12	2.16E+12	2.02E+12	1.88E+12

0 principal photon sources in group 3, photons/sec

mean energy = .0550 mev. nuclides exceeding 1.0E-03 of total group release rate (2.35E+14) at 1521.9 d

nuclide	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
kr 85	2.46E+12	2.33E+12	2.21E+12	2.10E+12	1.99E+12	1.88E+12	1.78E+12
sr 90	1.56E+13	1.53E+13	1.50E+13	1.47E+13	1.44E+13	1.41E+13	1.38E+13
y 90	1.05E+14	1.01E+14	9.95E+13	9.75E+13	9.53E+13	9.34E+13	9.15E+13
rh106	8.10E+14	4.46E+14	2.53E+14	1.43E+14	8.12E+13	4.60E+13	2.61E+13
cs134	1.45E+13	1.09E+13	8.26E+12	6.24E+12	4.72E+12	3.57E+12	2.69E+12
cs137	1.72E+13	1.69E+13	1.66E+13	1.63E+13	1.59E+13	1.56E+13	1.53E+13
ce144	1.77E+14	8.42E+13	4.02E+13	1.91E+13	9.13E+12	4.36E+12	2.08E+12
pr144	1.62E+15	7.71E+14	3.68E+14	1.75E+14	8.37E+13	3.99E+13	1.90E+13
pm147	5.75E+12	4.75E+12	3.81E+12	3.06E+12	2.45E+12	1.97E+12	1.58E+12
eu154	1.66E+13	1.56E+13	1.46E+13	1.36E+13	1.27E+13	1.19E+13	1.11E+13
eu155	1.19E+13	1.05E+13	9.28E+12	8.20E+12	7.25E+12	6.41E+12	5.66E+12

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0 principal photon sources in group 4, photons/sec

mean energy = .0850 mev. nuclides exceeding 1.0E-03 of total group release rate (1.35E+14) at 1521.9 d

nuclide	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
kr 85	1.23E+12	1.17E+12	1.11E+12	1.05E+12	9.94E+11	9.42E+11	8.92E+11
sr 90	7.45E+12	7.25E+12	7.15E+12	7.00E+12	6.86E+12	6.72E+12	6.58E+12
y 90	6.03E+13	5.87E+13	5.75E+13	5.63E+13	5.52E+13	5.40E+13	5.29E+13
rh106	4.81E+14	2.65E+14	1.50E+14	8.51E+13	4.82E+13	2.73E+13	1.55E+13
cs134	7.00E+12	5.25E+12	4.00E+12	3.02E+12	2.28E+12	1.73E+12	1.30E+12
cs137	8.05E+12	7.91E+12	7.76E+12	7.61E+12	7.47E+12	7.32E+12	7.18E+12
ce144	2.49E+14	1.19E+14	5.67E+13	2.70E+13	1.29E+13	6.15E+12	2.93E+12
pr144	9.55E+14	4.54E+14	2.17E+14	1.03E+14	4.92E+13	2.35E+13	1.12E+13
pm147	1.64E+12	1.35E+12	1.08E+12	8.70E+11	6.98E+11	5.60E+11	4.49E+11
eu154	9.14E+11	8.54E+11	7.99E+11	7.47E+11	6.98E+11	6.53E+11	6.10E+11
eu155	1.80E+13	1.59E+13	1.41E+13	1.25E+13	1.10E+13	9.73E+12	8.60E+12

0 principal photon sources in group 5, photons/sec

mean energy = .1200 mev. nuclides exceeding 1.0E-03 of total group release rate (1.42E+14) at 1521.9 d

nuclide	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
kr 85	7.43E+11	7.04E+11	6.67E+11	6.32E+11	5.99E+11	5.68E+11	5.38E+11
sr 90	4.24E+12	4.15E+12	4.07E+12	3.99E+12	3.90E+12	3.82E+12	3.75E+12
y 90	4.29E+13	4.13E+13	4.04E+13	3.96E+13	3.88E+13	3.80E+13	3.72E+13
rh106	3.48E+14	1.91E+14	1.08E+14	6.15E+13	3.48E+13	1.97E+13	1.12E+13
cs134	4.08E+12	3.08E+12	2.33E+12	1.76E+12	1.33E+12	1.00E+12	7.59E+11
cs137	4.52E+12	4.43E+12	4.35E+12	4.27E+12	4.19E+12	4.11E+12	4.03E+12
ce144	1.22E+15	5.83E+14	2.78E+14	1.33E+14	6.32E+13	3.02E+13	1.44E+13
pr144	6.83E+14	3.25E+14	1.55E+14	7.39E+13	3.52E+13	1.68E+13	8.02E+12
pm147	5.19E+11	4.28E+11	3.44E+11	2.78E+11	2.21E+11	1.78E+11	1.42E+11
eu154	3.10E+13	2.89E+13	2.71E+13	2.53E+13	2.37E+13	2.21E+13	2.07E+13
eu155	1.08E+13	9.10E+12	8.04E+12	7.11E+12	6.28E+12	5.55E+12	4.91E+12

0 principal photon sources in group 6, photons/sec

mean energy = .1700 mev. nuclides exceeding 1.0E-03 of total group release rate (8.75E+13) at 1521.9 d

nuclide	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
kr 85	5.90E+11	5.59E+11	5.30E+11	5.02E+11	4.78E+11	4.51E+11	4.27E+11
sr 90	3.02E+12	2.96E+12	2.90E+12	2.84E+12	2.78E+12	2.73E+12	2.67E+12

y 90	4.42E+13	4.25E+13	4.17E+13	4.08E+13	4.00E+13	3.92E+13	3.84E+13
rh106	3.73E+14	2.05E+14	1.16E+14	6.59E+13	3.74E+13	2.12E+13	1.20E+13
sb125	5.35E+12	4.35E+12	3.52E+12	2.85E+12	2.31E+12	1.87E+12	1.51E+12
cs134	3.06E+12	2.30E+12	1.74E+12	1.32E+12	9.94E+11	7.51E+11	5.68E+11
cs137	3.19E+12	3.13E+12	3.07E+12	3.01E+12	2.96E+12	2.90E+12	2.84E+12
pr144	7.22E+14	3.44E+14	1.64E+14	7.81E+13	3.73E+13	1.78E+13	8.48E+12
eu154	7.24E+11	6.77E+11	6.33E+11	5.93E+11	5.53E+11	5.17E+11	4.84E+11

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0 principal photon sources in group 7, photons/sec

mean energy = .3000 mev. nuclides exceeding 1.0E-03 of total group release rate (9.75E+13) at 1521.9 d

nuclide	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
				time after discharge			
kr 85	3.56E+11	3.38E+11	3.20E+11	3.03E+11	2.87E+11	2.72E+11	2.58E+11
sr 90	1.37E+12	1.34E+12	1.32E+12	1.29E+12	1.26E+12	1.24E+12	1.21E+12
y 90	4.91E+13	4.72E+13	4.63E+13	4.53E+13	4.44E+13	4.35E+13	4.26E+13
rh106	4.50E+14	2.47E+14	1.40E+14	7.95E+13	4.51E+13	2.55E+13	1.45E+13
sb125	2.03E+12	1.65E+12	1.33E+12	1.08E+12	8.73E+11	7.07E+11	5.72E+11
cs134	1.94E+12	1.47E+12	1.11E+12	8.37E+11	6.33E+11	4.78E+11	3.61E+11
cs137	1.62E+12	1.58E+12	1.55E+12	1.52E+12	1.50E+12	1.47E+12	1.44E+12
pr144	8.46E+14	4.03E+14	1.92E+14	9.15E+13	4.36E+13	2.08E+13	9.92E+12
eu154	4.73E+12	4.42E+12	4.14E+12	3.87E+12	3.62E+12	3.38E+12	3.16E+12

0 principal photon sources in group 8, photons/sec

mean energy = .6600 mev. nuclides exceeding 1.0E-03 of total group release rate (1.55E+15) at 1521.9 d

nuclide	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
				time after discharge			
y 90	2.07E+13	2.00E+13	1.93E+13	1.93E+13	1.88E+13	1.84E+13	1.80E+13
rh106	1.39E+15	7.64E+14	4.33E+14	2.45E+14	1.39E+14	7.88E+13	4.47E+13
sb125	4.35E+13	3.54E+13	2.86E+13	2.32E+13	1.87E+13	1.52E+13	1.23E+13
cs134	2.27E+15	1.72E+15	1.30E+15	9.81E+14	7.42E+14	5.60E+14	4.24E+14
ba137m	9.67E+14	9.44E+14	9.22E+14	9.00E+14	8.79E+14	8.74E+14	8.57E+14
pr144	5.77E+14	2.74E+14	1.31E+14	6.24E+13	2.98E+13	1.42E+13	6.77E+12
eu154	3.96E+13	3.70E+13	3.46E+13	3.24E+13	3.03E+13	2.83E+13	2.66E+13

0 principal photon sources in group 9, photons/sec

mean energy = 1.1250 mev. nuclides exceeding 1.0E-03 of total group release rate (5.37E+13) at 1521.9 d

nuclide	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
				time after discharge			
y 90	2.70E+12	2.60E+12	2.55E+12	2.50E+12	2.45E+12	2.40E+12	2.35E+12
rh106	1.28E+14	7.12E+13	4.08E+13	2.29E+13	1.30E+13	7.35E+12	4.16E+12
ag110m	5.33E+12	2.29E+12	9.84E+11	4.23E+11	1.82E+11	7.81E+10	3.35E+10
cs134	2.78E+13	2.10E+13	1.59E+13	1.20E+13	9.08E+12	6.88E+12	5.19E+12
pr144	7.39E+13	3.51E+13	1.67E+13	7.99E+12	3.81E+12	1.82E+12	8.66E+11
eu152	7.28E+10	6.97E+10	6.67E+10	6.39E+10	6.12E+10	5.86E+10	5.61E+10
eu154	4.97E+13	4.59E+13	4.25E+13	4.00E+13	3.75E+13	3.51E+13	3.28E+13

0 principal photon sources in group 10, photons/sec

mean energy = 1.5750 mev. nuclides exceeding 1.0E-03 of total group release rate (1.07E+13) at 1521.9 d

nuclide	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
				time after discharge			
y 90	3.45E+11	3.32E+11	3.26E+11	3.19E+11	3.13E+11	3.08E+11	3.00E+11
rh106	2.44E+13	1.34E+13	7.61E+12	4.31E+12	2.44E+12	1.39E+12	7.85E+11
ag110m	7.10E+12	3.05E+12	1.31E+12	5.63E+11	2.42E+11	1.04E+11	4.47E+10
cs134	2.63E+13	1.99E+13	1.50E+13	1.13E+13	8.57E+12	6.48E+12	4.90E+12
pr144	4.59E+13	2.18E+13	1.04E+13	4.97E+12	2.37E+12	1.13E+12	5.39E+11
eu152	3.34E+10	3.20E+10	3.07E+10	2.94E+10	2.81E+10	2.69E+10	2.58E+10
eu154	1.78E+12	1.66E+12	1.55E+12	1.45E+12	1.36E+12	1.27E+12	1.19E+12

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0 principal photon sources in group 11, photons/sec

mean energy = 2.0000 mev. nuclides exceeding 1.0E-03 of total group release rate (2.66E+12) at 1521.9 d

nuclide	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
				time after discharge			
y 90	2.07E+10	1.99E+10	1.92E+10	1.91E+10	1.87E+10	1.83E+10	1.79E+10

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    rh106  7.93E+12 4.36E+12 2.47E+12 1.40E+12 7.94E+11 4.50E+11 2.55E+11
    pr144  8.97E+13 4.24E+13 2.00E+13 9.64E+12 4.60E+12 2.19E+12 1.05E+12
0                principal photon sources in group 12, photons/sec
     mean energy = 2.4000 mev.  nuclides exceeding  1.0E-03 of total group release rate (2.72E+11) at  1521.9 d
   nuclide                                  time after discharge
          initial  304.4 d  608.8 d  913.1 d  1217.5 d  1521.9 d  1826.3 d
    rh106 4.43E+12 2.44E+12 1.38E+12 7.83E+11 4.44E+11 2.52E+11 1.43E+11
    pr144 8.42E+11 4.00E+11 1.91E+11 9.11E+10 4.34E+10 2.07E+10 9.88E+09
0                principal photon sources in group 13, photons/sec
     mean energy = 2.8000 mev.  nuclides exceeding  1.0E-03 of total group release rate (4.41E+10) at  1521.9 d
   nuclide                                  time after discharge
          initial  304.4 d  608.8 d  913.1 d  1217.5 d  1521.9 d  1826.3 d
    rh106 7.47E+11 4.11E+11 2.33E+11 1.32E+11 7.49E+10 4.25E+10 2.41E+10
    pr144 6.78E+10 3.22E+10 1.54E+10 7.33E+09 3.50E+09 1.67E+09 7.96E+08
0                principal photon sources in group 14, photons/sec
     mean energy = 3.2500 mev.  nuclides exceeding  1.0E-03 of total group release rate (7.30E+09) at  1521.9 d
   nuclide                                  time after discharge
          initial  304.4 d  608.8 d  913.1 d  1217.5 d  1521.9 d  1826.3 d
    rh106 1.29E+11 7.07E+10 4.01E+10 2.27E+10 1.29E+10 7.30E+09 4.14E+09
0                principal photon sources in group 15, photons/sec
     mean energy = 3.7500 mev.  nuclides exceeding  1.0E-03 of total group release rate (3.22E+06) at  1521.9 d
   nuclide                                  time after discharge
          initial  304.4 d  608.8 d  913.1 d  1217.5 d  1521.9 d  1826.3 d
    rh106 5.67E+07 3.12E+07 1.71E+07 1.00E+07 5.68E+06 3.22E+06 1.82E+06
0                principal photon sources in group 16, photons/sec
     mean energy = 4.2500 mev.  nuclides exceeding  1.0E-03 of total group release rate (1.03E-05) at  1521.9 d
   nuclide                                  time after discharge
          initial  304.4 d  608.8 d  913.1 d  1217.5 d  1521.9 d  1826.3 d
    ce142 8.67E-06 8.67E-06 8.67E-06 8.67E-06 8.67E-06 8.67E-06 8.67E-06
    sm146 5.18E-08 5.35E-08 5.50E-08 5.63E-08 5.76E-08 5.87E-08 5.97E-08
    sm147 7.76E-07 1.08E-06 1.32E-06 1.51E-06 1.67E-06 1.79E-06 1.89E-06
1                                                                                    page 52
0                principal photon sources in group 17, photons/sec
     mean energy = 4.7500 mev.  nuclides exceeding  1.0E-03 of total group release rate (5.28E-06) at  1521.9 d
   nuclide                                  time after discharge
          initial  304.4 d  608.8 d  913.1 d  1217.5 d  1521.9 d  1826.3 d
    ce142 4.35E-06 4.35E-06 4.35E-06 4.35E-06 4.35E-06 4.35E-06 4.35E-06
    sm146 2.60E-08 2.68E-08 2.76E-08 2.83E-08 2.89E-08 2.94E-08 2.99E-08
    sm147 3.88E-07 5.40E-07 6.62E-07 7.59E-07 8.37E-07 9.00E-07 9.50E-07
0                principal photon sources in group 18, photons/sec
     mean energy = 5.5000 mev.  nuclides exceeding  1.0E-03 of total group release rate (3.92E-06) at  1521.9 d
   nuclide                                  time after discharge
          initial  304.4 d  608.8 d  913.1 d  1217.5 d  1521.9 d  1826.3 d
    ce142 3.23E-06 3.23E-06 3.23E-06 3.23E-06 3.23E-06 3.23E-06 3.23E-06
    sm146 1.93E-08 1.99E-08 2.05E-08 2.10E-08 2.14E-08 2.18E-08 2.22E-08
    sm147 2.89E-07 4.01E-07 4.91E-07 5.63E-07 6.21E-07 6.67E-07 7.05E-07
1                                                                                    page 53
          photon spectrum as a function of time for heavy metals and their daughters

0                    sas2h: babcock wilcox 15x15, 3.00w/o, 20gwd/mtu burn high temp
                          power= 7.25 mw, burnup= 9280.mwd, flux= 1.63E+13 n**2-sec
0                            actinide photon release rates, photons/sec
                           basis = single reactor assembly

0
          emean                                  time after discharge
          (mev)    initial  304.4 d  608.8 d  913.1 d  1217.5 d  1521.9 d  1826.3 d
        1.00E-02 2.27E+17 2.10E+13 1.10E+13 8.56E+12 8.12E+12 8.22E+12 8.46E+12
        3.00E-02 1.43E+16 1.02E+11 1.46E+11 1.88E+11 2.28E+11 2.67E+11 3.04E+11
        5.50E-02 1.92E+16 1.69E+12 2.43E+12 3.15E+12 3.84E+12 4.51E+12 5.14E+12
        8.50E-02 9.05E+16 8.07E+10 8.08E+10 8.08E+10 8.08E+10 8.08E+10 8.07E+10
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	1.20E-01	9.33E+16	1.12E+11	1.10E+11	1.09E+11	1.08E+11	1.07E+11	1.06E+11
	1.70E-01	2.97E+15	3.54E+09	2.71E+09	2.47E+09	2.39E+09	2.36E+09	2.35E+09
	3.00E-01	4.92E+16	5.79E+10	5.72E+10	5.64E+10	5.57E+10	5.50E+10	5.43E+10
	6.50E-01	2.59E+15	6.37E+08	4.92E+08	4.79E+08	5.01E+08	5.31E+08	5.62E+08
	1.13E+00	1.13E+15	4.46E+08	4.27E+08	4.20E+08	4.18E+08	4.16E+08	4.15E+08
	1.58E+00	3.91E+07	2.05E+07	1.72E+07	1.71E+07	1.79E+07	1.88E+07	1.97E+07
	2.00E+00	2.22E+06	1.92E+06	1.95E+06	1.99E+06	2.03E+06	2.05E+06	2.09E+06
	2.40E+00	1.45E+07	6.30E+06	3.98E+06	3.28E+06	3.02E+06	2.89E+06	2.79E+06
	2.80E+00	1.95E+07	2.48E+07	3.54E+07	4.74E+07	5.92E+07	7.03E+07	8.03E+07
	3.25E+00	5.18E+06	2.26E+06	1.42E+06	1.17E+06	1.03E+06	1.03E+06	1.00E+06
	3.75E+00	3.00E+06	1.31E+06	8.25E+05	6.80E+05	6.27E+05	5.99E+05	5.80E+05
	4.25E+00	1.74E+06	7.57E+05	4.78E+05	3.94E+05	3.63E+05	3.47E+05	3.36E+05
	4.75E+00	1.01E+06	4.39E+05	2.77E+05	2.28E+05	2.10E+05	2.01E+05	1.95E+05
	5.50E+00	9.10E+05	3.97E+05	2.51E+05	2.06E+05	1.90E+05	1.82E+05	1.76E+05
0	total	5.00E+17	2.30E+13	1.39E+13	1.21E+13	1.24E+13	1.32E+13	1.42E+13
0	mev/sec	4.09E+16	3.46E+11	2.87E+11	3.03E+11	3.37E+11	3.76E+11	4.14E+11

0 actinide energy release rates, mev/watt-sec
basis = single reactor assembly

0

emsn	time after discharge						
(mev)	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
1.00E-02	3.13E+08	2.90E+04	1.52E+04	1.18E+04	1.12E+04	1.13E+04	1.17E+04
3.00E-02	5.94E+07	4.29E+02	6.04E+02	7.78E+02	9.45E+02	1.10E+03	1.26E+03
5.50E-02	1.46E+08	1.28E+04	1.84E+04	2.39E+04	2.91E+04	3.42E+04	3.90E+04
8.50E-02	1.06E+09	9.47E+02	9.47E+02	9.47E+02	9.47E+02	9.47E+02	9.47E+02
1.20E-01	1.54E+09	1.85E+03	1.82E+03	1.80E+03	1.79E+03	1.77E+03	1.76E+03
1.70E-01	6.96E+07	8.31E+01	6.35E+01	5.79E+01	5.61E+01	5.54E+01	5.50E+01
3.00E-01	2.04E+09	2.40E+03	2.37E+03	2.33E+03	2.31E+03	2.28E+03	2.25E+03
6.50E-01	2.32E+08	5.71E+01	4.41E+01	4.30E+01	4.50E+01	4.76E+01	5.04E+01
1.13E+00	1.75E+08	6.92E+01	6.62E+01	6.52E+01	6.48E+01	6.46E+01	6.44E+01
1.58E+00	8.50E+00	4.48E+00	3.79E+00	3.71E+00	3.89E+00	4.09E+00	4.29E+00
2.00E+00	6.11E-01	5.31E-01	5.40E-01	5.50E-01	5.59E-01	5.68E-01	5.76E-01
2.40E+00	4.79E+00	2.09E+00	1.32E+00	1.03E+00	1.00E+00	9.57E-01	9.25E-01
2.80E+00	7.52E+00	9.58E+00	1.37E+01	1.83E+01	2.23E+01	2.72E+01	3.10E+01
3.25E+00	2.32E+00	1.01E+00	6.39E-01	5.26E-01	4.85E-01	4.64E-01	4.48E-01
3.75E+00	1.55E+00	6.76E-01	4.27E-01	3.52E-01	3.24E-01	3.10E-01	3.00E-01
4.25E+00	1.03E+00	4.44E-01	2.80E-01	2.31E-01	2.13E-01	2.04E-01	1.97E-01
4.75E+00	6.95E-01	2.87E-01	1.82E-01	1.50E-01	1.39E-01	1.32E-01	1.28E-01
5.50E+00	6.90E-01	3.01E-01	1.90E-01	1.57E-01	1.44E-01	1.38E-01	1.34E-01
0 total	5.64E+09	4.78E+04	3.98E+04	4.17E+04	4.65E+04	5.18E+04	5.71E+04
0 gmma watts	6.55E+05	5.53E-02	4.60E-02	4.85E-02	5.40E-02	6.02E-02	6.64E-02

1 neutron source intensity as a function of time

0 sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp
alpha-n neutron source, neutrons/sec/basis
basis = single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
pb210	2.2E-15	3.1E-15	4.3E-15	5.9E-15	8.0E-15	1.0E-14	1.4E-14
bi210	5.6E-13	8.1E-13	1.1E-12	1.5E-12	2.0E-12	2.7E-12	3.6E-12
bi211	8.1E-04	1.4E-03	1.9E-03	2.4E-03	2.9E-03	3.4E-03	3.9E-03
bi212	3.7E-01	7.4E-01	1.1E+00	1.6E+00	2.0E+00	2.4E+00	2.7E+00
bi213	9.6E-07	1.7E-07	1.9E-07	2.1E-07	2.3E-07	2.5E-07	2.7E-07
bi214	3.3E-09	4.8E-09	6.7E-09	9.0E-09	1.1E-08	1.4E-08	1.8E-08
po210	4.3E-07	7.8E-07	1.1E-06	1.5E-06	2.0E-06	2.8E-06	3.7E-06
po211	3.2E-06	5.5E-06	7.6E-06	9.6E-06	1.1E-05	1.3E-05	1.5E-05
po212	1.9E+00	3.8E+00	5.9E+00	8.2E+00	1.0E+01	1.2E+01	1.4E+01
po213	1.2E-04	2.3E-05	2.5E-05	2.8E-05	3.0E-05	3.3E-05	3.5E-05

pa214	7.16E-05	4.31E-05	5.99E-05	8.01E-05	1.04E-04	1.31E-04	1.62E-04
pa215	1.15E-03	1.99E-03	2.73E-03	3.46E-03	4.18E-03	4.90E-03	5.62E-03
pa216	1.51E+00	2.98E+00	4.66E+00	6.42E+00	8.12E+00	9.69E+00	1.11E+01
pa218	1.42E-05	2.08E-05	2.85E-05	3.81E-05	4.94E-05	6.24E-05	7.70E-05
at217	8.23E-05	1.53E-05	1.68E-05	1.83E-05	1.98E-05	2.14E-05	2.31E-05
rn218	3.40E-05	1.34E-09	5.25E-14	2.07E-18	8.12E-23	2.73E-27	.00E+00
rn219	9.14E-04	1.58E-03	2.17E-03	2.75E-03	3.33E-03	3.90E-03	4.47E-03
rn220	1.20E+00	2.35E+00	3.69E+00	5.08E+00	6.43E+00	7.68E+00	8.80E+00
rn222	1.04E-05	1.50E-05	2.08E-05	2.78E-05	3.61E-05	4.55E-05	5.62E-05
fr221	6.01E-05	1.12E-05	1.22E-05	1.33E-05	1.45E-05	1.56E-05	1.68E-05
fr223	3.77E-10	5.99E-10	8.21E-10	1.04E-09	1.26E-09	1.47E-09	1.69E-09
ra222	2.63E-05	1.03E-09	4.06E-14	1.60E-18	6.28E-23	2.47E-27	.00E+00
ra223	5.29E-04	9.17E-04	1.26E-03	1.59E-03	1.93E-03	2.26E-03	2.59E-03
ra224	8.46E-01	1.66E+00	2.61E+00	3.59E+00	4.54E+00	5.43E+00	6.22E+00
ra226	6.06E-06	8.78E-06	1.22E-05	1.63E-05	2.11E-05	2.66E-05	3.29E-05
ac225	4.32E-05	8.04E-06	8.79E-06	9.58E-06	1.04E-05	1.12E-05	1.21E-05
ac227	4.24E-06	6.75E-06	9.24E-06	1.17E-05	1.42E-05	1.66E-05	1.90E-05
ac228	2.26E-17	3.90E-17	6.02E-17	8.56E-17	1.19E-16	1.48E-16	1.83E-16
th226	2.37E-05	9.33E-10	3.67E-14	1.44E-18	5.67E-23	2.23E-27	.00E+00
th227	6.08E-04	1.01E-03	1.39E-03	1.76E-03	2.12E-03	2.49E-03	2.85E-03
th228	7.10E-01	1.40E+00	2.20E+00	3.02E+00	3.82E+00	4.56E+00	5.23E+00
th229	4.27E-06	4.70E-06	5.14E-06	5.60E-06	6.07E-06	6.56E-06	7.07E-06
th230	6.02E-03	7.82E-03	9.62E-03	1.14E-02	1.32E-02	1.51E-02	1.69E-02
th232	2.05E-09	2.89E-09	3.73E-09	4.56E-09	5.40E-09	6.24E-09	7.07E-09
pa231	7.88E-03	8.05E-03	8.19E-03	8.34E-03	8.49E-03	8.63E-03	8.78E-03
u230	1.87E-05	7.34E-10	2.89E-14	1.13E-18	4.46E-23	1.76E-27	.00E+00
u231	7.25E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u232	2.49E+00	3.66E+00	4.59E+00	5.35E+00	5.98E+00	6.44E+00	6.83E+00
u233	4.96E-03	5.16E-03	5.35E-03	5.55E-03	5.74E-03	5.94E-03	6.14E-03
u234	2.52E+02	2.52E+02	2.53E+02	2.54E+02	2.54E+02	2.55E+02	2.55E+02
u235	5.08E+00	5.08E+00	5.08E+00	5.08E+00	5.08E+00	5.08E+00	5.08E+00
u236	3.58E+01	3.58E+01	3.58E+01	3.58E+01	3.58E+01	3.58E+01	3.58E+01
u238	4.25E+01	4.25E+01	4.25E+01	4.25E+01	4.25E+01	4.25E+01	4.25E+01
np235	3.81E-05	2.24E-05	1.31E-05	7.71E-06	4.53E-06	2.66E-06	1.56E-06
np237	4.24E+01	4.31E+01	4.31E+01	4.31E+01	4.31E+01	4.32E+01	4.32E+01
pu236	2.11E+02	1.74E+02	1.42E+02	1.17E+02	9.55E+01	7.82E+01	6.41E+01
pu237	4.58E-03	4.30E-05	4.02E-07	3.77E-09	3.53E-11	3.31E-13	3.10E-15
pu238	4.11E+05	4.39E+05	4.43E+05	4.43E+05	4.40E+05	4.38E+05	4.35E+05

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neutron source intensity as a function of time

0 sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp
alpha-n neutron source, neutrons/sec/basis
basis = single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
pu239	1.10E+05	1.11E+05	1.11E+05	1.11E+05	1.11E+05	1.11E+05	1.11E+05
pu240	1.05E+05	1.05E+05	1.05E+05	1.05E+05	1.05E+05	1.05E+05	1.05E+05
pu241	5.56E+02	5.34E+02	5.13E+02	4.93E+02	4.73E+02	4.54E+02	4.37E+02
pu242	1.57E+02	1.57E+02	1.57E+02	1.57E+02	1.57E+02	1.57E+02	1.57E+02
pu244	8.07E-15	2.77E-14	4.74E-14	6.71E-14	8.68E-14	1.06E-13	1.26E-13
am239	3.45E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am240	5.15E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am241	5.04E+04	9.75E+04	1.43E+05	1.86E+05	2.28E+05	2.67E+05	3.06E+05
am242m	1.46E+01	1.45E+01	1.45E+01	1.44E+01	1.44E+01	1.43E+01	1.42E+01
am243	1.51E+03	1.51E+03	1.51E+03	1.51E+03	1.51E+03	1.51E+03	1.51E+03
cm241	1.15E-04	1.85E-07	2.97E-10	4.78E-13	7.70E-16	1.24E-18	1.99E-21
cm242	1.06E+07	2.88E+06	7.94E+05	2.21E+05	6.37E+04	2.07E+04	8.87E+03
cm243	3.38E+03	3.32E+03	3.25E+03	3.18E+03	3.12E+03	3.06E+03	3.00E+03

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cm244	1.30E+05	1.26E+05	1.22E+05	1.18E+05	1.14E+05	1.11E+05	1.07E+05
cm245	6.55E+00	6.55E+00	6.55E+00	6.55E+00	6.55E+00	6.55E+00	6.55E+00
cm246	7.41E-01	7.41E-01	7.41E-01	7.41E-01	7.41E-01	7.41E-01	7.41E-01
cm247	1.72E-06	1.72E-06	1.72E-06	1.72E-06	1.72E-06	1.72E-06	1.72E-06
cm248	4.09E-06	4.09E-06	4.09E-06	4.09E-06	4.09E-06	4.09E-06	4.09E-06
cm250	4.29E-14	4.29E-14	4.29E-14	4.29E-14	4.29E-14	4.29E-14	4.29E-14
bk249	2.95E-07	1.53E-07	7.90E-08	4.09E-08	2.11E-08	1.09E-08	5.65E-09
cf249	1.29E-05	4.70E-05	6.45E-05	7.35E-05	7.81E-05	8.04E-05	8.16E-05
cf250	2.27E-04	2.18E-04	2.09E-04	2.00E-04	1.91E-04	1.83E-04	1.75E-04
cf251	1.45E-06	1.45E-06	1.45E-06	1.45E-06	1.44E-06	1.44E-06	1.44E-06
cf252	1.66E-04	1.34E-04	1.07E-04	8.63E-05	6.94E-05	5.58E-05	4.48E-05
cf253	2.36E-08	1.66E-13	1.22E-18	8.73E-24	6.27E-29	.00E+00	.00E+00
cf254	2.47E-12	7.55E-14	2.31E-15	7.06E-17	2.16E-18	6.60E-20	2.02E-21
es253	7.86E-06	2.07E-09	8.24E-14	2.85E-18	9.62E-23	3.21E-27	.00E+00
es254	9.36E-09	4.35E-09	2.03E-09	9.42E-10	4.38E-10	2.04E-10	9.48E-11
es255	9.35E-11	4.21E-13	1.85E-15	8.42E-18	3.77E-20	1.68E-22	7.53E-25
0 total	1.13E+07	3.77E+06	1.72E+06	1.19E+06	1.07E+06	1.06E+06	1.08E+06

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neutron source intensity as a function of time

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sas2h: babcock wilcox 15x15, 3.00w/o, 20gwd/mtu burn high temp
spontaneous fission neutron source, neutrons/sec/basis
basis = single reactor assembly

	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
th230	1.55E-07	2.01E-07	2.47E-07	2.93E-07	3.40E-07	3.86E-07	4.33E-07
pa231	9.88E-07	1.01E-06	1.03E-06	1.05E-06	1.08E-06	1.08E-06	1.10E-06
u232	1.53E-04	2.24E-04	2.82E-04	3.29E-04	3.66E-04	3.96E-04	4.19E-04
u234	5.42E-01	5.43E-01	5.44E-01	5.46E-01	5.47E-01	5.48E-01	5.50E-01
u235	6.15E-02	6.15E-02	6.15E-02	6.15E-02	6.15E-02	6.15E-02	6.15E-02
u236	5.38E+00	5.38E+00	5.38E+00	5.38E+00	5.38E+00	5.38E+00	5.38E+00
u237	3.03E-06	1.95E-11	1.88E-11	1.80E-11	1.73E-11	1.66E-11	1.60E-11
u238	6.00E+03	6.00E+03	6.00E+03	6.00E+03	6.00E+03	6.00E+03	6.00E+03
u239	1.66E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236	5.88E-08	5.88E-08	5.88E-08	5.88E-08	5.88E-08	5.88E-08	5.88E-08
np238	9.14E-06	4.27E-12	4.25E-12	4.23E-12	4.22E-12	4.20E-12	4.18E-12
np239	3.38E-02	1.56E-08	1.56E-08	1.56E-08	1.56E-08	1.56E-08	1.56E-08
pu236	1.43E+01	1.17E+01	9.63E+00	7.89E+00	6.46E+00	5.30E+00	4.34E+00
pu238	7.59E+04	8.10E+04	8.19E+04	8.17E+04	8.13E+04	8.08E+04	8.03E+04
pu239	5.91E+01	5.95E+01	5.95E+01	5.95E+01	5.95E+01	5.95E+01	5.95E+01
pu240	6.98E+05	6.98E+05	6.98E+05	6.98E+05	6.98E+05	6.98E+05	6.98E+05
pu241	2.00E+01	1.92E+01	1.85E+01	1.77E+01	1.70E+01	1.64E+01	1.57E+01
pu242	1.22E+05	1.22E+05	1.22E+05	1.22E+05	1.22E+05	1.22E+05	1.22E+05
pu243	6.67E-04	7.45E-17	7.45E-17	7.45E-17	7.45E-17	7.45E-17	7.45E-17
pu244	1.93E-09	6.64E-09	1.13E-08	1.60E-08	2.08E-08	2.55E-08	3.02E-08
am241	1.94E+01	3.75E+01	5.44E+01	7.16E+01	8.78E+01	1.03E+02	1.18E+02
am242m	6.94E+01	6.91E+01	6.88E+01	6.86E+01	6.83E+01	6.80E+01	6.77E+01
am242	2.67E+02	7.51E-02	7.48E-02	7.44E-02	7.41E-02	7.38E-02	7.35E-02
am243	6.95E+00	6.95E+00	6.95E+00	6.95E+00	6.95E+00	6.95E+00	6.95E+00
am244	6.80E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm242	5.22E+07	1.44E+07	3.97E+06	1.10E+06	3.18E+05	1.03E+05	4.43E+04
cm243	7.35E+01	7.20E+01	7.06E+01	6.91E+01	6.78E+01	6.64E+01	6.51E+01
cm244	1.69E+07	1.64E+07	1.59E+07	1.54E+07	1.49E+07	1.44E+07	1.40E+07
cm245	1.78E+00	1.78E+00	1.78E+00	1.78E+00	1.78E+00	1.78E+00	1.78E+00
cm246	2.67E+04	2.67E+04	2.67E+04	2.67E+04	2.67E+04	2.67E+04	2.67E+04
cm248	6.70E+01	6.70E+01	6.70E+01	6.70E+01	6.70E+01	6.70E+01	6.70E+01
cm250	1.83E-05	1.83E-05	1.83E-05	1.83E-05	1.83E-05	1.83E-05	1.83E-05
bk249	1.63E-03	8.42E-04	4.35E-04	2.25E-04	1.16E-04	6.03E-05	3.12E-05
cf249	7.83E-06	2.86E-05	3.92E-05	4.47E-05	4.75E-05	4.89E-05	4.96E-05

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	cf250	1.49E+01	1.48E+01	1.75E+01	1.47E+01	1.40E+01	1.52E+01	1.47E+01
	cf252	5.88E+02	4.68E+02	3.76E+02	3.02E+02	2.43E+02	1.95E+02	1.57E+02
	cf254	1.00E-01	3.24E-03	9.91E-05	3.03E-06	9.27E-08	2.83E-09	8.67E-11
	es253	5.85E-05	1.54E-08	6.13E-13	2.12E-17	7.14E-22	2.40E-26	8.03E-31
	es255	2.70E-07	1.21E-09	5.42E-12	2.42E-14	1.08E-16	4.85E-19	2.17E-21
0	total	7.00E+07	3.18E+07	2.08E+07	1.74E+07	1.62E+07	1.55E+07	1.50E+07
0	total	8.13E+07	3.55E+07	2.25E+07	1.86E+07	1.72E+07	1.65E+07	1.60E+07

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alpha-n neutron source spectrum as a function of time
(using reaction spectra for uranium dioxide)

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sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
alpha-n neutron spectra, neutrons/sec/basis
basis = single reactor assembly

	boundaries, mev	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
1	6.43E+00 - 2.00E+01	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
2	3.00E+00 - 6.43E+00	4.957E+06	1.553E+06	6.030E+05	3.278E+05	2.468E+05	2.269E+05	2.256E+05
3	1.85E+00 - 3.00E+00	5.320E+06	1.812E+06	8.610E+05	6.208E+05	5.717E+05	5.719E+05	5.845E+05
4	1.40E+00 - 1.85E+00	7.028E+05	2.721E+05	1.616E+05	1.423E+05	1.442E+05	1.490E+05	1.538E+05
5	9.00E-01 - 1.40E+00	2.409E+05	1.072E+05	7.586E+04	7.450E+04	7.877E+04	8.248E+04	8.545E+04
6	4.00E-01 - 9.00E-01	3.964E+04	2.217E+04	1.912E+04	2.061E+04	2.248E+04	2.378E+04	2.468E+04
7	1.00E-01 - 4.00E-01	7.422E+03	3.864E+03	3.159E+03	3.328E+03	3.608E+03	3.798E+03	3.941E+03
8	1.70E-02 - 1.00E-01	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
9	3.00E-03 - 1.70E-02	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
10	5.50E-04 - 3.00E-03	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
11	1.00E-04 - 5.50E-04	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
12	3.00E-05 - 1.00E-04	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
13	1.00E-05 - 3.00E-05	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
14	3.05E-06 - 1.00E-05	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
15	1.77E-06 - 3.05E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
16	1.30E-06 - 1.77E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
17	1.13E-06 - 1.30E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
18	1.00E-06 - 1.13E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
19	8.00E-07 - 1.00E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
20	4.00E-07 - 8.00E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
21	3.25E-07 - 4.00E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
22	2.25E-07 - 3.25E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
23	1.00E-07 - 2.25E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
24	5.00E-08 - 1.00E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
25	3.00E-08 - 5.00E-08	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
26	1.00E-08 - 3.00E-08	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
27	1.00E-11 - 1.00E-08	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
0		1.127E+07	3.770E+06	1.724E+06	1.139E+06	1.057E+06	1.058E+06	1.078E+06

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spontaneous fission neutron source spectrum as a function of time

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sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
spontaneous fission neutron spectra, neutrons/sec/basis
basis = single reactor assembly

	boundaries, mev	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
1	6.43E+00 - 2.00E+01	1.333E+06	6.018E+05	3.922E+05	3.284E+05	3.043E+05	2.913E+05	2.817E+05
2	3.00E+00 - 6.43E+00	1.467E+07	6.651E+06	4.357E+06	3.653E+06	3.397E+06	3.244E+06	3.136E+06
3	1.85E+00 - 3.00E+00	1.595E+07	7.218E+06	4.717E+06	3.951E+06	3.652E+06	3.507E+06	3.391E+06
4	1.40E+00 - 1.85E+00	9.080E+06	4.131E+06	2.713E+06	2.278E+06	2.114E+06	2.025E+06	1.958E+06
5	9.00E-01 - 1.40E+00	1.240E+07	5.653E+06	3.713E+06	3.121E+06	2.899E+06	2.773E+06	2.681E+06

6	4.00E-01 - 9.00E-01	1.388E+07	6.259E+06	4.092E+06	3.427E+06	3.177E+06	3.043E+06	2.948E+06	
7	1.00E-01 - 4.00E-01	2.725E+06	1.290E+06	8.025E+05	6.715E+05	6.222E+05	5.958E+05	5.768E+05	
8	1.70E-02 - 1.00E-01	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
9	3.00E-03 - 1.70E-02	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
10	5.50E-04 - 3.00E-03	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
11	1.00E-04 - 5.50E-04	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
12	3.00E-05 - 1.00E-04	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
13	1.00E-05 - 3.00E-05	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
14	3.05E-06 - 1.00E-05	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
15	1.77E-06 - 3.05E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
16	1.30E-06 - 1.77E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
17	1.13E-06 - 1.30E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
18	1.00E-06 - 1.13E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
19	8.00E-07 - 1.00E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
20	4.00E-07 - 8.00E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
21	3.25E-07 - 4.00E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
22	2.25E-07 - 3.25E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
23	1.00E-07 - 2.25E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
24	5.00E-08 - 1.00E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
25	3.00E-08 - 5.00E-08	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
26	1.00E-08 - 3.00E-08	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
27	1.00E-11 - 1.00E-08	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	
0		7.004E+07	3.175E+07	2.079E+07	1.743E+07	1.616E+07	1.548E+07	1.496E+07	

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total (alpha-n plus spon. fission) neutron source spectrum as a function of time
(using reaction spectra for uranium dioxide)

0

sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
neutron spectra, neutrons/sec/basis
basis = single reactor assembly

boundaries, mev	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
1 6.43E+00 - 2.00E+01	1.333E+06	6.018E+05	3.925E+05	3.284E+05	3.043E+05	2.913E+05	2.817E+05
2 3.00E+00 - 6.43E+00	1.962E+07	8.204E+06	4.960E+06	3.980E+06	3.634E+06	3.471E+06	3.362E+06
3 1.85E+00 - 3.00E+00	2.127E+07	9.080E+06	5.578E+06	4.572E+06	4.234E+06	4.079E+06	3.975E+06
4 1.40E+00 - 1.85E+00	9.783E+06	4.403E+06	2.875E+06	2.421E+06	2.258E+06	2.174E+06	2.111E+06
5 9.00E-01 - 1.40E+00	1.270E+07	5.770E+06	3.794E+06	3.195E+06	2.974E+06	2.865E+06	2.786E+06
6 4.00E-01 - 9.00E-01	1.387E+07	6.281E+06	4.111E+06	3.448E+06	3.200E+06	3.066E+06	2.966E+06
7 1.00E-01 - 4.00E-01	2.732E+06	1.254E+06	8.057E+05	6.748E+05	6.258E+05	5.995E+05	5.799E+05
8 1.70E-02 - 1.00E-01	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
9 3.00E-03 - 1.70E-02	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
10 5.50E-04 - 3.00E-03	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
11 1.00E-04 - 5.50E-04	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
12 3.00E-05 - 1.00E-04	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
13 1.00E-05 - 3.00E-05	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
14 3.05E-06 - 1.00E-05	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
15 1.77E-06 - 3.05E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
16 1.30E-06 - 1.77E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
17 1.13E-06 - 1.30E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
18 1.00E-06 - 1.13E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
19 8.00E-07 - 1.00E-06	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
20 4.00E-07 - 8.00E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
21 3.25E-07 - 4.00E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
22 2.25E-07 - 3.25E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
23 1.00E-07 - 2.25E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
24 5.00E-08 - 1.00E-07	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
25 3.00E-08 - 5.00E-08	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
26 1.00E-08 - 3.00E-08	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00
27 1.00E-11 - 1.00E-08	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00	.000E+00

INFORMATION ONLY

```
0                 8.191E+07 3.552E+07 2.258E+07 1.662E+07 1.325E+07 1.054E+07 1.604E+07
1
1                 * gamma sources determined *
0case applies the following photon data base
                  master photon library
                  in binary mode
0   the sources include photons of nuclides for...

      light elements
      actinides
      fission products
1                 gamma source spectrum for gamma lines (sas2)
0                                1826.25  day time of the requested nuclides
0                    energy interval in mev     photons / second     mev / second
0
                  1.0000E-02 to  5.0000E-02     6.8561E+14           2.0568E+13
                  5.0000E-02 to  1.0000E-01     2.0308E+14           1.5231E+13
                  1.0000E-01 to  2.0000E-01     1.6111E+14           2.4167E+13
                  2.0000E-01 to  3.0000E-01     4.5083E+13           1.1271E+13
                  3.0000E-01 to  4.0000E-01     3.1358E+13           1.0975E+13
                  4.0000E-01 to  6.0000E-01     2.2631E+14           1.1315E+14
                  6.0000E-01 to  8.0000E-01     1.0168E+15           7.1177E+14
                  8.0000E-01 to  1.0000E+00     9.6947E+13           8.7252E+13
                  1.0000E+00 to  1.3300E+00     3.6228E+13           4.2204E+13
                  1.3300E+00 to  1.6600E+00     7.9534E+12           1.1860E+13
                  1.6600E+00 to  2.0000E+00     4.3614E+11           8.0133E+11
                  2.0000E+00 to  2.5000E+00     1.1466E+12           2.5799E+12
                  2.5000E+00 to  3.0000E+00     3.0775E+10           8.4631E+10
                  3.0000E+00 to  4.0000E+00     3.7983E+09           1.3294E+10
                  4.0000E+00 to  5.0000E+00     5.2258E+05           2.3516E+06
                  5.0000E+00 to  6.5000E+00     2.0954E+05           1.2048E+06
                  6.5000E+00 to  8.0000E+00     4.1069E+04           2.9775E+05
                  8.0000E+00 to  1.0000E+01     8.7149E+03           7.8434E+04
0                 totals                        2.5121E+15           1.0519E+15
0
0                 total energy from nuclides with spectrum data     =  1.0519E+15
0                 total energy from nuclides with no spectrum data  =  6.4491E+09
1
0 .results on logical unit no. 71, position 2, for time step  6, subcase10. (run position 1, case position 2)
  title: sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
0    .terminated logical unit no. 71 with zero flag record.
1 * normal termination of execution *
0                              table of contents for material tables
0                                case or subcase printed     page

                                          1                   1
                                          2                   3
                                          3                   6
                                          4                   9
                                          5                  12
                                          6                  15
                                          7                  18
                                          8                  21
                                          9                  24
                                         10                  27
0ndset      33
        33          4          1         27          6          0          0          0          0          0
         0          0          0          0          0          2         -1       1698        690        130
       880       7955          0          5         99          2         16         96         18         18
        18          0         71
```

```
n       56q array has     20 entries.
0       57q array has      3 entries.
0        1q array has     20 entries.
0        1q array has     10 entries.
     L90   87162
     L116  49981
     L32   33663 rudata (library) storage size
     L44   33734
     L103  65583
0       60q array has      1 entries.
0       61q array has      7 entries.
0       65q array has     63 entries.
0       73q array has      4 entries.
0       74q array has      4 entries.
0       75q array has      4 entries.
     L140  56777
     used   88136 in size   200000
0jopt          12
          5          0          0          0          0          0          0          0          0          0
          0          0
0therm          4
 5.091678E-01 3.604486E-01 2.731459E+00 1.000000E-31
0non            5
       7935         20          6         18       1697
0wn            19
          0          1          0          0          1         -1          0          0          0          0
         21        100          4          4          3          0          4          0          0
0coonst         5
 8.640000E+04 1.000000E-20  .000000E+00  .000000E+00 1.000000E-08
0nzero          4
          0        689        129        879
0pow            3
  .000000E+00  .000000E+00  .000000E+00
0 linp          9
          6          0         51         26          2       3000       1000       1697         94
0 case or subcase    1  sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       57q array has      4 entries.
0        1q array has     20 entries.
0        1q array has     10 entries.
     L90   93972
     L116  57212
     L32   33663 rudata (library) storage size
     L44   33734
     L103  72497
0       58q array has      5 entries.
0       60q array has      5 entries.
0       66q array has      1 entries.
0       73q array has      4 entries.
0       74q array has      4 entries.
0       75q array has      4 entries.
     L140  63587
     used   96742 in size   200000
```

```
0jqpt          12
          5          0          0          0          0          0          0          0          0          0
          0          0
0therm          4
 5.091676E-01 3.604486E-01 2.731459E+00 1.000000E-31
0ncn            5
       7935         20          6         18       1697
0smn           19
          5          5          0          0          1          3          0          0          0          0
         21        100          4          4          3         74          4          1          0
0tconst         5
 8.640000E+04 1.000000E-20 5.000000E+00  .000000E+00 1.000000E-08
0nzero          4
         12        689        129        879
0pow            3
  .000000E+00  .000000E+00  .000000E+00
0 lirp          9
          6          0         51         26          2       3000       1000       1697         94
 n-gamma, fission and total nev/fission =          4.4180E+00 1.9429E+02 1.9871E+02
 start of interval flux =          1.71666E+13
 n-gamma, fission and total nev/fission =          4.8296E+00 1.9446E+02 1.9929E+02
 start of interval flux =          1.70387E+13
 n-gamma, fission and total nev/fission =          4.9247E+00 1.9462E+02 1.9955E+02
 start of interval flux =          1.69221E+13
 n-gamma, fission and total nev/fission =          5.0218E+00 1.9477E+02 1.9980E+02
 start of interval flux =          1.68318E+13
 n-gamma, fission and total nev/fission =          5.1227E+00 1.9491E+02 2.0004E+02
 start of interval flux =          1.67630E-02
0 case or subcase    2  sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp
0nbet          33
         33          4          2         27          6          0          0          0          0          0
          0          0          0          0          0          2         -1       1698        650        130
        880       7935          0          5         99          2         16         96         18         18
         18          0         71
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      57q array has      4 entries.
0       1q array has     20 entries.
0       1q array has     10 entries.
    l90  95972
    l116  57212
    l32  33663 nubsta (library) storage size
    l44  33734
    l103  72497
0      58q array has      5 entries.
0      60q array has      5 entries.
0      66q array has      1 entries.
    l140  63587
    used   96742 in size  200000
0jqpt          12
          5          0          0          0          0          0          0          0          0          0
          0          0
0therm          4
 5.091676E-01 3.604486E-01 2.731459E+00 1.000000E-31
```

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```
0non          5
       7935         20          6         18       1697
0mm          19
          5          5          0          0          1          3          0          0          0          5
         21        100          0          4          3         74          4          1          0
0tconst       5
  8.640000E+04 1.600064E+02 2.900000E+01  .000000E+00 1.000000E-08
0mzero        4
         16        689        129        879
0pow          3
  7.250000E+00 1.199993E+03 1.694262E+13
0 lirp        9
          6          0         51         26          2       3000       1000       1697         94
 n-gamma, fission and total mev/fission =          5.2408E+00     1.9492E+02     2.0016E+02
 start of interval flux =          1.65204E+13
 n-gamma, fission and total mev/fission =          5.3397E+00     1.9505E+02     2.0039E+02
 start of interval flux =          1.64592E+13
 n-gamma, fission and total mev/fission =          5.4422E+00     1.9518E+02     2.0062E+02
 start of interval flux =          1.64118E+13
 n-gamma, fission and total mev/fission =          5.5462E+00     1.9530E+02     2.0085E+02
 start of interval flux =          1.63779E+13
 n-gamma, fission and total mev/fission =          5.6512E+00     1.9542E+02     2.0107E+02
 start of interval flux =          1.63555E-02
0 case or subcase    3  sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
0ncbet       33
         33          4          3         27          6          0          0          0          0          0
          0          0          0          0          0          2         -1       1698        690        130
        880       7935          0          5         99          2         16         96         18         18
         18          0         71
0        56q array has      1 entries.
0        56q array has      1 entries.
0        56q array has      1 entries.
0        56q array has      1 entries.
0        56q array has      1 entries.
0        56q array has      1 entries.
0        56q array has      1 entries.
0        56q array has      1 entries.
0        57q array has      4 entries.
0         1q array has     20 entries.
0         1q array has     10 entries.
     l90   93972
     l116  57212
     l32   33663 nudata (library) storage size
     l44   33734
     l103  72497
0        58q array has      5 entries.
0        60q array has      5 entries.
0        66q array has      1 entries.
     l140  63587
     used     96742 in size   200000
0jcpt        12
          5          0          0          0          0          0          0          0          0          0
          0          0
0therm        4
  5.091676E-01 3.604486E-01 2.731459E+00 1.000000E-31
0non          5
       7935         20          6         18       1697
0mm          19
          5          5          0          0          1          3          0          0          0          5
         21        100          0          4          3         74          4          1          0
```

```
0cconst         5
  8.640000E+04 3.200192E+02 2.600000E+01  .000000E+00 1.000000E-08
0mzero          4
         16         689         129         879
0pow            3
  7.250000E+00 2.319988E+03 1.642759E+13
0 lirp          9
          6           0          51          26           2        3000        1000        1697          94
 n-gamma, fission and total nev/fission =            5.7355E+00  1.9541E+02  2.0115E+02
 start of interval flux =          1.61872E+13
 n-gamma, fission and total nev/fission =            5.8325E+00  1.9552E+02  2.0136E+02
 start of interval flux =          1.61661E+13
 n-gamma, fission and total nev/fission =            5.9353E+00  1.9563E+02  2.0157E+02
 start of interval flux =          1.61526E+13
 n-gamma, fission and total nev/fission =            6.0383E+00  1.9574E+02  2.0178E+02
 start of interval flux =          1.61473E+13
 n-gamma, fission and total nev/fission =            6.1413E+00  1.9584E+02  2.0198E+02
 start of interval flux =          1.61492E-02
0 case or subcase    4  sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp
0rdset          33
          33           4           4          27           6           0           0           0           0           0
           0           0           0           0           0           2          -1        1698         690         130
         880        7935           0           5          99           2          16          96          18          18
          18           0          71
0       56q array has       1 entries.
0       56q array has       1 entries.
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0       56q array has       1 entries.
0       56q array has       1 entries.
0       57q array has       4 entries.
0        1q array has      20 entries.
0        1q array has      10 entries.
     l90  98972
     l116  57212
     l32  33663 nuclide (library) storage size
     l44  33734
     l103  72477
0       58q array has       5 entries.
0       60q array has       5 entries.
0       66q array has       1 entries.
     l140  63587
     used   98742 in size   200000
0jqpt           12
          5           0           0           0           0           0           0           0           0           0
          0           0
0therm          4
  5.091676E-01 3.604486E-01 2.731459E+00 1.000000E-31
0ron            5
       7935          20           6          18        1697
0mm            19
          5           5           0           0           1           3           0           0           0           5
         21         100           0           4           3          74           4           1           0
0cconst         5
  8.640000E+04 4.800385E+02 2.900000E+01  .000000E+00 1.000000E-08
0mzero          4
         16         689         129         879
0pow            3
```

```
 7.249999E+00 3.479978E+03 1.616451E+13
0 lirp          9
          6          0         51         26          2       3000       1000       1697         94
 n-gamma, fission and total nev/fission =            6.1975E+00     1.9583E+02     2.0208E+02
 start of interval flux =         1.60283E+13
 n-gamma, fission and total nev/fission =            6.2896E+00     1.9573E+02     2.0222E+02
 start of interval flux =         1.60310E+13
 n-gamma, fission and total nev/fission =            6.3902E+00     1.9602E+02     2.0341E+02
 start of interval flux =         1.60378E+13
 n-gamma, fission and total nev/fission =            6.4905E+00     1.9612E+02     2.0261E+02
 start of interval flux =         1.60502E+13
 n-gamma, fission and total nev/fission =            6.5905E+00     1.9621E+02     2.0280E+02
 start of interval flux =         1.60674E-02
0 case or subcase    5  sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp
0rdbet          33
         33          4          5         27          6          0          0          0          0          0
          0          0          0          0          0          2         -1       1698        690        130
        880       7935          0          5         99          2         16         96         18         18
         18          0         71
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       57q array has       4 entries.
0        1q array has      20 entries.
0        1q array has      10 entries.
    l90  93972
    l116  57212
    l32  33663 nuclide (library) storage size
    l44  33734
    l103  72697
0       58q array has       5 entries.
0       60q array has       5 entries.
0       66q array has       1 entries.
    l140  63587
    used   96742 in size   200000
0jcpt           12
          5          0          0          0          0          0          0          0          0          0
          0          0
0therm          4
 5.091678E-01 3.604486E-01 2.731459E+00 1.000000E-31
0ren            5
       7935         20          6         18       1697
0wm            19
          5          5          0          0          1          3          0          0          0          5
         21        100          0          4          3         74          4          1          0
0tconst         5
 8.640000E+04 6.400641E+02 2.900000E+01  .000000E+00 1.000000E-08
0nzero          4
         16        689        129        879
0pow            3
 7.250002E+00 4.639970E+03 1.604761E+13
0 lirp          9
          6          0         51         26          2       3000       1000       1697         94
 n-gamma, fission and total nev/fission =            6.6274E+00     1.9620E+02     2.0285E+02
 start of interval flux =         1.59778E+13
```

```
 n-gamma, fission and total mev/fission =          6.7144E+00    1.9625E+02    2.0300E+02
 start of interval flux =        1.59963E+13
 n-gamma, fission and total mev/fission =          6.8126E+00    1.9637E+02    2.0319E+02
 start of interval flux =        1.60171E+13
 n-gamma, fission and total mev/fission =          6.9104E+00    1.9644E+02    2.0337E+02
 start of interval flux =        1.60417E+13
 n-gamma, fission and total mev/fission =          7.0076E+00    1.9654E+02    2.0355E+02
 start of interval flux =        1.60697E-02
0 case or subcase    6  sas2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp
0nbset          33
          33          4          6         27          6          0          0          0          0          0
           0          0          0          0          0          2         -1       1698        650        130
         880       7935          0          5         99          2         16         96         18         18
          18          0         71
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       57q array has       4 entries.
0        1q array has      20 entries.
0        1q array has      10 entries.
     l90  93972
     l116  57212
     l32  33663 nuclide (library) storage size
     l44  33734
     l103  72497
0       58q array has       5 entries.
0       60q array has       5 entries.
0       66q array has       1 entries.
     l140  63587
     used   96742 in size   200000
0jqpt           12
           5          0          0          0          0          0          0          0          0          0
           0          0
0therm          4
  5.09167E-01 3.60486E-01 2.73459E+00 1.000000E-31
0nan            5
        7935         20          6         18       1697
0nm            19
           5          5          0          0          1          3          0          0          0          5
          21        100          0          4          3         74          4          1          0
0coonst         5
  8.640000E+04 8.000961E+02 2.800000E+01  .000000E+00 1.000000E-08
0nzero          4
          16        689        129        879
0pow            3
  7.250000E+00 5.799963E+03 1.602551E+13
0 lirp          9
           6          0         51         26          2       3000       1000       1697         94
 n-gamma, fission and total mev/fission =          7.0520E+00    1.9653E+02    2.0356E+02
 start of interval flux =        1.60012E+13
 n-gamma, fission and total mev/fission =          7.1140E+00    1.9661E+02    2.0372E+02
 start of interval flux =        1.60313E+13
 n-gamma, fission and total mev/fission =          7.2102E+00    1.9669E+02    2.0390E+02
 start of interval flux =        1.60521E+13
 n-gamma, fission and total mev/fission =          7.3057E+00    1.9677E+02    2.0407E+02
```

```
 start of interval flux =       1.60756E+13
 n-gamma, fission and total nev/fission =          7.4007E+00     1.9684E+02     2.0424E+02
 start of interval flux =       1.61315E-02
0 case or subcase    7  ses2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp
0rdbet         33
         33          4          7         27          6          0          0          0          0          0
          0          0          0          0          0          2         -1       1698        690        130
        880       7935          0          5         99          2         16         96         18         18
         18          0         71
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      56q array has      1 entries.
0      57q array has      4 entries.
0       1q array has     20 entries.
0       1q array has     10 entries.
    l90  92972
    l116  57212
    l32  33663 nudata (library) storage size
    l44  33734
    l103  72497
0      58q array has      5 entries.
0      60q array has      5 entries.
0      66q array has      1 entries.
    l140  63587
    used   96742 in size   200000
0jqpt          12
          5          0          0          0          0          0          0          0          0          0
          0          0
0therm         4
  5.091676E-01 3.604286E-01 2.731459E+00 1.000000E-31
0rcn           5
       7935         20          6         18       1697
0mm           19
          5          5          0          0          1          3          0          0          0          5
         21        100          0          4          3         74          4          1          0
0tconst        5
  8.640000E+04 9.601334E+02 2.900000E+01  .000000E+00 1.000000E-08
0mzero         4
         16        659        129        879
0pow           3
  7.250001E+00 6.959956E+03 1.606958E+13
0 lirp         9
          6          0         51         26          2       3000       1000       1697         94
 n-gamma, fission and total nev/fission =          7.4172E+00     1.9883E+02     2.0625E+02
 start of interval flux =       1.60782E+13
 n-gamma, fission and total nev/fission =          7.4956E+00     1.9691E+02     2.0440E+02
 start of interval flux =       1.61169E+13
 n-gamma, fission and total nev/fission =          7.5889E+00     1.9698E+02     2.0457E+02
 start of interval flux =       1.61552E+13
 n-gamma, fission and total nev/fission =          7.6825E+00     1.9705E+02     2.0473E+02
 start of interval flux =       1.61953E+13
 n-gamma, fission and total nev/fission =          7.7755E+00     1.9712E+02     2.0490E+02
 start of interval flux =       1.62371E-02
0 case or subcase    8  ses2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp
0rdbet         33
```

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```
          15          4          1         27          6          0          0          0          0          0
           0          0          0          0          0          2         -1       1698        650        130
         880       7935          0          5         99          2         16         96         18         18
          18          0         71
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       57q array has      4 entries.
0        1q array has     20 entries.
0        1q array has     10 entries.
     l90   92270
     l116  55405
     l32   33663 nuclata (library) storage size
     l44   33734
     l103  70769
0       58q array has      4 entries.
0       60q array has      4 entries.
0       66q array has      1 entries.
     l140  61865
     used   94591 in size   200000
0jopt          12
          5          0          0          0          0          0          0          0          0          0
          0          0
0therm          4
 5.134401E-01 4.563286E-01 3.548801E+00 1.000000E-31
0nan            5
       7935         20          6         18       1697
0mm            19
          4          4          0          0          1          1          0          0          0          5
         21        100          0          4          3         74          4          1          0
0coast          5
 8.640000E+04 1.120179E+03 2.800000E+01  .000000E+00 1.000000E-08
0zero           4
         16        689        129        879
0pow            3
 7.250000E+00 8.199748E+03 1.616192E+13
0 lirp          9
          6          0         51         26          2       3000       1000       1697         94
 n-gamma, fission and total nev/fission =          7.7875E+00 1.9711E+02 2.0490E+02
 start of interval flux =       1.6194E+13
 n-gamma, fission and total nev/fission =          7.8604E+00 1.9718E+02 2.0504E+02
 start of interval flux =       1.6239E+13
 n-gamma, fission and total nev/fission =          7.9532E+00 1.9725E+02 2.0520E+02
 start of interval flux =       1.6285E+13
 n-gamma, fission and total nev/fission =          8.0451E+00 1.9732E+02 2.0536E+02
 start of interval flux =       1.6328E+13
0 case or subcase    9  ses2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high temp
0       56q array has     20 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
0       56q array has      1 entries.
```

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```
0       56q array has       1 entries.
0       57q array has       4 entries.
0        1q array has      20 entries.
0        1q array has      10 entries.
     l90   95662
     l116  59001
     l32   33663 nudata (library) storage size
     l44   33734
     l103  74213
0       60q array has       6 entries.
0       66q array has       1 entries.
0       61q array has       7 entries.
0       65q array has      63 entries.
0       81q array has       4 entries.
0       82q array has       6 entries.
0       83q array has      19 entries.
     l140  80695
     used    98881 in size   200000
0jqpt          12
               5          0          0          0          0          0          0          0          0          0
               0          0
0therm          4
  5.134401E-01 4.563283E-01 3.548801E+00 1.000000E-31
0nn             5
            7935         20          6         18       1697
0mm            19
               0          6          0          0          5          1          0          0          0          4
              21        100          0          4          3         74          2          1          0
0const          5
  8.640000E+04 1.000000E-19 2.900000E+01  .000000E+00 1.000000E-03
0zero           4
              15        689        129        899
0pow            3
  7.250000E+00 9.279940E+03 1.626613E+13
0 lirp          9
               6          2         51         26          1      18418       1000       1697         94
0 case or subcase   10  sas2h: babcock wilcox 15x15, 3.00w/o, 20gd/atu burn high temp
0       56q array has      20 entries.
0       56q array has       1 entries.
0       56q array has       1 entries.
0       56q array has      20 entries.
0requested parm=halt8,skipcellwt,skipshipdata
  pass= 9, exec halts after pass   8
1
0   **************************************************
    **************************************************
0       information on the origen-s library produced
0
          dataset name:  ft33f001
0         logical unit number: 33
0         number of records:   68
0
    **************************************************
    **************************************************
0.....
0 halt feature invokes stop 0
```

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```
0*********************************************************************************
*                                                                               *
*                    scale4.2  bulletin  board                                  *
*                    --------  --------  -----                                  *
*                                                                               *
*      welcome to the configuration controlled version of scale4.2.             *
*      any problems should be reported to kay martin at 4-9213.                 *
*                                                                               *
*      updates that have been made from version 4.1 to 4.2 include:             *
*                                                                               *
*      nitawl:  parameter added to prevent exponent underflows for very         *
*      dilute resonance calculations on workstation.  (mrr 93-011)              *
*                                                                               *
*      nitawl:  corrected discrepancies in maximum fractional energy loss       *
*      of neutron in admixed moderator calculation and simpson rule             *
*      calculation of collision density as documented in "improved              *
*      calculation of flux shapes with the resonance shielding code             *
*      nitawl", by j. oppe, ecn-i--93-003.  affects all calculations.           *
*      impact will vary, but is insignificant for hydrogen-moderated            *
*      systems. (mrr 93-030)                                                    *
*                                                                               *
*      sas4:  added option of axial source profile input for both radial        *
*      and axial dose calculations. also added option idr = 2 for               *
*      estimation to point detectors from collisions in both top and            *
*      bottom halves of geometry.  (mrr 92-016)                                 *
*                                                                               *
*      morse:  modifications made for compatibility with the new options in     *
*      sas4 (i.e., the axial source profile input option and                    *
*      the option idr = 2 for estimation to point detectors from collisions     *
*      in both top and bottom halves of geometry).  (mrr 92-016)                *
*                                                                               *
*      csas & keno-v.a:  error checking during input processing was added       *
*      so that these modules terminate with an error message if input           *
*      errors are encountered.  (mrr 93-013, 93-014, 93-015, 93-018)            *
*                                                                               *
*      keno-v.a:  corrections made for applying differential albedo             *
*      boundary conditions to supergrouped problems where global unit           *
*      contains only an array specification.  effect on keff is very large      *
*      for this type of problem.  (mrr 93-033)                                  *
*                                                                               *
*      keno-v.a:  corrected an error introduced with modification on may 24,    *
*      1993 (mrr 93-033). this error affected problems with mirror or           *
*      periodic boundary conditions and could cause problem to loop, fail,      *
*      or run incorrectly.                                                      *
*                                                                               *
*      xsdrnpm:  corrected calculation of number of direct access data          *
*      blocks needed to weight the cross sections to prevent occasional         *
*      failure.  improved calculation of balance tables.  (mrr 93-021)          *
*                                                                               *
*      origen-s:  modified program to read combined binary libraries that       *
*      include multi-cycle cross sections.  add option to edit binary           *
*      library.  (mrr 93-026)                                                   *
*                                                                               *
*      sas2:  modified to produce combined binary libraries for origen-s.       *
*      (mrr 93-027)                                                             *
*                                                                               *
*      couple:  modified to allow combined binary libraries to be made by       *
*      sas2.  (mrr 93-031)                                                      *
*                                                                               *
*      origen-s couple, sas2:  modified programs to accept the new updated      *
```

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```
*      and expanded decay data and fission product yield libraries.  (mrr
*      92-088, 92-025, 92-026)
*
*      origen-s libraries:  the six standard origen-s card image libraries
*      have been replaced by two new libraries, end6dec and xsectpho.
*      end6dec contains the updated and expanded decay data library based
*      on endf/b-vi data.  xsectpho contains the basic cross section and
*      photon spectra data and updated fission product yield data based on
*      endf/b-v data.  (drr 92-006, 007, 008, 009, 010, and drr 93-001,
*      002, 003, 006, 008, 009)
*
*      std. comp. library:  in drr 92-033, the following nuclides were
*      changed to turn on resonance processing flag but should not have
*      been changed:  niss, fess, mnss, crss, niinconel, crinconel,
*      feinconel.  flags for these nuclides have now been returned to off.
*      (drr 93-014)
*
*      heating7:  replaced heating6 with version 7.2.  (mrr 93-038)
*
*      htas1:  updated for compatibility with heating7 and to interact
*      effectively with ocular.  fin effectiveness technique was added.
*      (mrr 93-036)
*
*      ocular:  made compatible with heating7 and htas1 on mainframe and
*      workstation.  (mrr 93-037)
*
*      sas2:  corrected so that 'parm=skipshipdata' would work on
*      workstation.  (mrr 93-051)
*
*      aim:  ft47f001 is no longer require for aim to execute on
*      workstation.  (mrr 93-052)
*
*      27group, 27burnup, and 218group - these libraries have been
*      updated to correct an error found in the chlorine cross-sections.
*      (drr93-022)
*
*      bonami:  corrected so that a case with a number density of zero
*      for a nuclide that has bondarenko data will run without failing.
*      (mrr 93-060)
*
*      csas:  corrected calculation of dancoff correction factor for
*      cylindrical cells.  note that previous calculations of small
*      cylindrical cells (o.d. < 0.3 cm) gave non-conservative keff
*      values.  also corrected dancoff factor for multiregion slab
*      cell with vacuum boundary conditions to be set to zero.
*      (mrr 93-065)
*
*      csas, sas1, sas2, sas3, sas4:  error in miplib was corrected.  for
*      resonance materials that are not part of the unit cell in lattice-
*      cell or multiregion problems, the dancoff factor defaulted  to -1.
*      check your nitawl output in any previous scale-4.2 calculations
*      for dancoff factors =-1.
*      (mrr 93-070)
*
*********************************************************************************
1          primary module access and input record ( scale driver - 10/01/86 - 14:00 )
-    module origens  will be called
      0$$  a8 26 a11 71 e
      1$$ 1  1t
       b&w 15x15, 3.0%/20 Decay
```

```
     3$$ 21 0 1 e
     '   3$$ 21 0 1  a33  -88
     2t
     35$$ 0  t
     '  54$$ a8 1 e
     '    56$$ 0 7 a5 1 a13 -1 a15 3 0 4 e   5t
     56$$ 0 7 a13 -1 a15 3 0 4 e   5t
     Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
     per B&W assembly, 0.409 mthm for grams
     60**  0 1 90 365.25 730.5 1826.25  3652.5
     '  61** f1-20
     '  65$$ a4 1 2z 1 2z 1 5z 1 2z 1
     '   a25 1 2z 1 2z 1 5z 1 2z 1
     '   a46 1 2z 1 2z 1 5z 1 2z 1 e
     65$$ a25 1 5z 0 a46 1 5z 0 e
     6t
     '   56$$ 0 -6 a10 1  e  t
     56$$ 0 10 a10 7 a14 5 a17 4 e  57** 10  e  5t
     60**  15 20 30 50 100 150 200 250 300 400
     '  61** f1-20
     '  65$$ a4 1 2z 1 2z 1 5z 1 2z 1
     '   a25 1 2z 1 2z 1 5z 1 2z 1
     '   a46 1 2z 1 2z 1 5z 1 2z 1 e
     65$$ a25 1 5z 0 a46 1 5z 0 e
     6t
     56$$ 0 10 a10 10 a14 5 a17 4 e  57** 400  e  5t
     60**  500 1+3 2+3 4+3 6+3 8+3 1+4 1.2+4 1.4+4 1.6+4
     '    61** f1-20
     65$$ a25 1 5z 0 a46 1 5z 0 e
     6t
     56$$ 0 10 a10 10 a14 5 a17 4 e  57** 1.6+4  e  5t
     60**  1.8+4 2.0+4 2.2+4 2.4+4 2.6+4 2.8+4 3+4 3.2+4 3.6+4 3.8+4
     '  61** f1-20
     65$$ a25 1 5z 0 a46 1 5z 0 e
     6t
     56$$ 0 10 a10 10 a14 5 a17 4 e  57** 3.8+4  e  5t
     60**  4+4 4.5+4 5+4 5.5+4 6+4 6.5+4 7+4 1+5 2+5 2.5+5
     '    61** f1-20
     65$$ a25 1 5z 0 a46 1 5z 0 e
     6t
     56$$ 0 3 a10 10 a14 5 a17 4 e  57** 2.5+5  e  5t
     60**  3+5 5+5 999999
     '  61** f1-20
     65$$ a25 1 5z 0 a46 1 5z 0 e
     6t
     '   56$$ 0 -10 a10 1 e  t
     56$$ f0  t
0    module origens  is finished. completion code     0. cpu time used     5.00 (seconds).
1     oooooooooo     rrrrrrrrrrr     iiiiiiiiiii      ggggggggg     eeeeeeeeeeee   nn          nn   sssssssssss
    oooooooooooo    rrrrrrrrrrrr    iiiiiiiiiii     ggggggggggg    eeeeeeeeeeee   nnn         nn  sssssssssssss
    oo        oo    rr         rr        ii         gg         gg   ee            nnnn        nn  ss          ss
    oo        oo    rr         rr        ii         gg              ee            nn nn       nn  ss
    oo        oo    rr         rr        ii         gg              ee            nn  nn      nn  ss
    oo        oo    rrrrrrrrrrrr        ii         gg    ggggggg   eeeeeeeee     nn   nn     nn  sssssssssss
    oo        oo    rrrrrrrrrrrr        ii         gg    ggggggg   eeeeeeeee     nn    nn    nn   sssssssssss
    oo        oo    rr       rr         ii         gg        gg    ee            nn     nn   nn             ss
    oo        oo    rr        rr        ii         gg        gg    ee            nn      nn nn             ss
    oo        oo    rr         rr       ii         gg        gg    ee            nn       nnn  ss          ss
    oooooooooooo    rr          rr  iiiiiiiiiii     ggggggggggg    eeeeeeeeeeee   nn         nnn  sssssssssssss
     oooooooooo     rr          rr  iiiiiiiiiii      ggggggggg     eeeeeeeeeeee   nn          nn   sssssssssss
```

INFORMATION ONLY

INFORMATION ONLY

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```
                    ********************************************************************************
                    ********************************************************************************
                    ********************************************************************************
                    *****                                                                        *****
                    *****                  program verification information                     *****
                    *****                                                                        *****
                    *****                 code system:    scale  version:   4.2                 *****
                    *****                                                                        *****
                    ********************************************************************************
                    ********************************************************************************
                    *****                                                                        *****
                    *****                                                                        *****
                    *****              program:  origns                                          *****
                    *****                                                                        *****
                    *****         creation date:  04/27/95                                       *****
                    *****                                                                        *****
                    *****              library:  /neutronics/scale/exe                           *****
                    *****                                                                        *****
                    *****                                                                        *****
                    *****    this is not a   scale  configuration controlled code               *****
                    *****                                                                        *****
                    *****              jobname:  davis                                           *****
                    *****                                                                        *****
                    *****    date of execution:  02/16/96                                        *****
                    *****                                                                        *****
                    *****    time of execution:  10:07:00                                        *****
                    *****                                                                        *****
                    *****                                                                        *****
                    ********************************************************************************
                    ********************************************************************************
                    ********************************************************************************
1
1           * input echo * (with break between col. 1-72 and 73-80)
0       note:  only comments are permitted after column 72.
0--------------------only this is used as input data.--------------------        comment or title and
0..............................columns 1-72.............................              ..73-80.

 0$$  a8 26 a11 71 e
 1$$ 1  1t
  b&w 15x15, 3.0%/20 Decay
 3$$ 21 0 1 e
 '   3$$ 21 0 1  a33  -88
 2t
 35$$ 0  t
 '  54$$ a8 1 e
 '   56$$ 0 7 a5 1 a13 -1 a15 3 0 4 e   5t
 56$$ 0 7 a13 -1 a15 3 0 4 e   5t
 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
 per B&W assembly, 0.409 mthm for grams
 60**  0 1 90 365.25 730.5 1826.25  3652.5
 '  61** f1-20
 '  65$$ a4 1 2z 1 2z 1 5z 1 2z 1
 '   a25 1 2z 1 2z 1 5z 1 2z 1
 '   a46 1 2z 1 2z 1 5z 1 2z 1 e
 65$$ a25 1 5z 0 a46 1 5z 0 e
 6t
 '   56$$ 0 -6 a10 1  e  t
 56$$ 0 10 a10 7 a14 5 a17 4 e  57** 10  e  5t
 60**  15 20 30 50 100 150 200 250 300 400
 '  61** f1-20
```

INFORMATION ONLY

```
 '  65$$ a4 1 2z 1 2z 1 5z 1 2z 1
 '    a25 1 2z 1 2z 1 5z 1 2z 1
 '    a46 1 2z 1 2z 1 5z 1 2z 1 e
 65$$ a25 1 5z 0 a46 1 5z 0 e
 6t
 56$$ 0 10 a10 10 a14 5 a17 4 e  57** 400  e  5t
 60**  500 1+3 2+3 4+3 6+3 8+3 1+4 1.2+4 1.4+4 1.6+4
 '    61** f1-20
 65$$ a25 1 5z 0 a46 1 5z 0 e
 6t
 56$$ 0 10 a10 10 a14 5 a17 4 e  57** 1.6+4  e  5t
 60**  1.8+4 2.0+4 2.2+4 2.4+4 2.6+4 2.8+4 3+4 3.2+4 3.6+4 3.8+4
 '  61** f1-20
 65$$ a25 1 5z 0 a46 1 5z 0 e
 6t
 56$$ 0 10 a10 10 a14 5 a17 4 e  57** 3.8+4  e  5t
 60**  4+4 4.5+4 5+4 5.5+4 6+4 6.5+4 7+4 1+5 2+5 2.5+5
 '    61** f1-20
 65$$ a25 1 5z 0 a46 1 5z 0 e
 6t
 56$$ 0 3 a10 10 a14 5 a17 4 e  57** 2.5+5  e  5t
 60**  3+5 5+5 999999
 '  61** f1-20
 65$$ a25 1 5z 0 a46 1 5z 0 e
 6t
 '   56$$ 0 -10 a10 1 e  t
 56$$ f0  t
0when job "fails", make sure no fido input.....................................is out here!

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

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

          pass   1
          pass   0
          *scale-system control module sas2 library*
          used a time-dependent neutron spectrum, for each of the above passes
            pass 0 applies start-up fuel densities
            pass n applies mid time densities of nth library interval
          first library updated was...
          ********************************************************************************
          *                                                                              *
          *            prelim lwr origen-s binary working library--id = 1143             *
          *          made from modified card-image origen-s libraries of scale 4.2       *
          *       data from the light element, actinide, and fission product libraries   *
          *         decay data, including gamma and total energy, are from endf/b-vi     *
          *                                                                              *
          *       neutron flux spectrum factors and cross sections were produced from    *
          *      the "presas2" case updating all nuclides on the scale "burnup" library  *
          *                                                                              *
```

```
          *                   fission product yields are from endf/b-v                  *
          *                                                                             *
          *                 photon libraries use an 18-energy-group structure           *
          *                the photon data are from the master photon data base,        *
          *                 produced to include bremsstrahlung from uo2 matrix          *
          *                                                                             *
          *           see information above this box (if present) for later updates    *
          *                                                                             *
          *******************************************************************************
          *                                                                             *
0         *******************************************************************************
0                    .other identification and sizes of library.
0                     data set name:  /neutronics/scale/datalib/origen/binrylib/pr
0                4/20/1995    date library was produced
0                     1697    total number of nuclides in library
                       689    number of light-element nuclides
                       129    number of actinide nuclides
                       879    number of fission product nuclides
0                     7935    number of nonzero off-diagonal matrix elements
0         *******************************************************************************
0obtaining data from position no.    1 on unit no.   71
1
```


Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay — actinides — page 1

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
he 4	6.76E-02	6.76E-02	6.76E-02	6.78E-02	8.33E-02	1.10E-01	1.26E-01	1.56E-01	2.09E-01
tl206	5.52E-24	5.52E-24	5.52E-24	5.54E-24	6.41E-24	8.49E-24	1.24E-23	3.54E-23	1.29E-22
tl207	2.68E-15	2.68E-15	2.68E-15	2.69E-15	3.19E-15	5.00E-15	7.05E-15	1.31E-14	2.29E-14
tl208	1.05E-12	1.05E-12	1.05E-12	1.07E-12	1.32E-12	2.28E-12	3.72E-12	7.68E-12	1.13E-11
tl209	2.14E-18	2.14E-18	2.14E-18	2.13E-18	4.40E-19	4.05E-19	4.50E-19	5.97E-19	8.79E-19
pb206	1.77E-13	1.77E-13	1.77E-13	1.78E-13	2.43E-13	5.26E-13	1.08E-12	4.78E-12	2.81E-11
pb207	1.97E-10	1.97E-10	1.97E-10	1.98E-10	2.53E-10	4.88E-10	9.40E-10	3.23E-09	1.01E-08
pb208	2.83E-07	2.83E-07	2.83E-07	2.84E-07	3.79E-07	8.23E-07	1.81E-06	7.58E-06	2.38E-05
pb209	9.02E-15	9.02E-15	9.02E-15	8.59E-15	1.86E-15	1.71E-15	1.90E-15	2.52E-15	3.71E-15
pb210	1.21E-11	1.21E-11	1.21E-11	1.21E-11	1.38E-11	1.83E-11	2.68E-11	7.64E-11	2.79E-10
pb211	2.08E-14	2.08E-14	2.08E-14	2.08E-14	2.47E-14	3.87E-14	5.46E-14	1.01E-13	1.77E-13
pb212	6.21E-10	6.21E-10	6.21E-10	6.20E-10	7.81E-10	1.35E-09	2.20E-09	4.55E-09	6.68E-09
pb214	3.64E-16	3.64E-16	3.64E-16	3.64E-16	4.08E-16	5.64E-16	8.25E-16	1.98E-15	5.12E-15
bi208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bi209	1.42E-11	1.42E-11	1.42E-11	1.43E-11	1.63E-11	1.86E-11	2.19E-11	3.42E-11	6.31E-11
bi210m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bi210	7.33E-15	7.33E-15	7.33E-15	7.34E-15	8.50E-15	1.13E-14	1.65E-14	4.70E-14	1.72E-13
bi211	1.23E-15	1.23E-15	1.23E-15	1.23E-15	1.46E-15	2.29E-15	3.23E-15	6.01E-15	1.05E-14
bi212	5.89E-11	5.89E-11	5.89E-11	6.01E-11	7.41E-11	1.28E-10	2.09E-10	4.32E-10	6.34E-10
bi213	2.15E-15	2.15E-15	2.15E-15	2.14E-15	4.43E-16	4.07E-16	4.52E-16	6.01E-16	8.84E-16
bi214	2.70E-16	2.70E-16	2.70E-16	2.71E-16	3.03E-16	4.19E-16	6.13E-16	1.47E-15	3.81E-15
po210	1.29E-13	1.29E-13	1.29E-13	1.30E-13	1.62E-13	2.47E-13	3.71E-13	1.10E-12	4.74E-12
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
po211	1.36E-20	1.36E-20	1.36E-20	1.36E-20	1.61E-20	2.53E-20	3.57E-20	6.64E-20	1.16E-19
po212	3.09E-21	3.09E-21	3.09E-21	3.16E-21	3.89E-21	6.74E-21	1.10E-20	2.27E-20	3.33E-20
po213	3.23E-24	3.23E-24	3.23E-24	3.22E-24	6.66E-25	6.12E-25	6.80E-25	9.03E-25	1.33E-24
po214	8.94E-23	8.94E-23	8.94E-23	8.77E-23	4.42E-23	5.76E-23	8.43E-23	2.02E-22	5.24E-22
po215	1.74E-20	1.74E-20	1.74E-20	1.74E-20	2.06E-20	3.24E-20	4.57E-20	8.49E-20	1.48E-19
po216	2.39E-15	2.39E-15	2.39E-15	2.39E-15	3.01E-15	5.22E-15	8.50E-15	1.76E-14	2.58E-14
po218	4.29E-17	4.29E-17	4.29E-17	4.29E-17	4.80E-17	6.65E-17	9.73E-17	2.33E-16	6.04E-16
at217	2.58E-20	2.58E-20	2.58E-20	2.58E-20	5.33E-21	4.90E-21	5.44E-21	7.23E-21	1.06E-20
rn218	1.13E-20	1.13E-20	1.13E-20	1.10E-20	5.64E-22	5.86E-26	3.03E-31	.00E+00	.00E+00
rn219	3.94E-17	3.94E-17	3.94E-17	3.95E-17	4.68E-17	7.34E-17	1.04E-16	1.92E-16	3.36E-16
rn220	9.35E-13	9.35E-13	9.35E-13	9.35E-13	1.18E-12	2.04E-12	3.32E-12	6.86E-12	1.01E-11

rn222	7.77E-14	7.77E-14	7.77E-14	7.77E-14	8.69E-14	1.20E-13	1.76E-13	4.21E-13	1.09E-12
fr221	2.39E-16	2.39E-16	2.39E-16	2.39E-16	4.94E-17	4.54E-17	5.05E-17	6.70E-17	9.86E-17
fr223	1.99E-16	1.99E-16	1.99E-16	1.99E-16	2.34E-16	3.40E-16	4.80E-16	8.92E-16	1.56E-15
ra222	1.25E-17	1.25E-17	1.25E-17	1.21E-17	6.24E-19	6.48E-23	3.35E-28	.00E+00	.00E+00
ra223	1.00E-11	1.00E-11	1.00E-11	1.00E-11	1.19E-11	1.86E-11	2.63E-11	4.89E-11	8.54E-11
ra224	5.42E-09	5.42E-09	5.42E-09	5.41E-09	6.82E-09	1.18E-08	1.92E-08	3.97E-08	5.83E-08
ra225	1.05E-12	1.05E-12	1.05E-12	1.01E-12	1.96E-13	2.01E-13	2.24E-13	2.97E-13	4.37E-13
ra226	1.21E-08	1.21E-08	1.21E-08	1.21E-08	1.35E-08	1.87E-08	2.74E-08	6.55E-08	1.70E-07
ra228	4.74E-15	4.74E-15	4.74E-15	4.75E-15	5.65E-15	9.00E-15	1.47E-14	3.85E-14	9.44E-14
ac225	7.17E-13	7.17E-13	7.17E-13	7.15E-13	1.48E-13	1.36E-13	1.51E-13	2.00E-13	2.95E-13
ac227	7.71E-09	7.71E-09	7.71E-09	7.72E-09	9.06E-09	1.32E-08	1.86E-08	3.46E-08	6.04E-08
ac228	5.79E-19	5.79E-19	5.79E-19	5.79E-19	6.90E-19	1.10E-18	1.79E-18	4.70E-18	1.15E-17
th226	6.22E-16	6.22E-16	6.22E-16	6.02E-16	3.10E-17	3.22E-21	1.66E-26	.00E+00	.00E+00
th227	1.70E-11	1.70E-11	1.70E-11	1.70E-11	2.01E-11	3.06E-11	4.32E-11	8.03E-11	1.40E-10
th228	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.32E-06	2.29E-06	3.73E-06	7.71E-06	1.13E-05
th229	3.55E-08	3.55E-08	3.55E-08	3.55E-08	3.65E-08	3.98E-08	4.42E-08	5.87E-08	8.64E-08
th230	6.24E-04	6.24E-04	6.24E-04	6.25E-04	6.79E-04	8.48E-04	1.07E-03	1.75E-03	2.89E-03
th231	6.62E-07	6.62E-07	6.62E-07	3.57E-07	2.56E-08	2.56E-08	2.56E-08	2.56E-08	2.56E-08

INFORMATION ONLY

1

Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 2

0

nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
th232	8.41E-05	8.41E-05	8.41E-05	8.43E-05	9.43E-05	1.25E-04	1.66E-04	2.90E-04	4.95E-04
th233	8.02E-11	8.02E-11	8.02E-11	2.92E-30	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th234	6.43E-06	6.43E-06	6.43E-06	6.43E-06	6.42E-06	6.43E-06	6.42E-06	6.42E-06	6.42E-06
pa231	2.75E-04	2.75E-04	2.75E-04	2.75E-04	2.77E-04	2.82E-04	2.88E-04	3.06E-04	3.37E-04
pa232	2.38E-07	2.38E-07	2.38E-07	1.40E-07	4.98E-28	.00E+00	.00E+00	.00E+00	.00E+00
pa233	4.19E-06	4.19E-06	4.19E-06	4.20E-06	4.34E-06	4.36E-06	4.36E-06	4.37E-06	4.41E-06
pa234m	2.18E-10	2.18E-10	2.18E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10
pa234	4.09E-10	4.09E-10	4.09E-10	1.23E-10	9.67E-11	9.68E-11	9.67E-11	9.67E-11	9.67E-11
pa235	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u230	6.13E-13	6.13E-13	6.13E-13	5.93E-13	3.05E-14	3.17E-18	1.64E-23	2.26E-39	.00E+00
u231	1.16E-11	1.16E-11	1.16E-11	9.83E-12	4.13E-18	7.84E-38	.00E+00	.00E+00	.00E+00
u232	1.46E-04	1.46E-04	1.46E-04	1.46E-04	1.68E-04	2.26E-04	2.89E-04	4.01E-04	4.60E-04
u233	9.73E-04	9.73E-04	9.73E-04	9.73E-04	9.83E-04	1.02E-03	1.06E-03	1.19E-03	1.40E-03
u234	8.05E+01	8.05E+01	8.05E+01	8.05E+01	8.06E+01	8.08E+01	8.10E+01	8.17E+01	8.28E+01
u235	6.30E+03	6.30E+03	6.30E+03	6.30E+03	6.30E+03	6.30E+03	6.30E+03	6.30E+03	6.30E+03
u236	1.41E+03	1.41E+03	1.41E+03	1.41E+03	1.41E+03	1.41E+03	1.41E+03	1.41E+03	1.41E+03
u237	1.82E+00	1.82E+00	1.82E+00	1.65E+00	1.89E-04	1.17E-05	1.11E-05	9.64E-06	7.57E-06
u238	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05
u239	1.30E-01	1.30E-01	1.30E-01	4.38E-20	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	2.04E-23	2.04E-23	2.04E-23	2.05E-23	3.51E-23	8.00E-23	1.40E-22	3.19E-22	6.17E-22
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	3.20E-06	3.20E-06	3.20E-06	3.19E-06	2.73E-06	1.69E-06	8.91E-07	1.31E-07	5.36E-09
np236m	2.84E-06	2.84E-06	2.84E-06	1.36E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np236	3.71E-04	3.71E-04	3.71E-04	3.71E-04	3.71E-04	3.71E-04	3.71E-04	3.71E-04	3.71E-04
np237	1.26E+02	1.26E+02	1.26E+02	1.27E+02	1.28E+02	1.28E+02	1.28E+02	1.29E+02	1.30E+02
np238	1.68E-01	1.68E-01	1.68E-01	1.21E-01	7.85E-08	7.82E-08	7.78E-08	7.67E-08	7.48E-08
np239	1.88E+01	1.88E+01	1.88E+01	1.41E+01	8.68E-06	8.68E-06	8.68E-06	8.67E-06	8.67E-06
np240m	1.74E-25	1.74E-25	1.74E-25	1.75E-25	2.99E-25	6.83E-25	1.19E-24	2.72E-24	5.27E-24
np240	3.64E-04	3.64E-04	3.64E-04	3.61E-11	3.08E-27	7.03E-27	1.23E-26	2.80E-26	5.42E-26
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	3.91E-04	3.91E-04	3.91E-04	3.92E-04	3.70E-04	3.09E-04	2.44E-04	1.19E-04	3.60E-05
pu237	1.11E-05	1.11E-05	1.11E-05	1.09E-05	2.79E-06	4.09E-08	1.51E-10	7.52E-18	5.08E-30
pu238	2.77E+01	2.77E+01	2.77E+01	2.77E+01	2.86E+01	2.96E+01	2.98E+01	2.93E+01	2.81E+01
pu239	2.61E+03	2.61E+03	2.61E+03	2.62E+03	2.63E+03	2.63E+03	2.63E+03	2.63E+03	2.63E+03
pu240	6.72E+02	6.72E+02	6.72E+02	6.72E+02	6.72E+02	6.72E+02	6.72E+02	6.72E+02	6.72E+02
pu241	4.05E+02	4.05E+02	4.05E+02	4.05E+02	4.00E+02	3.86E+02	3.67E+02	3.18E+02	2.50E+02
pu242	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01

pu243	1.01E-02	1.01E-02	1.01E-02	3.52E-04	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15
pu244	1.03E-12	1.03E-12	1.03E-12	1.04E-12	1.78E-12	4.05E-12	7.07E-12	1.61E-11	3.12E-11
pu245	7.59E-19	7.59E-19	7.59E-19	1.56E-19	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu246	3.21E-21	3.21E-21	3.21E-21	3.08E-21	1.26E-21	1.25E-21	1.25E-21	1.25E-21	1.25E-21
am239	3.03E-10	3.03E-10	3.03E-10	7.49E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am240	1.32E-07	1.32E-07	1.32E-07	9.53E-08	2.21E-20	.00E+00	.00E+00	.00E+00	.00E+00
am241	1.71E+01	1.71E+01	1.71E+01	1.71E+01	2.18E+01	3.61E+01	5.42E+01	1.03E+02	1.71E+02
am242m	4.32E-01	4.32E-01	4.32E-01	4.32E-01	4.31E-01	4.30E-01	4.28E-01	4.21E-01	4.11E-01
am242	1.97E-02	1.97E-02	1.97E-02	6.99E-03	5.57E-06	5.54E-06	5.52E-06	5.44E-06	5.30E-06
am243	1.01E+01	1.01E+01	1.01E+01	1.01E+01	1.01E+01	1.01E+01	1.01E+01	1.01E+01	1.01E+01
am244m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am244	3.73E-03	3.73E-03	3.73E-03	7.18E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am245	5.97E-17	5.97E-17	5.97E-17	5.95E-17	4.91E-17	2.70E-17	1.23E-17	1.14E-18	2.19E-20
am246	8.01E-24	8.01E-24	8.01E-24	7.72E-24	3.14E-24	3.12E-24	3.12E-24	3.12E-24	3.12E-24
cm241	6.19E-10	6.19E-10	6.19E-10	6.06E-10	9.25E-11	2.75E-13	1.22E-16	1.08E-26	3.38E-43

INFORMATION ONLY

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 3

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
cm242	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.78E+00	5.54E-01	1.18E-01	2.21E-03	1.07E-03
cm243	6.03E-02	6.03E-02	6.03E-02	6.03E-02	5.99E-02	5.88E-02	5.74E-02	5.34E-02	4.73E-02
cm244	1.51E+00	1.51E+00	1.51E+00	1.52E+00	1.50E+00	1.46E+00	1.41E+00	1.25E+00	1.03E+00
cm245	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02
cm246	3.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03	2.99E-03
cm247	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05
cm248	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
cm249	1.19E-11	1.19E-11	1.19E-11	3.68E-18	5.01E-20	1.12E-24	7.51E-31	.00E+00	.00E+00
cm250	2.98E-15	2.98E-15	2.98E-15	2.98E-15	2.98E-15	2.98E-15	2.98E-15	2.98E-15	2.98E-15
cm251	7.30E-23	7.30E-23	7.30E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bk249	1.56E-08	1.56E-08	1.56E-08	1.56E-08	1.29E-08	7.10E-09	3.22E-09	3.00E-10	5.74E-12
bk250	5.62E-12	5.62E-12	5.62E-12	3.19E-14	1.36E-18	6.81E-19	2.72E-19	1.73E-20	1.84E-22
bk251	8.19E-17	8.19E-17	8.19E-17	3.31E-21	6.81E-22	5.11E-24	7.74E-27	2.70E-35	.00E+00
cf249	2.85E-09	2.85E-09	2.85E-09	2.88E-09	5.62E-09	1.14E-08	1.52E-08	1.81E-08	1.82E-08
cf250	1.73E-09	1.73E-09	1.73E-09	1.74E-09	1.72E-09	1.65E-09	1.56E-09	1.33E-09	1.02E-09
cf251	8.53E-10	8.53E-10	8.53E-10	8.53E-10	8.53E-10	8.52E-10	8.52E-10	8.50E-10	8.46E-10
cf252	2.52E-10	2.52E-10	2.52E-10	2.52E-10	2.36E-10	1.94E-10	1.49E-10	6.80E-11	1.83E-11
cf253	2.17E-13	2.17E-13	2.17E-13	2.09E-13	6.55E-15	1.46E-19	9.81E-26	.00E+00	.00E+00
cf254	8.70E-17	8.70E-17	8.70E-17	8.60E-17	3.10E-17	1.32E-18	2.02E-20	7.12E-26	5.83E-35
cf255	8.67E-21	8.67E-21	8.67E-21	1.32E-25	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
es253	1.91E-13	1.91E-13	1.91E-13	1.92E-13	3.80E-14	6.80E-18	3.30E-23	2.56E-39	.00E+00
es254m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
es254	3.56E-15	3.56E-15	3.56E-15	3.55E-15	2.84E-15	1.42E-15	5.68E-16	3.61E-17	3.66E-19
es255	3.36E-18	3.36E-18	3.36E-18	3.31E-18	6.81E-19	5.11E-21	7.74E-24	2.70E-32	.00E+00
s250	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
total	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 4

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
h 3	1.36E-02	1.36E-02	1.36E-02	1.36E-02	1.34E-02	1.28E-02	1.21E-02	1.03E-02	7.74E-03
li 6	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05
li 7	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06
be 9	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06
be 10	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05
c 14	7.47E-06	7.47E-06	7.47E-06	7.47E-06	7.47E-06	7.47E-06	7.47E-06	7.46E-06	7.46E-06
ni 66	5.76E-10	5.76E-10	5.76E-10	4.25E-10	7.15E-22	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	9.01E-13	9.01E-13	9.01E-13	6.62E-13	1.11E-24	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	1.74E-07	1.74E-07	1.74E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07	1.75E-07

cu 67	7.94E-11	7.94E-11	7.94E-11	6.07E-11	2.42E-21	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	2.31E-08	2.31E-08	2.31E-08	2.31E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08
zn 68	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09
zn 69	4.71E-12	4.71E-12	4.71E-12	1.22E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	5.59E-11	5.59E-11	5.59E-11	1.67E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	7.62E-08	7.62E-08	7.62E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08
zn 70	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06
ga 70	6.89E-14	6.89E-14	6.89E-14	2.12E-34	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09
zn 71	9.82E-12	9.82E-12	9.82E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	4.07E-09	4.07E-09	4.07E-09	6.11E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05
ge 71	7.98E-13	7.98E-13	7.98E-13	7.52E-13	3.41E-15	1.94E-22	4.70E-32	.00E+00	.00E+00
ge 71m	8.27E-21	8.27E-21	8.27E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 72	1.19E-14	1.19E-14	1.19E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	2.12E-11	2.12E-11	2.12E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	1.02E-10	1.02E-10	1.02E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	3.42E-06	3.42E-06	3.42E-06	2.39E-06	3.55E-20	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	1.04E-06	1.04E-06	1.04E-06	9.02E-07	1.54E-20	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	1.29E-03	1.29E-03	1.29E-03	1.29E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03
co 73	6.86E-15	6.86E-15	6.86E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 73	2.80E-12	2.80E-12	2.80E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 73	1.70E-10	1.70E-10	1.70E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 73	1.36E-09	1.36E-09	1.36E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 73	1.03E-06	1.03E-06	1.03E-06	3.38E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 73	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03
ge 73m	2.91E-11	2.91E-11	2.91E-11	9.50E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
co 74	9.82E-16	9.82E-16	9.82E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 74	3.42E-12	3.42E-12	3.42E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 74	2.74E-11	2.74E-11	2.74E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 74	1.39E-08	1.39E-08	1.39E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 74	2.21E-08	2.21E-08	2.21E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 74	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03
co 75	1.80E-16	1.80E-16	1.80E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ni 75	3.96E-13	3.96E-13	3.96E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 75	5.04E-11	5.04E-11	5.04E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 75	3.48E-09	3.48E-09	3.48E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 75	5.25E-08	5.25E-08	5.25E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75	2.09E-06	2.09E-06	2.09E-06	1.24E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 75m	1.08E-09	1.08E-09	1.08E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 75	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02
ni 76	2.11E-13	2.11E-13	2.11E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 76	1.16E-11	1.16E-11	1.16E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 5

0

nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
zn 76	4.24E-09	4.24E-09	4.24E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	3.70E-08	3.70E-08	3.70E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01
as 76	1.65E-06	1.65E-06	1.65E-06	8.78E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 76	6.29E-04	6.29E-04	6.29E-04	6.30E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04
ni 77	1.71E-14	1.71E-14	1.71E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 77	8.14E-12	8.14E-12	8.14E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 77	1.96E-09	1.96E-09	1.96E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 77	3.17E-08	3.17E-08	3.17E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77	3.79E-05	3.79E-05	3.79E-05	8.69E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 77m	1.30E-07	1.30E-07	1.30E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 77	4.03E-04	4.03E-04	4.03E-04	2.85E-04	8.23E-21	.00E+00	.00E+00	.00E+00	.00E+00

FOR INFORMATION ONLY

se 77	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01
se 77m	1.65E-10	1.65E-10	1.65E-10	1.14E-10	3.29E-27	.00E+00	.00E+00	.00E+00	.00E+00
ni 78	4.61E-15	4.61E-15	4.61E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cu 78	1.28E-12	1.28E-12	1.28E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 78	1.79E-09	1.79E-09	1.79E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 78	2.77E-08	2.77E-08	2.77E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 78	4.88E-05	4.88E-05	4.88E-05	5.79E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 78	5.09E-05	5.09E-05	5.09E-05	8.65E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 78	7.24E-01	7.24E-01	7.24E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01
cu 79	3.71E-13	3.71E-13	3.71E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 79	5.92E-10	5.92E-10	5.92E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 79	1.65E-08	1.65E-08	1.65E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 79	3.08E-07	3.08E-07	3.08E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 79	9.49E-06	9.49E-06	9.49E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 79	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00
se 79m	4.08E-06	4.08E-06	4.08E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 79	5.12E-05	5.12E-05	5.12E-05	5.13E-05	5.85E-05	8.07E-05	1.10E-04	1.98E-04	3.46E-04
br 79m	3.00E-14	3.00E-14	3.00E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 79	6.66E-14	6.66E-14	6.66E-14	4.14E-14	1.82E-32	.00E+00	.00E+00	.00E+00	.00E+00
cu 80	2.91E-14	2.91E-14	2.91E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 80	1.23E-10	1.23E-10	1.23E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 80	7.45E-09	7.45E-09	7.45E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 80	1.19E-06	1.19E-06	1.19E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 80	7.11E-07	7.11E-07	7.11E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 80	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00
br 80	3.70E-10	3.70E-10	3.70E-10	6.11E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	3.69E-09	3.69E-09	3.69E-09	8.56E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05
cu 81	2.46E-15	2.46E-15	2.46E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	6.41E-12	6.41E-12	6.41E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 81	3.53E-09	3.53E-09	3.53E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	3.27E-07	3.27E-07	3.27E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 81	2.28E-06	2.28E-06	2.28E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81	7.98E-05	7.98E-05	7.98E-05	2.27E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	1.78E-05	1.78E-05	1.78E-05	4.78E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 81	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00
kr 81	7.13E-07	7.13E-07	7.13E-07	7.13E-07	7.13E-07	7.13E-07	7.13E-07	7.13E-07	7.13E-07
kr 81m	9.94E-14	9.94E-14	9.94E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zn 82	1.50E-12	1.50E-12	1.50E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 82	1.10E-09	1.10E-09	1.10E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 6

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
ge 82	1.92E-07	1.92E-07	1.92E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82	1.30E-06	1.30E-06	1.30E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 82m	3.59E-07	3.59E-07	3.59E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 82	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00
br 82	3.96E-04	3.96E-04	3.96E-04	2.48E-04	1.52E-22	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	9.40E-07	9.40E-07	9.40E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01
zn 83	5.12E-14	5.12E-14	5.12E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 83	6.88E-11	6.88E-11	6.88E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 83	3.59E-08	3.59E-08	3.59E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 83	1.47E-06	1.47E-06	1.47E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83	1.12E-04	1.12E-04	1.12E-04	4.08E-24	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 83m	6.19E-06	6.19E-06	6.19E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 83	1.53E-03	1.53E-03	1.53E-03	1.63E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 83	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01

INFORMATION ONLY

kr 83m	1.16E-03	1.16E-03	1.16E-03	5.36E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ga 84	1.80E-10	1.80E-10	1.80E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 84	1.51E-08	1.51E-08	1.51E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 84	4.51E-07	4.51E-07	4.51E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 84	6.23E-05	6.23E-05	6.23E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84	6.36E-04	6.36E-04	6.36E-04	1.65E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 84m	3.22E-06	3.22E-06	3.22E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 84	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01
ga 85	3.15E-13	3.15E-13	3.15E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	5.49E-10	5.49E-10	5.49E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 85	9.72E-08	9.72E-08	9.72E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85	4.92E-06	4.92E-06	4.92E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	2.59E-06	2.59E-06	2.59E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 85	6.48E-05	6.48E-05	6.48E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	6.65E+00	6.65E+00	6.65E+00	6.65E+00	6.55E+00	6.24E+00	5.85E+00	4.82E+00	3.49E+00
kr 85m	6.08E-03	6.08E-03	6.08E-03	1.50E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	2.80E+01	2.80E+01	2.80E+01	2.80E+01	2.81E+01	2.84E+01	2.88E+01	2.98E+01	3.11E+01
ge 86	1.17E-10	1.17E-10	1.17E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 86	2.45E-08	2.45E-08	2.45E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 86	5.76E-06	5.76E-06	5.76E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86	2.56E-05	2.56E-05	2.56E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	4.85E-06	4.85E-06	4.85E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01
rb 86	2.67E-03	2.67E-03	2.67E-03	2.57E-03	9.38E-05	3.35E-09	4.22E-15	8.39E-33	.00E+00
rb 86m	8.18E-09	8.18E-09	8.18E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	6.19E-02	6.19E-02	6.19E-02	6.20E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02
ge 87	5.35E-10	5.35E-10	5.35E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 87	4.80E-09	4.80E-09	4.80E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 87	1.25E-06	1.25E-06	1.25E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 87	3.41E-05	3.41E-05	3.41E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 87	3.55E-03	3.55E-03	3.55E-03	7.48E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 87	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01
sr 87	3.06E-04	3.06E-04	3.06E-04	3.06E-04	3.06E-04	3.06E-04	3.06E-04	3.06E-04	3.06E-04
sr 87m	5.51E-08	5.51E-08	5.51E-08	1.48E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ge 88	9.21E-13	9.21E-13	9.21E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
as 88	9.66E-10	9.66E-10	9.66E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 88	1.82E-07	1.82E-07	1.82E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 7

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
br 88	9.89E-06	9.89E-06	9.89E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 88	1.11E-02	1.11E-02	1.11E-02	3.17E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 88	1.19E-03	1.19E-03	1.19E-03	3.70E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 88	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02
as 89	1.60E-11	1.60E-11	1.60E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 89	1.77E-08	1.77E-08	1.77E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 89	1.84E-06	1.84E-06	1.84E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 89	2.61E-04	2.61E-04	2.61E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 89	1.35E-03	1.35E-03	1.35E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 89	6.62E+00	6.62E+00	6.62E+00	6.53E+00	1.93E+00	4.43E-02	2.96E-04	8.85E-11	1.18E-21
y 89	1.33E+02	1.33E+02	1.33E+02	1.33E+02	1.37E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02
y 89m	2.28E-09	2.28E-09	2.28E-09	2.23E-09	6.59E-10	1.51E-11	1.01E-13	3.02E-20	4.04E-31
as 90	1.18E-13	1.18E-13	1.18E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 90	4.12E-09	4.12E-09	4.12E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 90	4.43E-07	4.43E-07	4.43E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 90	4.79E-05	4.79E-05	4.79E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90	2.10E-04	2.10E-04	2.10E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 90m	1.12E-04	1.12E-04	1.12E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

sr 90	1.63E+02	1.63E+02	1.63E+02	1.63E+02	1.62E+02	1.59E+02	1.55E+02	1.44E+02	1.27E+02
y 90	4.30E-02	4.30E-02	4.30E-02	4.28E-02	4.20E-02	4.12E-02	4.02E-02	3.74E-02	3.30E-02
y 90m	3.65E-08	3.65E-08	3.65E-08	1.98E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 90	7.74E+00	7.74E+00	7.74E+00	7.75E+00	8.72E+00	1.17E+01	1.56E+01	2.66E+01	4.32E+01
zr 90m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
se 91	2.67E-10	2.67E-10	2.67E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 91	4.62E-08	4.62E-08	4.62E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 91	8.82E-06	8.82E-06	8.82E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 91	1.07E-04	1.07E-04	1.07E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 91	6.74E-02	6.74E-02	6.74E-02	1.18E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 91	1.01E+01	1.01E+01	1.01E+01	1.01E+01	3.51E+00	1.35E-01	1.78E-03	4.09E-09	1.64E-18
y 91m	3.40E-03	3.40E-03	3.40E-03	6.50E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 91	1.69E+02	1.69E+02	1.69E+02	1.69E+02	1.76E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02
nb 91	2.67E-10	2.67E-10	2.67E-10	2.67E-10	2.67E-10	2.67E-10	2.66E-10	2.65E-10	2.64E-10
se 92	1.39E-11	1.39E-11	1.39E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 92	4.84E-09	4.84E-09	4.84E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 92	1.03E-06	1.03E-06	1.03E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 92	7.36E-06	7.36E-06	7.36E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 92	2.06E-02	2.06E-02	2.06E-02	4.44E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 92	2.71E-02	2.71E-02	2.71E-02	8.55E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 92	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02
nb 92	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08
se 93	6.10E-14	6.10E-14	6.10E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 93	6.53E-10	6.53E-10	6.53E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	2.47E-07	2.47E-07	2.47E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	7.80E-06	7.80E-06	7.80E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	1.07E-03	1.07E-03	1.07E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 93	5.92E-02	5.92E-02	5.92E-02	1.15E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 93	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02
nb 93	8.41E-06	8.41E-06	8.41E-06	8.42E-06	9.65E-06	1.44E-05	2.27E-05	6.12E-05	1.65E-04
nb 93m	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.24E-04	1.67E-04	2.22E-04	3.72E-04	5.83E-04
br 94	2.17E-11	2.17E-11	2.17E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 94	1.87E-08	1.87E-08	1.87E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 94	1.93E-06	1.93E-06	1.93E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 8

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
sr 94	1.81E-04	1.81E-04	1.81E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 94	2.93E-03	2.93E-03	2.93E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 94	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02
nb 94	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
nb 94m	3.29E-10	3.29E-10	3.29E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
br 95	2.38E-13	2.38E-13	2.38E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 95	6.61E-09	6.61E-09	6.61E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 95	1.34E-07	1.34E-07	1.34E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 95	5.48E-05	5.48E-05	5.48E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 95	1.72E-03	1.72E-03	1.72E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 95	1.55E+01	1.55E+01	1.55E+01	1.54E+01	5.87E+00	2.98E-01	5.71E-03	4.02E-08	1.04E-16
nb 95	8.53E+00	8.53E+00	8.53E+00	8.53E+00	5.35E+00	3.51E-01	7.08E-03	4.84E-08	1.25E-16
nb 95m	1.01E-02	1.01E-02	1.01E-02	1.00E-02	3.89E-03	1.98E-04	3.79E-06	2.66E-11	6.88E-20
mo 95	2.00E+02	2.00E+02	2.00E+02	2.00E+02	2.13E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02
br 96	4.47E-14	4.47E-14	4.47E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
kr 96	4.35E-10	4.35E-10	4.35E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 96	1.75E-08	1.75E-08	1.75E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 96	1.71E-06	1.71E-06	1.71E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 96	1.57E-05	1.57E-05	1.57E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 96	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02
nb 96	2.59E-04	2.59E-04	2.59E-04	1.27E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

mo 96	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00
kr 97	2.02E-12	2.02E-12	2.02E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 97	4.20E-09	4.20E-09	4.20E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 97	3.46E-07	3.46E-07	3.46E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 97	7.71E-06	7.71E-06	7.71E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 97	1.66E-01	1.66E-01	1.66E-01	6.21E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97	1.19E-02	1.19E-02	1.19E-02	4.44E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 97m	1.56E-04	1.56E-04	1.56E-04	5.81E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 97	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
kr 98	1.17E-12	1.17E-12	1.17E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rb 98	2.82E-10	2.82E-10	2.82E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 98	2.21E-07	2.21E-07	2.21E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 98	1.06E-06	1.06E-06	1.06E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 98	8.98E-05	8.98E-05	8.98E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98	8.43E-06	8.43E-06	8.43E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 98m	7.05E-05	7.05E-05	7.05E-05	2.50E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 98	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
tc 98	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03
rb 99	4.36E-12	4.36E-12	4.36E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr 99	3.65E-08	3.65E-08	3.65E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 99	1.54E-06	1.54E-06	1.54E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr 99	6.09E-06	6.09E-06	6.09E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99	2.82E-05	2.82E-05	2.82E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 99m	2.01E-04	2.01E-04	2.01E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 99	7.60E-01	7.60E-01	7.60E-01	5.91E-01	1.05E-10	.00E+00	.00E+00	.00E+00	.00E+00
tc 99	2.30E+02	2.30E+02	2.30E+02	2.30E+02	2.31E+02	2.31E+02	2.31E+02	2.31E+02	2.31E+02
tc 99m	6.10E-02	6.10E-02	6.10E-02	5.18E-02	9.26E-12	.00E+00	.00E+00	.00E+00	.00E+00
ru 99	9.13E-03	9.13E-03	9.13E-03	9.14E-03	9.34E-03	9.91E-03	1.07E-02	1.29E-02	1.67E-02
rb100	2.25E-12	2.25E-12	2.25E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr100	3.57E-09	3.57E-09	3.57E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y100	2.48E-07	2.48E-07	2.48E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 9

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
zr100	2.05E-05	2.05E-05	2.05E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100	4.70E-06	4.70E-06	4.70E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb100m	7.50E-07	7.50E-07	7.50E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo100	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02
tc100	7.90E-06	7.90E-06	7.90E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01
rb101	1.75E-14	1.75E-14	1.75E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sr101	5.22E-10	5.22E-10	5.22E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y101	8.60E-08	8.60E-08	8.60E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr101	3.36E-06	3.36E-06	3.36E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb101	2.00E-05	2.00E-05	2.00E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo101	2.59E-03	2.59E-03	2.59E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc101	2.52E-03	2.52E-03	2.52E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru101	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
sr102	1.32E-10	1.32E-10	1.32E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y102	7.27E-08	7.27E-08	7.27E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr102	3.41E-06	3.41E-06	3.41E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb102	3.10E-06	3.10E-06	3.10E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo102	1.91E-03	1.91E-03	1.91E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102	1.49E-05	1.49E-05	1.49E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc102m	7.52E-07	7.52E-07	7.52E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru102	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02
rh102	2.17E-04	2.17E-04	2.17E-04	2.17E-04	2.05E-04	1.71E-04	1.35E-04	6.57E-05	1.99E-05
pd102	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

sr103	4.49E-13	4.49E-13	4.49E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y103	6.32E-09	6.32E-09	6.32E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr103	5.65E-07	5.65E-07	5.65E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb103	2.64E-06	2.64E-06	2.64E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo103	1.83E-04	1.83E-04	1.83E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc103	1.50E-04	1.50E-04	1.50E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru103	9.36E+00	9.36E+00	9.36E+00	9.19E+00	1.91E+00	1.48E-02	2.34E-05	9.29E-14	9.22E-28
rh103	1.34E+02	1.34E+02	1.34E+02	1.34E+02	1.42E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02
rh103m	9.27E-03	9.27E-03	9.27E-03	9.11E-03	1.89E-03	1.47E-05	2.32E-08	9.20E-17	9.13E-31
sr104	1.95E-13	1.95E-13	1.95E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y104	8.72E-11	8.72E-11	8.72E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr104	3.30E-07	3.30E-07	3.30E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb104	3.85E-06	3.85E-06	3.85E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo104	1.28E-04	1.28E-04	1.28E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc104	2.46E-03	2.46E-03	2.46E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru104	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02
rh104	4.73E-05	4.73E-05	4.73E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	2.12E-05	2.12E-05	2.12E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd104	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01
y105	1.25E-12	1.25E-12	1.25E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr105	1.86E-08	1.86E-08	1.86E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb105	9.52E-07	9.52E-07	9.52E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo105	5.53E-05	5.53E-05	5.53E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc105	8.43E-04	8.43E-04	8.43E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru105	2.99E-02	2.99E-02	2.99E-02	7.25E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh105	2.32E-01	2.32E-01	2.32E-01	1.66E-01	1.09E-19	.00E+00	.00E+00	.00E+00	.00E+00
rh105m	2.39E-05	2.39E-05	2.39E-05	5.82E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd105	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02

INFORMATION ONLY

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 10

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
y106	1.39E-14	1.39E-14	1.39E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr106	1.59E-09	1.59E-09	1.59E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb106	6.07E-08	6.07E-08	6.07E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo106	7.13E-06	7.13E-06	7.13E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc106	4.67E-05	4.67E-05	4.67E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru106	3.37E+01	3.37E+01	3.37E+01	3.36E+01	2.85E+01	1.70E+01	8.63E+00	1.12E+00	3.71E-02
rh106	3.22E-05	3.22E-05	3.22E-05	3.12E-05	2.64E-05	1.58E-05	8.01E-06	1.04E-06	3.44E-08
rh106m	1.10E-04	1.10E-04	1.10E-04	5.11E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd106	4.57E+01	4.57E+01	4.57E+01	4.58E+01	5.09E+01	6.24E+01	7.08E+01	7.83E+01	7.94E+01
ag106	2.68E-15	2.68E-15	2.68E-15	2.33E-33	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y107	1.31E-16	1.31E-16	1.31E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr107	4.24E-12	4.24E-12	4.24E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb107	8.29E-09	8.29E-09	8.29E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo107	1.19E-06	1.19E-06	1.19E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc107	1.86E-05	1.86E-05	1.86E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru107	2.39E-04	2.39E-04	2.39E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh107	1.39E-03	1.39E-03	1.39E-03	1.80E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd107	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01
pd107m	6.52E-08	6.52E-08	6.52E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag107	7.30E-06	7.30E-06	7.30E-06	7.31E-06	8.64E-06	1.28E-05	1.82E-05	3.46E-05	6.19E-05
zr108	2.68E-13	2.68E-13	2.68E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb108	8.12E-11	8.12E-11	8.12E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo108	7.28E-08	7.28E-08	7.28E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc108	1.54E-06	1.54E-06	1.54E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru108	1.85E-04	1.85E-04	1.85E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108	1.16E-05	1.16E-05	1.16E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108m	4.06E-06	4.06E-06	4.06E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pd108	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01
ag108	2.17E-10	2.17E-10	2.17E-10	1.30E-13	1.30E-13	1.29E-13	1.29E-13	1.27E-13	1.23E-13
ag108m	4.21E-05	4.21E-05	4.21E-05	4.21E-05	4.21E-05	4.19E-05	4.17E-05	4.10E-05	3.99E-05
cd108	4.34E-05	4.34E-05	4.34E-05	4.34E-05	4.34E-05	4.34E-05	4.34E-05	4.35E-05	4.36E-05
zr109	6.67E-17	6.67E-17	6.67E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb109	4.24E-12	4.24E-12	4.24E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo109	7.22E-09	7.22E-09	7.22E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc109	1.41E-07	1.41E-07	1.41E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru109	1.63E-05	1.63E-05	1.63E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109	4.36E-05	4.36E-05	4.36E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	1.36E-05	1.36E-05	1.36E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109	2.97E-02	2.97E-02	2.97E-02	8.84E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	7.34E-07	7.34E-07	7.34E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag109	2.18E+01	2.18E+01	2.18E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01
ag109m	2.39E-05	2.39E-05	2.39E-05	7.10E-06	2.85E-14	1.88E-14	1.09E-14	2.11E-15	1.37E-16
cd109	3.29E-08	3.29E-08	3.29E-08	3.28E-08	2.87E-08	1.90E-08	1.10E-08	2.13E-09	1.38E-10
nb110	7.02E-14	7.02E-14	7.02E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo110	1.49E-09	1.49E-09	1.49E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc110	1.28E-08	1.28E-08	1.28E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru110	2.20E-06	2.20E-06	2.20E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110	8.06E-08	8.06E-08	8.06E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110m	4.90E-06	4.90E-06	4.90E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd110	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00
ag110	4.66E-06	4.66E-06	4.66E-06	1.60E-09	1.25E-09	5.84E-10	2.12E-10	1.01E-11	6.37E-14
ag110m	1.04E-01	1.04E-01	1.04E-01	1.03E-01	8.08E-02	3.77E-02	1.37E-02	6.53E-04	4.11E-06

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 11

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
cd110	5.66E+00	5.66E+00	5.66E+00	5.66E+00	5.68E+00	5.72E+00	5.75E+00	5.76E+00	5.76E+00
nb111	6.56E-16	6.56E-16	6.56E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo111	2.22E-11	2.22E-11	2.22E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc111	5.89E-09	5.89E-09	5.89E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru111	7.75E-08	7.75E-08	7.75E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh111	1.06E-06	1.06E-06	1.06E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd111	1.45E-04	1.45E-04	1.45E-04	2.51E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd111m	9.29E-05	9.29E-05	9.29E-05	4.51E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag111	6.65E-02	6.65E-02	6.65E-02	6.08E-02	1.54E-05	1.16E-16	2.03E-31	.00E+00	.00E+00
ag111m	6.70E-06	6.70E-06	6.70E-06	1.44E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd111	4.98E+00	4.98E+00	4.98E+00	4.98E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00
cd111m	2.40E-07	2.40E-07	2.40E-07	2.89E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb112	1.14E-17	1.14E-17	1.14E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo112	6.07E-12	6.07E-12	6.07E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc112	2.10E-10	2.10E-10	2.10E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru112	5.80E-08	5.80E-08	5.80E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh112	5.87E-08	5.87E-08	5.87E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd112	3.68E-03	3.68E-03	3.68E-03	1.67E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag112	5.50E-04	5.50E-04	5.50E-04	2.92E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd112	2.63E+00	2.63E+00	2.63E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00
mo113	2.68E-14	2.68E-14	2.68E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc113	7.30E-11	7.30E-11	7.30E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru113	1.53E-08	1.53E-08	1.53E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh113	1.70E-08	1.70E-08	1.70E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd113	2.63E-06	2.63E-06	2.63E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag113	5.31E-04	5.31E-04	5.31E-04	2.41E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag113m	3.79E-07	3.79E-07	3.79E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd113	4.52E-02	4.52E-02	4.52E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02
cd113m	2.80E-02	2.80E-02	2.80E-02	2.81E-02	2.77E-02	2.67E-02	2.54E-02	2.19E-02	1.72E-02
in113	1.97E-03	1.97E-03	1.97E-03	1.98E-03	2.31E-03	3.32E-03	4.60E-03	8.08E-03	1.29E-02

INFORMATION ONLY

in113m	1.77E-13	1.77E-13	1.77E-13	7.77E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo114	2.22E-14	2.22E-14	2.22E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc114	3.44E-12	3.44E-12	3.44E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru114	1.50E-08	1.50E-08	1.50E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh114	1.64E-08	1.64E-08	1.64E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd114	3.32E-06	3.32E-06	3.32E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag114	1.08E-07	1.08E-07	1.08E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd114	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00
in114	2.18E-10	2.18E-10	2.18E-10	1.49E-10	4.30E-11	9.11E-13	5.48E-15	1.19E-21	9.42E-33
in114m	9.41E-06	9.41E-06	9.41E-06	9.28E-06	2.67E-06	5.66E-08	3.41E-10	7.43E-17	5.86E-28
sn114	6.61E-05	6.61E-05	6.61E-05	6.62E-05	7.25E-05	7.50E-05	7.51E-05	7.51E-05	7.51E-05
mo115	3.27E-17	3.27E-17	3.27E-17	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc115	1.58E-13	1.58E-13	1.58E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru115	3.72E-10	3.72E-10	3.72E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh115	3.31E-08	3.31E-08	3.31E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd115	5.26E-07	5.26E-07	5.26E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag115	1.32E-05	1.32E-05	1.32E-05	2.88E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag115m	8.28E-08	8.28E-08	8.28E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd115	2.96E-03	2.96E-03	2.96E-03	2.18E-03	2.06E-15	.00E+00	.00E+00	.00E+00	.00E+00
cd115m	2.68E-03	2.68E-03	2.68E-03	2.64E-03	6.63E-04	9.19E-06	3.15E-08	1.26E-15	5.93E-28
in115	4.53E-01	4.53E-01	4.53E-01	4.54E-01	4.58E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01
in115m	2.49E-04	2.49E-04	2.49E-04	1.99E-04	3.07E-10	4.25E-12	1.46E-14	5.84E-22	2.75E-34

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 12

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
sn115	4.55E-02	4.55E-02	4.55E-02	4.55E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02
tc116	2.84E-14	2.84E-14	2.84E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru116	2.36E-10	2.36E-10	2.36E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh116	1.90E-09	1.90E-09	1.90E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd116	1.96E-07	1.96E-07	1.96E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116	2.84E-06	2.84E-06	2.84E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag116m	2.32E-08	2.32E-08	2.32E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd116	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00
in116	3.47E-08	3.47E-08	3.47E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in116m	3.01E-05	3.01E-05	3.01E-05	2.97E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn116	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01
tc117	4.62E-16	4.62E-16	4.62E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru117	7.53E-12	7.53E-12	7.53E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh117	9.56E-10	9.56E-10	9.56E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd117	5.24E-08	5.24E-08	5.24E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117	6.78E-07	6.78E-07	6.78E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag117m	4.97E-08	4.97E-08	4.97E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117	1.46E-04	1.46E-04	1.46E-04	1.84E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd117m	4.51E-05	4.51E-05	4.51E-05	3.20E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117	3.19E-05	3.19E-05	3.19E-05	2.06E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in117m	1.04E-04	1.04E-04	1.04E-04	6.20E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn117	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00
sn117m	9.88E-05	9.88E-05	9.88E-05	9.45E-05	1.01E-06	8.18E-13	6.73E-21	.00E+00	.00E+00
tc118	7.42E-18	7.42E-18	7.42E-18	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru118	2.38E-12	2.38E-12	2.38E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh118	5.96E-11	5.96E-11	5.96E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd118	1.57E-08	1.57E-08	1.57E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118	3.27E-08	3.27E-08	3.27E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag118m	1.23E-08	1.23E-08	1.23E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd118	4.60E-05	4.60E-05	4.60E-05	1.11E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118	7.63E-08	7.63E-08	7.63E-08	1.84E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in118m	5.28E-09	5.28E-09	5.28E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn118	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01

ru119	9.05E-14	9.05E-14	9.05E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh119	3.06E-11	3.06E-11	3.06E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd119	4.56E-09	4.56E-09	4.56E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag119	2.09E-08	2.09E-08	2.09E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119	1.73E-06	1.73E-06	1.73E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	6.82E-07	6.82E-07	6.82E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119	9.69E-07	9.69E-07	9.69E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in119m	1.05E-05	1.05E-05	1.05E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn119	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00
sn119m	2.29E-03	2.29E-03	2.29E-03	2.29E-03	1.85E-03	9.66E-04	4.07E-04	3.05E-05	4.06E-07
ru120	2.08E-14	2.08E-14	2.08E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh120	2.64E-12	2.64E-12	2.64E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd120	5.71E-09	5.71E-09	5.71E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag120	7.90E-09	7.90E-09	7.90E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd120	7.69E-07	7.69E-07	7.69E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120	4.75E-08	4.75E-08	4.75E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in120m	1.26E-08	1.26E-08	1.26E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn120	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00
rh121	1.06E-12	1.06E-12	1.06E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 13

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
pd121	3.96E-10	3.96E-10	3.96E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag121	3.89E-09	3.89E-09	3.89E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd121	2.06E-07	2.06E-07	2.06E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121	3.41E-08	3.41E-08	3.41E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in121m	3.62E-06	3.62E-06	3.62E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121	1.63E-03	1.63E-03	1.63E-03	8.83E-04	4.67E-07	4.63E-07	4.57E-07	4.40E-07	4.13E-07
sn121m	1.08E-02	1.08E-02	1.08E-02	1.08E-02	1.07E-02	1.06E-02	1.05E-02	1.01E-02	9.49E-03
sb121	1.03E+00	1.03E+00	1.03E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00
rh122	5.06E-14	5.06E-14	5.06E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd122	2.88E-10	2.88E-10	2.88E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag122	1.21E-09	1.21E-09	1.21E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd122	8.64E-08	8.64E-08	8.64E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122	2.76E-08	2.76E-08	2.76E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in122m	1.97E-08	1.97E-08	1.97E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn122	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00
sb122	3.32E-04	3.32E-04	3.32E-04	2.57E-04	3.07E-14	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	3.59E-08	3.59E-08	3.59E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te122	4.65E-02	4.65E-02	4.65E-02	4.66E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02
rh123	5.43E-15	5.43E-15	5.43E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd123	1.08E-11	1.08E-11	1.08E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag123	3.96E-10	3.96E-10	3.96E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd123	9.52E-08	9.52E-08	9.52E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123	8.20E-08	8.20E-08	8.20E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in123m	1.79E-07	1.79E-07	1.79E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn123	1.57E-02	1.57E-02	1.57E-02	1.57E-02	9.71E-03	2.22E-03	3.12E-04	8.72E-07	4.84E-11
sn123m	4.31E-05	4.31E-05	4.31E-05	6.67E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb123	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.22E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00
te123	2.99E-04	2.99E-04	2.99E-04	2.99E-04	3.27E-04	3.60E-04	3.67E-04	3.68E-04	3.68E-04
te123m	6.92E-05	6.92E-05	6.92E-05	6.88E-05	4.11E-05	8.34E-06	1.01E-06	1.76E-09	4.49E-14
pd124	1.00E-11	1.00E-11	1.00E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag124	1.96E-10	1.96E-10	1.96E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd124	1.49E-08	1.49E-08	1.49E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in124	9.87E-08	9.87E-08	9.87E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn124	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
sb124	5.48E-03	5.48E-03	5.48E-03	5.41E-03	1.94E-03	8.17E-05	1.22E-06	4.03E-12	2.97E-21
sb124m	2.46E-09	2.46E-09	2.46E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

te124	3.43E-02	3.43E-02	3.43E-02	3.43E-02	3.78E-02	3.97E-02	3.98E-02	3.98E-02	3.98E-02
pd125	7.83E-13	7.83E-13	7.83E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag125	1.19E-10	1.19E-10	1.19E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd125	1.60E-08	1.60E-08	1.60E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125	4.16E-08	4.16E-08	4.16E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in125m	1.67E-07	1.67E-07	1.67E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn125	8.76E-03	8.76E-03	8.76E-03	8.15E-03	1.36E-05	3.44E-14	1.35E-25	.00E+00	.00E+00
sn125m	1.85E-05	1.85E-05	1.85E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb125	1.85E+00	1.85E+00	1.85E+00	1.85E+00	1.74E+00	1.44E+00	1.12E+00	5.22E-01	1.47E-01
te125	8.02E-01	8.02E-01	8.02E-01	8.04E-01	9.14E-01	1.22E+00	1.55E+00	2.15E+00	2.53E+00
te125m	2.33E-02	2.33E-02	2.33E-02	2.33E-02	2.37E-02	2.04E-02	1.59E-02	7.41E-03	2.08E-03
pd126	2.73E-13	2.73E-13	2.73E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag126	2.20E-11	2.20E-11	2.20E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd126	6.17E-09	6.17E-09	6.17E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in126	6.12E-08	6.12E-08	6.12E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn126	4.89E+00	4.89E+00	4.89E+00	4.89E+00	4.89E+00	4.89E+00	4.89E+00	4.89E+00	4.89E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 14

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
sb126	7.63E-04	7.63E-04	7.63E-04	7.22E-04	5.21E-06	2.32E-07	2.32E-07	2.32E-07	2.32E-07
sb126m	1.02E-06	1.02E-06	1.02E-06	1.77E-09	1.77E-09	1.77E-09	1.77E-09	1.77E-09	1.76E-09
te126	7.76E-02	7.76E-02	7.76E-02	7.77E-02	7.84E-02	7.84E-02	7.84E-02	7.85E-02	7.87E-02
xe126	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09
ag127	1.54E-11	1.54E-11	1.54E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd127	5.35E-09	5.35E-09	5.35E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in127	4.37E-08	4.37E-08	4.37E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in127m	1.43E-07	1.43E-07	1.43E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn127	5.72E-04	5.72E-04	5.72E-04	2.07E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn127m	2.51E-05	2.51E-05	2.51E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb127	6.23E-02	6.23E-02	6.23E-02	5.25E-02	5.76E-09	1.72E-30	.00E+00	.00E+00	.00E+00
te127	6.23E-03	6.23E-03	6.23E-03	5.80E-03	6.04E-04	1.05E-04	1.03E-05	9.68E-09	8.76E-14
te127m	2.94E-01	2.94E-01	2.94E-01	2.94E-01	1.72E-01	3.00E-02	2.94E-03	2.77E-06	2.50E-11
i127	1.08E+01	1.08E+01	1.08E+01	1.08E+01	1.10E+01	1.11E+01	1.12E+01	1.12E+01	1.12E+01
xe127	1.45E-07	1.45E-07	1.45E-07	1.43E-07	2.62E-08	1.39E-10	1.32E-13	1.15E-22	9.04E-38
ag128	4.02E-12	4.02E-12	4.02E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd128	9.25E-09	9.25E-09	9.25E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in128	6.18E-08	6.18E-08	6.18E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn128	1.11E-03	1.11E-03	1.11E-03	5.11E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb128	1.07E-03	1.07E-03	1.07E-03	1.77E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb128m	2.06E-04	2.06E-04	2.06E-04	1.09E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te128	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01
i128	1.96E-05	1.96E-05	1.96E-05	8.75E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe128	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01
cd129	1.32E-09	1.32E-09	1.32E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in129	4.70E-08	4.70E-08	4.70E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn129	3.60E-05	3.60E-05	3.60E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn129m	1.09E-04	1.09E-04	1.09E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb129	1.14E-02	1.14E-02	1.14E-02	2.63E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te129	2.84E-03	2.84E-03	2.84E-03	4.39E-04	5.77E-05	1.97E-07	1.05E-10	1.61E-20	6.97E-37
te129m	3.99E-01	3.99E-01	3.99E-01	3.93E-01	6.26E-02	2.14E-04	1.14E-07	1.74E-17	7.56E-34
i129	4.95E+01	4.95E+01	4.95E+01	4.95E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01
xe129	1.18E-03	1.18E-03	1.18E-03	1.18E-03	1.20E-03	1.20E-03	1.21E-03	1.21E-03	1.22E-03
xe129m	2.07E-05	2.07E-05	2.07E-05	1.92E-05	1.86E-08	8.88E-18	3.81E-30	.00E+00	.00E+00
cd130	7.83E-10	7.83E-10	7.83E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in130	1.86E-08	1.86E-08	1.86E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn130	1.69E-04	1.69E-04	1.69E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb130	5.74E-04	5.74E-04	5.74E-04	6.09E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb130m	3.82E-04	3.82E-04	3.82E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

te130	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02
i130	1.31E-03	1.31E-03	1.31E-03	3.43E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i130m	8.33E-06	8.33E-06	8.33E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe130	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00
cd131	2.73E-11	2.73E-11	2.73E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in131	6.83E-09	6.83E-09	6.83E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn131	2.52E-05	2.52E-05	2.52E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb131	2.46E-03	2.46E-03	2.46E-03	3.54E-22	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te131	2.88E-03	2.88E-03	2.88E-03	8.74E-05	3.22E-26	.00E+00	.00E+00	.00E+00	.00E+00
te131m	4.85E-02	4.85E-02	4.85E-02	2.80E-02	1.03E-23	.00E+00	.00E+00	.00E+00	.00E+00
i131	1.57E+00	1.57E+00	1.57E+00	1.46E+00	6.97E-04	3.45E-14	7.30E-28	.00E+00	.00E+00
xe131	1.36E+02	1.36E+02	1.36E+02	1.36E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02
xe131m	2.55E-02	2.55E-02	2.55E-02	2.55E-02	4.00E-04	4.60E-11	2.64E-20	.00E+00	.00E+00

INFORMATION ONLY

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 15

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
cd132	4.27E-12	4.27E-12	4.27E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in132	1.27E-09	1.27E-09	1.27E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn132	2.11E-05	2.11E-05	2.11E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb132	2.70E-04	2.70E-04	2.70E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb132m	1.74E-04	1.74E-04	1.74E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te132	9.25E-01	9.25E-01	9.25E-01	7.48E-01	4.48E-09	.00E+00	.00E+00	.00E+00	.00E+00
i132	2.75E-02	2.75E-02	2.75E-02	2.25E-02	1.35E-10	.00E+00	.00E+00	.00E+00	.00E+00
xe132	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02
cs132	4.00E-05	4.00E-05	4.00E-05	3.59E-05	2.63E-09	4.29E-22	4.59E-39	.00E+00	.00E+00
ba132	4.82E-05	4.82E-05	4.82E-05	4.83E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05
in133	2.45E-11	2.45E-11	2.45E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn133	2.08E-07	2.08E-07	2.08E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb133	2.24E-04	2.24E-04	2.24E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133	1.93E-03	1.93E-03	1.93E-03	5.39E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te133m	7.03E-03	7.03E-03	7.03E-03	1.06E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133	3.55E-01	3.55E-01	3.55E-01	1.64E-01	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i133m	3.25E-06	3.25E-06	3.25E-06	2.93E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe133	2.09E+00	2.09E+00	2.09E+00	2.02E+00	1.76E-05	2.76E-21	2.98E-42	.00E+00	.00E+00
xe133m	2.82E-02	2.82E-02	2.82E-02	2.54E-02	1.94E-14	.00E+00	.00E+00	.00E+00	.00E+00
cs133	3.38E+02	3.38E+02	3.38E+02	3.39E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02
ba133	2.52E-08	2.52E-08	2.52E-08	2.52E-08	2.48E-08	2.36E-08	2.21E-08	1.81E-08	1.30E-08
in134	2.98E-12	2.98E-12	2.98E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn134	2.57E-08	2.57E-08	2.57E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134	2.33E-07	2.33E-07	2.33E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	2.08E-06	2.08E-06	2.08E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te134	1.06E-02	1.06E-02	1.06E-02	4.51E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134	1.67E-02	1.67E-02	1.67E-02	3.90E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i134m	1.02E-04	1.02E-04	1.02E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe134	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02
xe134m	2.79E-08	2.79E-08	2.79E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	2.08E+01	2.08E+01	2.08E+01	2.08E+01	1.92E+01	1.49E+01	1.06E+01	3.88E+00	7.23E-01
cs134m	6.61E-04	6.61E-04	6.61E-04	2.18E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba134	8.91E+00	8.91E+00	8.91E+00	8.93E+00	1.06E+01	1.49E+01	1.91E+01	2.59E+01	2.90E+01
sn135	8.95E-10	8.95E-10	8.95E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb135	2.17E-07	2.17E-07	2.17E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te135	4.34E-05	4.34E-05	4.34E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i135	1.08E-01	1.08E-01	1.08E-01	8.60E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135	7.66E-02	7.66E-02	7.66E-02	4.43E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe135m	9.14E-04	9.14E-04	9.14E-04	5.45E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs135	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02
cs135m	1.03E-04	1.03E-04	1.03E-04	6.85E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba135	3.81E-02	3.81E-02	3.81E-02	3.82E-02	3.82E-02	3.82E-02	3.83E-02	3.84E-02	3.87E-02

ba135m	3.22E-05	3.22E-05	3.22E-05	1.81E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn136	1.36E-10	1.36E-10	1.36E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb136	1.65E-08	1.65E-08	1.65E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te136	1.80E-05	1.80E-05	1.80E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136	1.75E-04	1.75E-04	1.75E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i136m	4.82E-05	4.82E-05	4.82E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe136	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02
cs136	1.34E-01	1.34E-01	1.34E-01	1.27E-01	1.17E-03	5.92E-10	2.61E-18	.00E+00	.00E+00
ba136	4.65E+00	4.65E+00	4.65E+00	4.66E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00
ba136m	4.08E-09	4.08E-09	4.08E-09	3.87E-09	3.56E-11	1.80E-17	7.94E-26	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 16

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
sb137	9.38E-09	9.38E-09	9.38E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te137	1.23E-06	1.23E-06	1.23E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i137	5.54E-05	5.54E-05	5.54E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe137	1.02E-03	1.02E-03	1.02E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs137	3.46E+02	3.46E+02	3.46E+02	3.46E+02	3.44E+02	3.38E+02	3.30E+02	3.08E+02	2.75E+02
ba137	1.43E+01	1.43E+01	1.43E+01	1.43E+01	1.63E+01	2.22E+01	2.99E+01	5.20E+01	8.56E+01
ba137m	5.31E-05	5.31E-05	5.31E-05	5.28E-05	5.25E-05	5.16E-05	5.04E-05	4.71E-05	4.19E-05
sb138	4.92E-11	4.92E-11	4.92E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te138	1.20E-07	1.20E-07	1.20E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i138	7.48E-06	7.48E-06	7.48E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe138	3.54E-03	3.54E-03	3.54E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138	8.77E-03	8.77E-03	8.77E-03	5.21E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	3.36E-05	3.36E-05	3.36E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba138	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02
la138	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03
sb139	4.72E-12	4.72E-12	4.72E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te139	7.94E-09	7.94E-09	7.94E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i139	1.30E-06	1.30E-06	1.30E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe139	1.24E-04	1.24E-04	1.24E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs139	2.37E-03	2.37E-03	2.37E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba139	2.22E-02	2.22E-02	2.22E-02	1.89E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la139	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02
ce139	3.11E-06	3.11E-06	3.11E-06	3.10E-06	1.98E-06	4.95E-07	7.86E-08	3.15E-10	3.19E-14
pr139	2.13E-10	2.13E-10	2.13E-10	4.91E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te140	1.80E-09	1.80E-09	1.80E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i140	1.25E-07	1.25E-07	1.25E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe140	2.98E-05	2.98E-05	2.98E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs140	2.45E-04	2.45E-04	2.45E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba140	4.85E+00	4.85E+00	4.85E+00	4.59E+00	3.64E-02	1.16E-08	2.78E-17	.00E+00	.00E+00
la140	6.59E-01	6.59E-01	6.59E-01	6.46E-01	5.52E-03	1.76E-09	4.22E-18	.00E+00	.00E+00
ce140	3.61E+02	3.61E+02	3.61E+02	3.62E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02	3.67E+02
pr140	9.58E-09	9.58E-09	9.58E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te141	6.64E-12	6.64E-12	6.64E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i141	9.03E-09	9.03E-09	9.03E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe141	1.47E-06	1.47E-06	1.47E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs141	7.39E-05	7.39E-05	7.39E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba141	4.42E-03	4.42E-03	4.42E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la141	5.74E-02	5.74E-02	5.74E-02	8.94E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce141	1.15E+01	1.15E+01	1.15E+01	1.13E+01	1.69E+00	4.77E-03	1.97E-06	1.40E-16	1.70E-33
pr141	3.10E+02	3.10E+02	3.10E+02	3.10E+02	3.20E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02
nd141	5.58E-10	5.58E-10	5.58E-10	6.97E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te142	5.69E-12	5.69E-12	5.69E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i142	1.06E-09	1.06E-09	1.06E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe142	4.13E-07	4.13E-07	4.13E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs142	2.93E-06	2.93E-06	2.93E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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ba142	2.45E-03	2.45E-03	2.45E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la142	2.19E-02	2.19E-02	2.19E-02	4.30E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce142	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02
pr142	6.12E-03	6.12E-03	6.12E-03	2.56E-03	.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	3.23E+00	3.23E+00	3.23E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00
i143	2.57E-11	2.57E-11	2.57E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 17

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
xe143	4.92E-08	4.92E-08	4.92E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs143	1.57E-06	1.57E-06	1.57E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba143	4.82E-05	4.82E-05	4.82E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la143	3.25E-03	3.25E-03	3.25E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce143	4.58E-01	4.58E-01	4.58E-01	2.79E-01	9.13E-21	.00E+00	.00E+00	.00E+00	.00E+00
pr143	4.38E+00	4.38E+00	4.38E+00	4.34E+00	4.92E-02	3.84E-08	3.01E-16	.00E+00	.00E+00
nd143	2.64E+02	2.64E+02	2.64E+02	2.64E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02	2.69E+02
i144	3.79E-13	3.79E-13	3.79E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe144	1.22E-08	1.22E-08	1.22E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs144	2.64E-07	2.64E-07	2.64E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba144	2.96E-05	2.96E-05	2.96E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la144	1.39E-04	1.39E-04	1.39E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce144	8.57E+01	8.57E+01	8.57E+01	8.55E+01	6.89E+01	3.53E+01	1.45E+01	1.01E+00	1.19E-02
pr144	3.62E-03	3.62E-03	3.62E-03	3.60E-03	2.90E-03	1.49E-03	6.11E-04	4.25E-05	5.00E-07
pr144m	2.11E-05	2.11E-05	2.11E-05	2.10E-05	1.69E-05	8.66E-06	3.56E-06	2.48E-07	2.92E-09
nd144	2.56E+02	2.56E+02	2.56E+02	2.56E+02	2.73E+02	3.07E+02	3.27E+02	3.41E+02	3.42E+02
i145	1.59E-14	1.59E-14	1.59E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
xe145	1.01E-09	1.01E-09	1.01E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs145	3.80E-08	3.80E-08	3.80E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba145	5.01E-06	5.01E-06	5.01E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la145	5.89E-05	5.89E-05	5.89E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce145	4.80E-04	4.80E-04	4.80E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr145	5.73E-02	5.73E-02	5.73E-02	3.59E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd145	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02
pm145	7.90E-05	7.90E-05	7.90E-05	7.92E-05	9.38E-05	1.24E-04	1.42E-04	1.43E-04	1.20E-04
sm145	9.31E-05	9.31E-05	9.31E-05	9.29E-05	7.75E-05	4.42E-05	2.10E-05	2.25E-06	5.44E-08
xe146	5.73E-11	5.73E-11	5.73E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs146	4.87E-09	4.87E-09	4.87E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba146	1.33E-06	1.33E-06	1.33E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la146	9.74E-06	9.74E-06	9.74E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce146	1.73E-03	1.73E-03	1.73E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr146	3.11E-03	3.11E-03	3.11E-03	7.92E-21	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd146	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
pm146	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.82E-03	1.65E-03	1.46E-03	1.00E-03	5.35E-04
sm146	1.95E-03	1.95E-03	1.95E-03	1.95E-03	1.97E-03	2.02E-03	2.09E-03	2.24E-03	2.40E-03
xe147	6.43E-14	6.43E-14	6.43E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs147	1.75E-10	1.75E-10	1.75E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba147	7.16E-08	7.16E-08	7.16E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la147	2.96E-06	2.96E-06	2.96E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce147	9.09E-05	9.09E-05	9.09E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr147	1.39E-03	1.39E-03	1.39E-03	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd147	1.62E+00	1.62E+00	1.62E+00	1.52E+00	5.52E-03	1.57E-10	1.52E-20	.00E+00	.00E+00
pm147	5.78E+01	5.78E+01	5.78E+01	5.79E+01	5.57E+01	4.56E+01	3.50E+01	1.59E+01	4.23E+00
sm147	3.03E+01	3.03E+01	3.03E+01	3.03E+01	3.40E+01	4.40E+01	5.46E+01	7.38E+01	8.54E+01
cs148	1.21E-11	1.21E-11	1.21E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba148	1.24E-08	1.24E-08	1.24E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la148	2.25E-07	2.25E-07	2.25E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce148	6.40E-05	6.40E-05	6.40E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

INFORMATION ONLY

pr148	1.80E-04	1.80E-04	1.80E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd148	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02
pm148	1.79E-01	1.79E-01	1.79E-01	1.57E-01	5.80E-04	5.70E-06	1.24E-08	1.28E-16	6.21E-30
pm148m	3.81E-01	3.81E-01	3.81E-01	3.75E-01	8.42E-02	8.29E-04	1.80E-06	1.86E-14	9.04E-28

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 18

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
sm148	2.84E+01	2.84E+01	2.84E+01	2.84E+01	2.88E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01
cs149	1.19E-13	1.19E-13	1.19E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba149	1.60E-09	1.60E-09	1.60E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la149	1.48E-07	1.48E-07	1.48E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce149	3.08E-06	3.08E-06	3.08E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr149	1.24E-04	1.24E-04	1.24E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd149	6.03E-03	6.03E-03	6.03E-03	3.99E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm149	2.49E-01	2.49E-01	2.49E-01	1.87E-01	1.44E-13	.00E+00	.00E+00	.00E+00	.00E+00
sm149	1.17E+00	1.17E+00	1.17E+00	1.23E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00
eu149	3.79E-11	3.79E-11	3.79E-11	3.76E-11	1.94E-11	2.49E-12	1.64E-13	4.68E-17	5.79E-23
cs150	7.79E-15	7.79E-15	7.79E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba150	2.02E-10	2.02E-10	2.02E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la150	6.33E-09	6.33E-09	6.33E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce150	1.07E-06	1.07E-06	1.07E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr150	3.53E-06	3.53E-06	3.53E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd150	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01
pm150	5.92E-05	5.92E-05	5.92E-05	1.19E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm150	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01
eu150	2.14E-07	2.14E-07	2.14E-07	2.14E-07	2.13E-07	2.10E-07	2.06E-07	1.95E-07	1.77E-07
ba151	7.05E-13	7.05E-13	7.05E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la151	1.28E-09	1.28E-09	1.28E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce151	7.82E-08	7.82E-08	7.82E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr151	5.63E-06	5.63E-06	5.63E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd151	3.73E-04	3.73E-04	3.73E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm151	5.17E-02	5.17E-02	5.17E-02	2.90E-02	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm151	6.15E+00	6.15E+00	6.15E+00	6.17E+00	6.19E+00	6.15E+00	6.11E+00	5.97E+00	5.74E+00
eu151	1.55E-02	1.55E-02	1.55E-02	1.56E-02	2.72E-02	6.30E-02	1.10E-01	2.50E-01	4.75E-01
ba152	4.80E-15	4.80E-15	4.80E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
la152	6.93E-12	6.93E-12	6.93E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce152	6.72E-08	6.72E-08	6.72E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr152	6.55E-07	6.55E-07	6.55E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd152	2.30E-04	2.30E-04	2.30E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152	8.57E-05	8.57E-05	8.57E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm152m	5.66E-06	5.66E-06	5.66E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm152	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01
eu152	2.65E-02	2.65E-02	2.65E-02	2.65E-02	2.62E-02	2.52E-02	2.39E-02	2.05E-02	1.58E-02
eu152m	2.51E-05	2.51E-05	2.51E-05	4.21E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd152	2.45E-02	2.45E-02	2.45E-02	2.45E-02	2.46E-02	2.49E-02	2.53E-02	2.62E-02	2.75E-02
la153	4.68E-12	4.68E-12	4.68E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce153	5.33E-09	5.33E-09	5.33E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr153	1.88E-07	1.88E-07	1.88E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd153	1.30E-05	1.30E-05	1.30E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm153	7.53E-05	7.53E-05	7.53E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm153	1.48E-01	1.48E-01	1.48E-01	1.03E-01	1.32E-15	.00E+00	.00E+00	.00E+00	.00E+00
eu153	2.68E+01	2.68E+01	2.68E+01	2.69E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01
gd153	7.13E-04	7.13E-04	7.13E-04	7.11E-04	5.51E-04	2.50E-04	8.77E-05	3.78E-06	2.00E-08
la154	5.64E-14	5.64E-14	5.64E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce154	7.52E-10	7.52E-10	7.52E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr154	8.48E-09	8.48E-09	8.48E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd154	3.79E-06	3.79E-06	3.79E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm154	1.24E-05	1.24E-05	1.24E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

pm154m	4.02E-06	4.02E-06	4.02E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 19

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
sm154	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00
eu154	7.30E+00	7.30E+00	7.30E+00	7.30E+00	7.16E+00	6.73E+00	6.21E+00	4.88E+00	3.26E+00
gd154	6.33E-01	6.33E-01	6.33E-01	6.35E-01	7.77E-01	1.20E+00	1.72E+00	3.06E+00	4.67E+00
la155	2.88E-16	2.88E-16	2.88E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ce155	1.71E-11	1.71E-11	1.71E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr155	1.98E-09	1.98E-09	1.98E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd155	5.96E-07	5.96E-07	5.96E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm155	3.63E-06	3.63E-06	3.63E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm155	1.23E-04	1.23E-04	1.23E-04	4.63E-24	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu155	3.12E+00	3.12E+00	3.12E+00	3.12E+00	3.01E+00	2.69E+00	2.32E+00	1.49E+00	7.10E-01
gd155m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155	5.34E-02	5.34E-02	5.34E-02	5.46E-02	1.65E-01	4.83E-01	8.54E-01	1.69E+00	2.47E+00
ce156	1.51E-12	1.51E-12	1.51E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr156	9.59E-11	9.59E-11	9.59E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd156	2.27E-07	2.27E-07	2.27E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm156	4.95E-07	4.95E-07	4.95E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm156	1.97E-03	1.97E-03	1.97E-03	3.36E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu156	3.13E-01	3.13E-01	3.13E-01	3.01E-01	5.19E-03	1.81E-08	1.04E-15	.00E+00	.00E+00
gd156	9.00E+00	9.00E+00	9.00E+00	9.01E+00	9.31E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00
ce157	2.60E-14	2.60E-14	2.60E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr157	1.46E-11	1.46E-11	1.46E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd157	7.14E-09	7.14E-09	7.14E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm157	1.02E-06	1.02E-06	1.02E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm157	1.74E-05	1.74E-05	1.74E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu157	2.31E-03	2.31E-03	2.31E-03	7.80E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd157	2.88E-02	2.88E-02	2.88E-02	3.03E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02
pr158	3.40E-13	3.40E-13	3.40E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd158	1.29E-09	1.29E-09	1.29E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm158	1.68E-08	1.68E-08	1.68E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm158	6.11E-06	6.11E-06	6.11E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu158	5.75E-05	5.75E-05	5.75E-05	2.32E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd158	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
pr159	1.49E-14	1.49E-14	1.49E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd159	2.75E-11	2.75E-11	2.75E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm159	2.99E-09	2.99E-09	2.99E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm159	1.21E-06	1.21E-06	1.21E-06	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu159	1.14E-05	1.14E-05	1.14E-05	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd159	8.20E-04	8.20E-04	8.20E-04	3.40E-04	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb159	5.02E-01	5.02E-01	5.02E-01	5.03E-01	5.03E-01	5.03E-01	5.03E-01	5.03E-01	5.03E-01
nd160	1.99E-12	1.99E-12	1.99E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm160	8.10E-11	8.10E-11	8.10E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm160	1.60E-07	1.60E-07	1.60E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu160	1.87E-07	1.87E-07	1.87E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd160	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01
tb160	8.91E-03	8.91E-03	8.91E-03	8.83E-03	3.76E-03	2.69E-04	8.10E-06	2.22E-10	5.53E-18
dy160	3.04E-02	3.04E-02	3.04E-02	3.05E-02	3.55E-02	3.90E-02	3.93E-02	3.93E-02	3.93E-02
nd161	3.04E-14	3.04E-14	3.04E-14	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm161	9.99E-12	9.99E-12	9.99E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm161	2.24E-09	2.24E-09	2.24E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu161	6.86E-08	6.86E-08	6.86E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd161	5.03E-07	5.03E-07	5.03E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb161	1.44E-03	1.44E-03	1.44E-03	1.30E-03	1.71E-07	1.68E-19	1.96E-35	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 20

INFORMATION ONLY

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	charge	discharge	.0 d	1.0 d	90.0 d	365.3 d	730.5 d	1826.3 d	3652.5 d
dy161	8.12E-02	8.12E-02	8.12E-02	8.13E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02
pm162	2.17E-13	2.17E-13	2.17E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm162	3.58E-10	3.58E-10	3.58E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu162	6.73E-08	6.73E-08	6.73E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd162	4.94E-07	4.94E-07	4.94E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162	4.65E-07	4.65E-07	4.65E-07	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb162m	1.49E-07	1.49E-07	1.49E-07	8.55E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy162	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02
sm163	6.78E-12	6.78E-12	6.78E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu163	6.20E-10	6.20E-10	6.20E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd163	3.23E-08	3.23E-08	3.23E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb163	4.70E-07	4.70E-07	4.70E-07	.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	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02
sm164	4.86E-13	4.86E-13	4.86E-13	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu164	1.47E-11	1.47E-11	1.47E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd164	1.35E-07	1.35E-07	1.35E-07	1.38E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb164	2.63E-08	2.63E-08	2.63E-08	2.21E-28	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy164	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
sm165	7.20E-15	7.20E-15	7.20E-15	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
eu165	1.41E-12	1.41E-12	1.41E-12	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd165	9.57E-10	9.57E-10	9.57E-10	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tb165	6.35E-09	6.35E-09	6.35E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165	3.09E-06	3.09E-06	3.09E-06	2.50E-09	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy165m	2.11E-08	2.11E-08	2.11E-08	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ho165	9.49E-03	9.49E-03	9.49E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03
dy166	2.61E-06	2.61E-06	2.61E-06	2.13E-06	2.82E-14	.00E+00	.00E+00	.00E+00	.00E+00
ho166	6.02E-06	6.02E-06	6.02E-06	3.59E-06	1.38E-14	.00E+00	.00E+00	.00E+00	.00E+00
ho166m	2.38E-05	2.38E-05	2.38E-05	2.38E-05	2.38E-05	2.38E-05	2.38E-05	2.37E-05	2.37E-05
er166	1.54E-03	1.54E-03	1.54E-03	1.54E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03
er167	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05
er167m	6.33E-16	6.33E-16	6.33E-16	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05
yb168	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er169	1.23E-08	1.23E-08	1.23E-08	1.14E-08	1.61E-11	2.47E-20	4.97E-32	.00E+00	.00E+00
tm169	7.29E-07	7.29E-07	7.29E-07	7.30E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07
yb169	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er170	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07
tm170	9.71E-10	9.71E-10	9.71E-10	9.66E-10	5.98E-10	1.36E-10	1.89E-11	5.15E-14	2.73E-18
tm170m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
yb170	3.65E-09	3.65E-09	3.65E-09	3.66E-09	4.02E-09	4.49E-09	4.60E-09	4.62E-09	4.62E-09
er171	5.73E-10	5.73E-10	5.73E-10	6.27E-11	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tm171	6.82E-07	6.82E-07	6.82E-07	6.82E-07	6.24E-07	4.76E-07	3.31E-07	1.12E-07	1.85E-08
yb171	3.69E-07	3.69E-07	3.69E-07	3.70E-07	4.27E-07	5.76E-07	7.20E-07	9.39E-07	1.03E-06
er172	2.37E-09	2.37E-09	2.37E-09	1.69E-09	1.54E-22	.00E+00	.00E+00	.00E+00	.00E+00
tm172	3.20E-09	3.20E-09	3.20E-09	3.06E-09	8.23E-19	.00E+00	.00E+00	.00E+00	.00E+00
yb172	6.67E-07	6.67E-07	6.67E-07	6.68E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07
total	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03

INFORMATION ONLY

1 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 21

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
he 4	2.09E-01	2.70E-01	3.35E-01	4.74E-01	7.72E-01	1.51E+00	2.18E+00	2.79E+00	3.36E+00	3.87E+00	4.81E+00
tl206	1.29E-22	3.23E-22	6.46E-22	1.79E-21	6.59E-21	3.78E-20	1.01E-19	2.00E-19	3.34E-19	5.04E-19	9.52E-19
tl207	2.29E-14	3.24E-14	4.16E-14	5.93E-14	9.27E-14	1.71E-13	2.47E-13	3.22E-13	3.98E-13	4.73E-13	6.23E-13
tl208	1.13E-11	1.22E-11	1.22E-11	1.12E-11	9.22E-12	5.61E-12	3.41E-12	2.08E-12	1.26E-12	7.70E-13	2.85E-13

tl209	8.79E-19	1.21E-18	1.58E-18	2.46E-18	4.80E-18	1.44E-17	3.01E-17	5.28E-17	8.35E-17	1.23E-16	2.31E-16
pb206	2.81E-11	9.66E-11	2.48E-10	9.95E-10	6.06E-09	7.08E-08	2.91E-07	7.77E-07	1.65E-06	3.02E-06	7.74E-06
pb207	1.01E-08	2.07E-08	3.48E-08	7.35E-08	1.90E-07	6.97E-07	1.50E-06	2.59E-06	3.97E-06	5.64E-06	9.84E-06
pb208	2.38E-05	4.36E-05	6.40E-05	1.03E-04	1.71E-04	2.91E-04	3.65E-04	4.09E-04	4.37E-04	4.53E-04	4.69E-04
pb209	3.71E-15	5.09E-15	6.66E-15	1.04E-14	2.03E-14	6.08E-14	1.27E-13	2.23E-13	3.53E-13	5.19E-13	9.74E-13
pb210	2.79E-10	6.96E-10	1.39E-09	3.85E-09	1.42E-08	8.16E-08	2.19E-07	4.31E-07	7.20E-07	1.09E-06	2.05E-06
pb211	1.77E-13	2.51E-13	3.22E-13	4.58E-13	7.17E-13	1.32E-12	1.91E-12	2.49E-12	3.08E-12	3.66E-12	4.82E-12
pb212	6.68E-09	7.26E-09	7.21E-09	6.65E-09	5.46E-09	3.32E-09	2.02E-09	1.23E-09	7.50E-10	4.56E-10	1.69E-10
pb214	5.12E-15	9.83E-15	1.61E-14	3.34E-14	8.76E-14	3.41E-13	7.70E-13	1.38E-12	2.17E-12	3.14E-12	5.62E-12
bi208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bi209	6.31E-11	1.04E-10	1.59E-10	3.16E-10	8.78E-10	4.48E-09	1.30E-08	2.91E-08	5.57E-08	9.61E-08	2.33E-07
bi210m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bi210	1.72E-13	4.29E-13	8.58E-13	2.37E-12	8.75E-12	5.02E-11	1.35E-10	2.65E-10	4.43E-10	6.69E-10	1.26E-09
bi211	1.05E-14	1.49E-14	1.91E-14	2.72E-14	4.25E-14	7.84E-14	1.13E-13	1.48E-13	1.82E-13	2.17E-13	2.86E-13
bi212	6.34E-10	6.89E-10	6.84E-10	6.30E-10	5.18E-10	3.15E-10	1.92E-10	1.17E-10	7.11E-11	4.33E-11	1.61E-11
bi213	8.84E-16	1.21E-15	1.59E-15	2.47E-15	4.83E-15	1.45E-14	3.02E-14	5.31E-14	8.40E-14	1.24E-13	2.32E-13
bi214	3.81E-15	7.30E-15	1.20E-14	2.48E-14	6.50E-14	2.53E-13	5.72E-13	1.02E-12	1.61E-12	2.33E-12	4.17E-12
po210	4.74E-12	1.18E-11	2.37E-11	6.55E-11	2.42E-10	1.39E-09	3.71E-09	7.32E-09	1.22E-08	1.85E-08	3.49E-08
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
po211	1.16E-19	1.64E-19	2.11E-19	3.00E-19	4.70E-19	8.66E-19	1.25E-18	1.63E-18	2.01E-18	2.40E-18	3.16E-18
po212	3.33E-20	3.62E-20	3.59E-20	3.31E-20	2.72E-20	1.66E-20	1.01E-20	6.14E-21	3.74E-21	2.27E-21	8.44E-22
po213	1.33E-24	1.82E-24	2.38E-24	3.72E-24	7.26E-24	2.17E-23	4.55E-23	7.99E-23	1.26E-22	1.86E-22	3.49E-22
po214	5.24E-22	1.00E-21	1.65E-21	3.42E-21	8.95E-21	3.48E-20	7.86E-20	1.41E-19	2.21E-19	3.21E-19	5.74E-19
po215	1.48E-19	2.10E-19	2.69E-19	3.84E-19	6.00E-19	1.11E-18	1.60E-18	2.09E-18	2.58E-18	3.06E-18	4.04E-18
po216	2.58E-14	2.80E-14	2.78E-14	2.56E-14	2.11E-14	1.28E-14	7.80E-15	4.75E-15	2.89E-15	1.76E-15	6.53E-16
po218	6.04E-16	1.16E-15	1.90E-15	3.94E-15	1.03E-14	4.02E-14	9.07E-14	1.62E-13	2.56E-13	3.70E-13	6.62E-13
at217	1.06E-20	1.46E-20	1.91E-20	2.98E-20	5.81E-20	1.74E-19	3.64E-19	6.39E-19	1.01E-18	1.49E-18	2.79E-18
rn218	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rn219	3.36E-16	4.75E-16	6.10E-16	8.70E-16	1.36E-15	2.51E-15	3.62E-15	4.73E-15	5.84E-15	6.94E-15	9.14E-15
rn220	1.01E-11	1.09E-11	1.09E-11	1.00E-11	8.23E-12	5.01E-12	3.05E-12	1.85E-12	1.13E-12	6.88E-13	2.55E-13
rn222	1.09E-12	2.10E-12	3.43E-12	7.13E-12	1.87E-11	7.27E-11	1.64E-10	2.94E-10	4.62E-10	6.69E-10	1.20E-09
fr221	9.86E-17	1.35E-16	1.77E-16	2.76E-16	5.39E-16	1.61E-15	3.37E-15	5.93E-15	9.36E-15	1.38E-14	2.59E-14
fr223	1.56E-15	2.20E-15	2.83E-15	4.03E-15	6.31E-15	1.16E-14	1.68E-14	2.19E-14	2.71E-14	3.22E-14	4.24E-14
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	8.54E-11	1.21E-10	1.55E-10	2.21E-10	3.46E-10	6.37E-10	9.20E-10	1.20E-09	1.48E-09	1.76E-09	2.32E-09
ra224	5.83E-08	6.33E-08	6.29E-08	5.80E-08	4.77E-08	2.90E-08	1.76E-08	1.07E-08	6.54E-09	3.98E-09	1.48E-09
ra225	4.37E-13	5.99E-13	7.84E-13	1.22E-12	2.39E-12	7.15E-12	1.49E-11	2.62E-11	4.15E-11	6.10E-11	1.15E-10
ra226	1.70E-07	3.26E-07	5.34E-07	1.11E-06	2.91E-06	1.13E-05	2.55E-05	4.57E-05	7.19E-05	1.04E-04	1.86E-04
ra228	9.44E-14	1.62E-13	2.37E-13	3.96E-13	7.24E-13	1.55E-12	2.38E-12	3.22E-12	4.05E-12	4.89E-12	6.71E-12
ac225	2.95E-13	4.05E-13	5.29E-13	8.25E-13	1.61E-12	4.83E-12	1.01E-11	1.77E-11	2.80E-11	4.12E-11	7.74E-11
ac227	6.04E-08	8.54E-08	1.10E-07	1.56E-07	2.44E-07	4.51E-07	6.51E-07	8.50E-07	1.05E-06	1.25E-06	1.64E-06
ac228	1.15E-17	1.98E-17	2.89E-17	4.83E-17	8.84E-17	1.90E-16	2.91E-16	3.93E-16	4.95E-16	5.97E-16	8.19E-16
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	1.40E-10	1.98E-10	2.55E-10	3.63E-10	5.68E-10	1.05E-09	1.51E-09	1.97E-09	2.44E-09	2.90E-09	3.82E-09
th228	1.13E-05	1.23E-05	1.22E-05	1.13E-05	9.26E-06	5.63E-06	3.43E-06	2.09E-06	1.27E-06	7.74E-07	2.87E-07
th229	8.64E-08	1.19E-07	1.55E-07	2.42E-07	4.72E-07	1.41E-06	2.96E-06	5.19E-06	8.21E-06	1.21E-05	2.27E-05
th230	2.89E-03	4.04E-03	5.21E-03	7.59E-03	1.25E-02	2.55E-02	3.93E-02	5.35E-02	6.81E-02	8.29E-02	1.13E-01
th231	2.56E-08	2.56E-08	2.56E-08	2.56E-08	2.56E-08	2.56E-08	2.57E-08	2.57E-08	2.57E-08	2.57E-08	2.57E-08

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 22

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
th232	4.95E-04	7.01E-04	9.07E-04	1.32E-03	2.14E-03	4.21E-03	6.27E-03	8.35E-03	1.04E-02	1.25E-02	1.67E-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	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06
pa231	3.37E-04	3.67E-04	3.98E-04	4.59E-04	5.80E-04	8.85E-04	1.19E-03	1.49E-03	1.80E-03	2.10E-03	2.71E-03
pa232	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pa233	4.41E-06	4.46E-06	4.53E-06	4.68E-06	5.05E-06	6.05E-06	7.00E-06	7.88E-06	8.70E-06	9.45E-06	1.08E-05
pa234m	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10

pa234	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11
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	4.60E-04	4.62E-04	4.47E-04	4.07E-04	3.34E-04	2.03E-04	1.24E-04	7.54E-05	4.59E-05	2.79E-05	1.04E-05
u233	1.40E-03	1.60E-03	1.81E-03	2.25E-03	3.16E-03	5.76E-03	8.82E-03	1.23E-02	1.62E-02	2.04E-02	2.99E-02
u234	8.28E+01	8.39E+01	8.49E+01	8.68E+01	9.03E+01	9.69E+01	1.01E+02	1.04E+02	1.06E+02	1.08E+02	1.09E+02
u235	6.30E+03	6.30E+03	6.30E+03	6.30E+03	6.30E+03	6.31E+03	6.31E+03	6.31E+03	6.32E+03	6.32E+03	6.33E+03
u236	1.41E+03	1.41E+03	1.41E+03	1.42E+03	1.42E+03	1.42E+03	1.42E+03	1.43E+03	1.43E+03	1.43E+03	1.44E+03
u237	7.57E-06	5.94E-06	4.67E-06	2.88E-06	1.10E-06	9.79E-08	8.74E-09	7.83E-10	7.20E-11	8.48E-12	2.28E-12
u238	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	6.17E-22	9.15E-22	1.21E-21	1.81E-21	3.00E-21	5.99E-21	8.97E-21	1.20E-20	1.49E-20	1.79E-20	2.39E-20
u241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np235	5.36E-09	2.20E-10	9.00E-12	1.51E-14	4.24E-20	5.62E-34	.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	3.71E-04	3.71E-04	3.71E-04	3.71E-04	3.71E-04	3.70E-04	3.70E-04	3.70E-04	3.70E-04	3.70E-04	3.70E-04
np237	1.30E+02	1.31E+02	1.33E+02	1.38E+02	1.49E+02	1.78E+02	2.06E+02	2.32E+02	2.56E+02	2.78E+02	3.17E+02
np238	7.48E-08	7.30E-08	7.12E-08	6.78E-08	6.14E-08	4.81E-08	3.76E-08	2.94E-08	2.30E-08	1.80E-08	1.10E-08
np239	8.67E-06	8.67E-06	8.66E-06	8.65E-06	8.64E-06	8.60E-06	8.56E-06	8.52E-06	8.48E-06	8.44E-06	8.36E-06
np240m	5.27E-24	7.81E-24	1.04E-23	1.54E-23	2.56E-23	5.11E-23	7.65E-23	1.02E-22	1.27E-22	1.53E-22	2.04E-22
np240	5.42E-26	8.04E-26	1.07E-25	1.59E-25	2.64E-25	5.26E-25	7.87E-25	1.05E-24	1.31E-24	1.57E-24	2.10E-24
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	3.60E-05	1.09E-05	3.30E-06	3.03E-07	3.37E-09	8.32E-10	8.31E-10	8.31E-10	8.31E-10	8.30E-10	8.30E-10
pu237	5.08E-30	3.32E-42	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu238	2.81E+01	2.71E+01	2.60E+01	2.41E+01	2.06E+01	1.39E+01	9.40E+00	6.36E+00	4.31E+00	2.92E+00	1.35E+00
pu239	2.63E+03	2.63E+03	2.63E+03	2.63E+03	2.63E+03	2.62E+03	2.62E+03	2.62E+03	2.61E+03	2.61E+03	2.60E+03
pu240	6.72E+02	6.72E+02	6.71E+02	6.71E+02	6.70E+02	6.66E+02	6.63E+02	6.59E+02	6.56E+02	6.52E+02	6.46E+02
pu241	2.50E+02	1.96E+02	1.54E+02	9.50E+01	3.62E+01	3.23E+00	2.88E-01	2.58E-02	2.37E-03	2.80E-04	7.54E-05
pu242	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01	7.08E+01
pu243	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15
pu244	3.12E-11	4.63E-11	6.15E-11	9.17E-11	1.52E-10	3.03E-10	4.54E-10	6.05E-10	7.56E-10	9.07E-10	1.21E-09
pu245	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu246	1.25E-21	1.25E-21	1.25E-21	1.25E-21	1.25E-21	1.24E-21	1.24E-21	1.24E-21	1.24E-21	1.23E-21	1.23E-21
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	1.71E+02	2.23E+02	2.63E+02	3.17E+02	3.65E+02	3.68E+02	3.42E+02	3.16E+02	2.92E+02	2.69E+02	2.30E+02
am242m	4.11E-01	4.01E-01	3.91E-01	3.73E-01	3.38E-01	2.64E-01	2.07E-01	1.62E-01	1.26E-01	9.88E-02	6.05E-02
am242	5.30E-06	5.18E-06	5.05E-06	4.81E-06	4.36E-06	3.41E-06	2.67E-06	2.08E-06	1.63E-06	1.28E-06	7.80E-07
am243	1.01E+01	1.01E+01	1.01E+01	1.01E+01	1.00E+01	9.99E+00	9.94E+00	9.90E+00	9.85E+00	9.80E+00	9.71E+00
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	2.19E-20	4.18E-22	8.01E-24	2.94E-27	3.94E-34	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
am246	3.12E-24	3.12E-24	3.12E-24	3.12E-24	3.12E-24	3.11E-24	3.10E-24	3.10E-24	3.09E-24	3.08E-24	3.07E-24
cm241	3.38E-43	.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 B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 23

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
cm242	1.07E-03	1.05E-03	1.02E-03	9.71E-04	8.80E-04	6.88E-04	5.38E-04	4.21E-04	3.29E-04	2.57E-04	1.57E-04
cm243	4.73E-02	4.18E-02	3.71E-02	2.91E-02	1.79E-02	5.29E-03	1.57E-03	4.65E-04	1.38E-04	4.08E-05	3.59E-06
cm244	1.03E+00	8.54E-01	7.05E-01	4.81E-01	2.24E-01	3.29E-02	4.85E-03	7.15E-04	1.05E-04	1.55E-05	3.37E-07
cm245	4.58E-02	4.58E-02	4.58E-02	4.57E-02	4.56E-02	4.55E-02	4.53E-02	4.51E-02	4.49E-02	4.47E-02	4.44E-02
cm246	2.99E-03	2.99E-03	2.99E-03	2.98E-03	2.98E-03	2.95E-03	2.93E-03	2.91E-03	2.89E-03	2.87E-03	2.83E-03
cm247	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05
cm248	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.64E-06
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm250	2.98E-15	2.98E-15	2.98E-15	2.97E-15	2.97E-15	2.97E-15	2.96E-15	2.95E-15	2.95E-15	2.94E-15	2.93E-15
cm251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

bk249	5.74E-12	1.10E-13	2.10E-15	7.71E-19	1.03E-25	6.98E-43	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bk250	1.84E-22	1.06E-23	8.80E-24	8.78E-24	8.77E-24	8.76E-24	8.74E-24	8.72E-24	8.71E-24	8.69E-24	8.65E-24
bk251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf249	1.82E-08	1.80E-08	1.78E-08	1.75E-08	1.68E-08	1.52E-08	1.38E-08	1.25E-08	1.13E-08	1.02E-08	8.41E-09
cf250	1.02E-09	7.85E-10	6.02E-10	3.55E-10	1.23E-10	8.68E-12	6.14E-13	4.34E-14	3.06E-15	2.17E-16	1.39E-18
cf251	8.46E-10	8.43E-10	8.40E-10	8.33E-10	8.21E-10	7.90E-10	7.60E-10	7.31E-10	7.03E-10	6.77E-10	6.26E-10
cf252	1.83E-11	4.95E-12	1.33E-12	9.71E-14	5.14E-16	1.05E-21	2.13E-27	4.34E-33	8.84E-39	.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	5.83E-35	.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	3.66E-19	3.71E-21	3.76E-23	3.86E-27	4.07E-35	.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	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 24

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
h 3	7.74E-03	5.84E-03	4.41E-03	2.51E-03	8.17E-04	4.91E-05	2.95E-06	1.78E-07	1.07E-08	6.43E-10	2.32E-12
li 6	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05
li 7	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06
be 9	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06
be 10	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05
c 14	7.46E-06	7.45E-06	7.45E-06	7.44E-06	7.42E-06	7.38E-06	7.33E-06	7.29E-06	7.25E-06	7.20E-06	7.12E-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	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
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	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08
zn 68	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-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	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08
zn 70	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-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	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-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	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-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	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-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	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03
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	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-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	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02
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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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 25
0
nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
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	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-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	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-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	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-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	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01
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	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.39E+00	1.39E+00	1.39E+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	3.46E-04	4.93E-04	6.40E-04	9.35E-04	1.52E-03	2.99E-03	4.46E-03	5.93E-03	7.40E-03	8.86E-03	1.18E-02
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	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+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	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05
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	.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	.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	.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	.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	.00E+00
br 81	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00
kr 81	7.13E-07	7.13E-07	7.12E-07	7.12E-07	7.12E-07	7.12E-07	7.12E-07	7.12E-07	7.12E-07	7.12E-07	7.12E-07	7.12E-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	.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	.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	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 26

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
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	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+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	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01
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	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+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	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01
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	3.49E+00	2.52E+00	1.83E+00	9.56E-01	2.62E-01	1.03E-02	4.08E-04	1.61E-05	6.34E-07	2.50E-08	3.89E-11
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	3.11E+01	3.21E+01	3.28E+01	3.37E+01	3.44E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01
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	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01
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	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-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	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01
sr 87	3.06E-04	3.06E-04	3.06E-04	3.06E-04	3.06E-04	3.06E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-04	3.07E-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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 27

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
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	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+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	1.18E-21	1.57E-32	2.49E-43	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 89	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02
y 89m	4.04E-31	5.74E-42	.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	1.27E+02	1.12E+02	9.93E+01	7.77E+01	4.75E+01	1.39E+01	4.04E+00	1.18E+00	3.45E-01	1.01E-01	8.57E-03
y 90	3.30E-02	2.92E-02	2.58E-02	2.02E-02	1.23E-02	3.60E-03	1.05E-03	3.07E-04	8.95E-05	2.61E-05	2.23E-06
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	4.32E+01	5.80E+01	7.10E+01	9.27E+01	1.23E+02	1.56E+02	1.66E+02	1.69E+02	1.70E+02	1.70E+02	1.70E+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	1.64E-18	6.59E-28	2.64E-37	.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	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02
nb 91	2.64E-10	2.63E-10	2.61E-10	2.59E-10	2.54E-10	2.41E-10	2.29E-10	2.18E-10	2.07E-10	1.97E-10	1.77E-10
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	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02
nb 92	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08
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	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02
nb 93	1.65E-04	3.09E-04	4.86E-04	9.15E-04	1.96E-03	4.96E-03	8.09E-03	1.12E-02	1.44E-02	1.75E-02	2.38E-02

nb 93m	5.83E-04	7.53E-04	8.91E-04	1.09E-03	1.31E-03	1.45E-03	1.46E-03	1.46E-03	1.46E-03	1.46E-03	1.46E-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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 28

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
sr 94	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
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	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02
nb 94	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	1.24E-04	1.24E-04	1.24E-04	1.24E-04	1.24E-04	1.23E-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	1.04E-16	2.68E-25	6.91E-34	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95	1.25E-16	3.22E-25	8.31E-34	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb 95m	6.88E-20	1.78E-28	4.44E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo 95	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+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	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+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	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+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	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	2.17E+02	2.17E+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	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
tc 98	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03
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	2.31E+02	2.31E+02	2.31E+02	2.31E+02	2.31E+02	2.30E+02	2.30E+02	2.30E+02	2.30E+02	2.30E+02	2.30E+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	1.67E-02	2.05E-02	2.43E-02	3.19E-02	4.70E-02	8.48E-02	1.23E-01	1.61E-01	1.98E-01	2.36E-01	3.12E-01
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 29

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
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	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+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	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01
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	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
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	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02
rh102	1.99E-05	6.02E-06	1.82E-06	1.67E-07	1.40E-09	9.04E-15	5.83E-20	3.76E-25	2.43E-30	1.56E-35	.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	9.22E-28	9.09E-42	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh103	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02
rh103m	9.13E-31	.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	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+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	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+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	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02

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0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
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	3.71E-02	1.23E-03	4.08E-05	4.48E-08	5.42E-14	8.72E-29	1.49E-43	.00E+00	.00E+00	.00E+00	.00E+00
rh106	3.44E-08	1.14E-09	3.78E-11	4.16E-14	5.03E-20	8.09E-35	.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	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+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	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+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	6.19E-05	8.92E-05	1.16E-04	1.71E-04	2.80E-04	5.53E-04	8.26E-04	1.10E-03	1.37E-03	1.65E-03	2.19E-03
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	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01
ag108	1.23E-13	1.20E-13	1.17E-13	1.10E-13	9.90E-14	7.53E-14	5.73E-14	4.36E-14	3.32E-14	2.53E-14	1.47E-14
ag108m	3.99E-05	3.88E-05	3.78E-05	3.58E-05	3.21E-05	2.44E-05	1.86E-05	1.41E-05	1.08E-05	8.19E-06	4.75E-06
cd108	4.36E-05	4.37E-05	4.38E-05	4.39E-05	4.43E-05	4.49E-05	4.54E-05	4.58E-05	4.61E-05	4.63E-05	4.66E-05
zr109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag109	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01
ag109m	1.37E-16	8.87E-18	5.74E-19	2.41E-21	4.25E-26	5.54E-38	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd109	1.38E-10	8.95E-12	5.80E-13	2.43E-15	4.29E-20	5.60E-32	.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	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00
ag110	6.37E-14	4.01E-16	2.52E-18	9.99E-23	1.56E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag110m	4.11E-06	2.59E-08	1.63E-10	6.44E-15	1.01E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1 Part B B&W 15x15, 3.00wtX, 20gwd/mtu decay fission products page 31

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr

cd110	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+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	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+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	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+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	4.57E-02	4.57E-02	4.57E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02
cd113m	1.72E-02	1.34E-02	1.05E-02	6.42E-03	2.40E-03	2.06E-04	1.76E-05	1.51E-06	1.29E-07	1.10E-08	8.09E-11
in113	1.29E-02	1.66E-02	1.95E-02	2.36E-02	2.76E-02	2.98E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-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	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00
in114	9.42E-33	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in114m	5.86E-28	4.61E-39	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn114	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05
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	5.93E-28	2.78E-40	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in115	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01
in115m	2.75E-34	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1
Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 32
0
nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
sn115	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-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	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+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	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01
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	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+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	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01
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	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00
sn119m	4.06E-07	5.40E-09	7.18E-11	1.27E-14	3.98E-22	6.89E-41	.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	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+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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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 33

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	Initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
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	4.13E-07	3.88E-07	3.64E-07	3.21E-07	2.50E-07	1.33E-07	7.08E-08	3.77E-08	2.01E-08	1.07E-08	3.03E-09

sn121m	9.49E-03	8.91E-03	8.37E-03	7.38E-03	5.73E-03	3.05E-03	1.63E-03	8.66E-04	4.61E-04	2.46E-04	6.96E-05
sb121	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+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	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+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	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02
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	4.84E-11	2.68E-15	1.48E-19	4.55E-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	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00
te123	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04
te123m	4.49E-14	1.14E-18	2.91E-23	1.89E-32	.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	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	2.20E+00	2.20E+00
sb124	2.97E-21	2.19E-30	1.61E-39	.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	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02
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	1.47E-01	4.12E-02	1.16E-02	9.13E-04	5.69E-06	1.74E-11	5.33E-17	1.63E-22	5.00E-28	1.53E-33	.00E+00
te125	2.53E+00	2.64E+00	2.67E+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
te125m	2.08E-03	5.85E-04	1.64E-04	1.30E-05	8.08E-08	2.47E-13	7.57E-19	2.32E-24	7.10E-30	2.15E-35	.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	4.89E+00	4.89E+00	4.89E+00	4.89E+00	4.88E+00	4.88E+00	4.88E+00	4.88E+00	4.88E+00	4.88E+00	4.87E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 34

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
sb126	2.32E-07	2.32E-07	2.32E-07	2.32E-07	2.32E-07	2.32E-07	2.32E-07	2.32E-07	2.32E-07	2.32E-07	2.32E-07
sb126m	1.76E-09	1.76E-09	1.76E-09	1.76E-09	1.76E-09	1.76E-09	1.76E-09	1.76E-09	1.76E-09	1.76E-09	1.76E-09
te126	7.87E-02	7.89E-02	7.91E-02	7.94E-02	8.01E-02	8.18E-02	8.35E-02	8.51E-02	8.68E-02	8.85E-02	9.19E-02
xe126	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09
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	8.76E-14	7.92E-19	7.16E-24	5.85E-34	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te127m	2.50E-11	2.26E-16	2.04E-21	1.67E-31	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i127	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
xe127	9.04E-38	.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	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+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	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01
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	6.97E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
te129m	7.56E-34	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
i129	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01
xe129	1.22E-03	1.24E-03	1.25E-03	1.27E-03	1.31E-03	1.42E-03	1.53E-03	1.64E-03	1.75E-03	1.86E-03	2.08E-03
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	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+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	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+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	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 35

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
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	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02
cs132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba132	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05
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	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02
ba133	1.30E-08	9.38E-09	6.75E-09	3.49E-09	9.35E-10	3.47E-11	1.29E-12	4.77E-14	1.77E-15	6.56E-17	9.02E-20
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	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02
xe134m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cs134	7.23E-01	1.35E-01	2.50E-02	8.68E-04	1.04E-06	5.23E-14	2.62E-21	1.31E-28	6.57E-36	3.76E-43	.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	2.90E+01	2.96E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+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	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+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	3.87E-02	3.90E-02	3.92E-02	3.98E-02	4.09E-02	4.35E-02	4.62E-02	4.89E-02	5.15E-02	5.42E-02	5.95E-02
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	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 36

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
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	2.75E+02	2.45E+02	2.18E+02	1.73E+02	1.09E+02	3.43E+01	1.08E+01	3.40E+00	1.07E+00	3.37E-01	3.35E-02
ba137	8.56E+01	1.16E+02	1.42E+02	1.87E+02	2.51E+02	3.26E+02	3.49E+02	3.57E+02	3.59E+02	3.60E+02	3.60E+02
ba137m	4.19E-05	3.73E-05	3.33E-05	2.64E-05	1.66E-05	5.24E-06	1.65E-06	5.20E-07	1.64E-07	5.15E-08	5.11E-09
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	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02
la138	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03

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	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02
ce139	3.19E-14	3.22E-18	3.26E-22	3.33E-30	.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	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
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	1.70E-33	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr141	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+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	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+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	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+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 8 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 37

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
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	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
[illegible]	.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	1.19E-02	1.40E-04	1.64E-06	2.27E-10	4.36E-18	2.21E-37	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144	5.00E-07	5.88E-09	6.92E-11	9.58E-15	1.84E-22	2.02E-43	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pr144m	2.92E-09	3.43E-11	4.04E-13	5.59E-17	1.07E-24	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nd144	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+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	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02
pm145	1.20E-04	9.85E-05	8.10E-05	5.47E-05	2.50E-05	3.53E-06	4.98E-07	7.03E-08	9.92E-09	1.40E-09	2.79E-11
sm145	5.44E-08	1.31E-09	3.17E-11	1.85E-14	6.32E-21	4.29E-37	.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	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	1.87E+02
pm146	5.35E-04	2.86E-04	1.53E-04	4.36E-05	3.55E-06	6.73E-09	1.28E-11	2.42E-14	4.59E-17	8.69E-20	3.12E-25
sm146	2.40E-03	2.49E-03	2.53E-03	2.57E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03
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	4.23E+00	1.13E+00	3.01E-01	2.15E-02	1.09E-04	1.99E-10	3.64E-16	6.66E-22	1.22E-27	2.23E-33	.00E+00
sm147	8.54E+01	8.85E+01	8.94E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01
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	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02
pm148	6.21E-30	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	9.04E-28	4.40E-41	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 38

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
sm148	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01
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	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00
eu149	5.79E-23	7.15E-29	8.83E-35	.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	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01
pm150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm150	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01
eu150	1.77E-07	1.60E-07	1.45E-07	1.20E-07	8.14E-08	3.09E-08	1.17E-08	4.46E-09	1.69E-09	6.44E-10	9.29E-11
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	5.74E+00	5.52E+00	5.32E+00	4.92E+00	4.22E+00	2.87E+00	1.95E+00	1.33E+00	9.04E-01	6.15E-01	2.85E-01
eu151	4.75E-01	6.92E-01	9.01E-01	1.29E+00	2.00E+00	3.35E+00	4.26E+00	4.89E+00	5.31E+00	5.60E+00	5.93E+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	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01
eu152	1.58E-02	1.22E-02	9.38E-03	5.57E-03	1.97E-03	1.46E-04	1.09E-05	8.06E-07	5.98E-08	4.44E-09	2.45E-11
eu152m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd152	2.75E-02	2.85E-02	2.93E-02	3.04E-02	3.14E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02
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	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01
gd153	2.00E-08	1.06E-10	5.61E-13	1.57E-17	1.24E-26	.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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 39

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
sm154	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00
eu154	3.26E+00	2.18E+00	1.45E+00	6.49E-01	1.29E-01	2.29E-03	4.04E-05	7.15E-07	1.27E-08	2.24E-10	7.01E-14
gd154	4.67E+00	5.76E+00	6.48E+00	7.28E+00	7.80E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+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	7.10E-01	3.39E-01	1.62E-01	3.67E-02	1.90E-03	1.15E-06	7.02E-10	4.27E-13	2.59E-16	1.58E-19	5.83E-26
gd155m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd155	2.47E+00	2.84E+00	3.02E+00	3.14E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+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	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+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	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-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	3.25E+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
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	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
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	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01
tb160	5.53E-18	1.38E-25	3.43E-33	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
dy160	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 40

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	15.0 yr	20.0 yr	30.0 yr	50.0 yr	100.0 yr	150.0 yr	200.0 yr	250.0 yr	300.0 yr	400.0 yr
dy161	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-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	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-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	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-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	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
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	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-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	2.37E-05	2.36E-05	2.35E-05	2.34E-05	2.31E-05	2.25E-05	2.18E-05	2.12E-05	2.06E-05	2.00E-05	1.89E-05
er166	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03
er167	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05
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	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-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	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07
tm170	2.73E-18	1.45E-22	7.68E-27	2.16E-35	.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	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-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	1.85E-08	3.04E-09	5.00E-10	1.35E-11	9.89E-15	1.43E-22	2.08E-30	3.01E-38	.00E+00	.00E+00	.00E+00
yb171	1.03E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06
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	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07
total	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 41

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	4.81E+00	5.62E+00	8.60E+00	1.20E+01	1.64E+01	2.01E+01	2.33E+01	2.62E+01	2.89E+01	3.13E+01	3.35E+01
tl206	9.52E-19	1.54E-18	6.83E-18	2.46E-17	7.84E-17	1.44E-16	2.13E-16	2.82E-16	3.51E-16	4.19E-16	4.85E-16
tl207	6.23E-13	7.73E-13	1.57E-12	3.06E-12	5.99E-12	8.86E-12	1.17E-11	1.44E-11	1.71E-11	1.97E-11	2.23E-11
tl208	2.85E-13	1.06E-13	1.26E-15	5.33E-16	5.39E-16	5.46E-16	5.53E-16	5.61E-16	5.70E-16	5.79E-16	5.88E-16
tl209	2.31E-16	3.81E-16	1.90E-15	9.43E-15	4.29E-14	9.80E-14	1.71E-13	2.59E-13	3.59E-13	4.70E-13	5.88E-13
pb206	7.74E-06	1.59E-05	1.44E-04	1.12E-03	7.68E-03	2.22E-02	4.57E-02	7.83E-02	1.20E-01	1.71E-01	2.31E-01
pb207	9.84E-06	1.52E-05	6.00E-05	2.36E-04	9.26E-04	2.06E-03	3.63E-03	5.63E-03	8.04E-03	1.09E-02	1.41E-02
pb208	4.69E-04	4.75E-04	4.79E-04	4.79E-04	4.79E-04	4.80E-04	4.80E-04	4.81E-04	4.81E-04	4.81E-04	4.82E-04
pb209	9.74E-13	1.61E-12	8.02E-12	3.98E-11	1.81E-10	4.14E-10	7.23E-10	1.09E-09	1.52E-09	1.98E-09	2.48E-09
pb210	2.05E-06	3.32E-06	1.47E-05	5.30E-05	1.69E-04	3.10E-04	4.58E-04	6.08E-04	7.57E-04	9.03E-04	1.05E-03
pb211	4.82E-12	5.98E-12	1.21E-11	2.36E-11	4.63E-11	6.85E-11	9.03E-11	1.12E-10	1.32E-10	1.53E-10	1.72E-10
pb212	1.69E-10	6.29E-11	7.49E-13	3.16E-13	3.19E-13	3.24E-13	3.28E-13	3.33E-13	3.38E-13	3.43E-13	3.49E-13
pb214	5.62E-12	8.80E-12	3.43E-11	1.23E-10	3.96E-10	7.21E-10	1.07E-09	1.42E-09	1.76E-09	2.10E-09	2.44E-09
bi208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bi209	2.33E-07	4.71E-07	4.52E-06	4.51E-05	4.27E-04	1.51E-03	3.61E-03	6.99E-03	1.19E-02	1.84E-02	2.67E-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	1.26E-09	2.04E-09	9.06E-09	3.26E-08	1.04E-07	1.91E-07	2.82E-07	3.74E-07	4.66E-07	5.56E-07	6.44E-07
bi211	2.86E-13	3.55E-13	7.20E-13	1.40E-12	2.74E-12	4.06E-12	5.35E-12	6.61E-12	7.84E-12	9.05E-12	1.02E-11
bi212	1.61E-11	5.97E-12	7.10E-14	3.00E-14	3.03E-14	3.07E-14	3.11E-14	3.16E-14	3.20E-14	3.25E-14	3.31E-14
bi213	2.32E-13	3.83E-13	1.91E-12	9.48E-12	4.31E-11	9.85E-11	1.72E-10	2.61E-10	3.61E-10	4.72E-10	5.91E-10
bi214	4.17E-12	6.53E-12	2.55E-11	9.16E-11	2.92E-10	5.35E-10	7.93E-10	1.05E-09	1.31E-09	1.56E-09	1.81E-09
po210	3.49E-08	5.65E-08	2.50E-07	9.01E-07	2.87E-06	5.26E-06	7.79E-06	1.03E-05	1.29E-05	1.54E-05	1.78E-05
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
po211	3.16E-18	3.92E-18	7.95E-18	1.55E-17	3.03E-17	4.49E-17	5.91E-17	7.31E-17	8.67E-17	1.00E-16	1.13E-16
po212	8.44E-22	3.14E-22	3.73E-24	1.57E-24	1.59E-24	1.61E-24	1.63E-24	1.66E-24	1.68E-24	1.71E-24	1.74E-24
po213	3.49E-22	5.76E-22	2.87E-21	1.43E-20	6.48E-20	1.48E-19	2.59E-19	3.92E-19	5.43E-19	7.10E-19	8.89E-19
po214	5.74E-19	8.99E-19	3.50E-18	1.26E-17	4.02E-17	7.37E-17	1.09E-16	1.45E-16	1.80E-16	2.15E-16	2.49E-16
po215	4.04E-18	5.01E-18	1.02E-17	1.98E-17	3.88E-17	5.74E-17	7.56E-17	9.34E-17	1.11E-16	1.28E-16	1.44E-16
po216	6.53E-16	2.43E-16	2.89E-18	1.22E-18	1.23E-18	1.25E-18	1.27E-18	1.28E-18	1.30E-18	1.32E-18	1.34E-18
po218	6.62E-13	1.04E-12	4.04E-12	1.45E-11	4.64E-11	8.50E-11	1.26E-10	1.67E-10	2.08E-10	2.48E-10	2.87E-10
at217	2.79E-18	4.61E-18	2.30E-17	1.14E-16	5.19E-16	1.19E-15	2.07E-15	3.14E-15	4.35E-15	5.68E-15	7.11E-15
rn218	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rn219	9.14E-15	1.13E-14	2.30E-14	4.49E-14	8.79E-14	1.30E-13	1.71E-13	2.12E-13	2.51E-13	2.90E-13	3.27E-13
rn220	2.55E-13	9.48E-14	1.13E-15	4.76E-16	4.81E-16	4.87E-16	4.94E-16	5.01E-16	5.09E-16	5.17E-16	5.25E-16

rn222	1.20E-09	1.88E-09	7.31E-09	2.63E-08	8.39E-08	1.54E-07	2.28E-07	3.02E-07	3.76E-07	4.49E-07	5.20E-07
fr221	2.59E-14	4.27E-14	2.13E-13	1.06E-12	4.81E-12	1.10E-11	1.92E-11	2.91E-11	4.03E-11	5.27E-11	6.59E-11
fr223	4.24E-14	5.27E-14	1.07E-13	2.08E-13	4.08E-13	6.03E-13	7.95E-13	9.82E-13	1.17E-12	1.34E-12	1.52E-12
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	2.32E-09	2.88E-09	5.85E-09	1.14E-08	2.23E-08	3.30E-08	4.35E-08	5.38E-08	6.38E-08	7.36E-08	8.31E-08
ra224	1.48E-09	5.49E-10	6.53E-12	2.76E-12	2.79E-12	2.82E-12	2.86E-12	2.90E-12	2.95E-12	2.99E-12	3.04E-12
ra225	1.15E-10	1.89E-10	9.43E-10	4.68E-09	2.13E-08	4.87E-08	8.50E-08	1.29E-07	1.79E-07	2.33E-07	2.92E-07
ra226	1.86E-04	2.92E-04	1.14E-03	4.09E-03	1.31E-02	2.39E-02	3.54E-02	4.70E-02	5.85E-02	6.98E-02	8.08E-02
ra228	6.71E-12	8.40E-12	1.70E-11	3.46E-11	7.19E-11	1.11E-10	1.52E-10	1.95E-10	2.39E-10	2.83E-10	3.29E-10
ac225	7.74E-11	1.28E-10	6.37E-10	3.16E-09	1.44E-08	3.29E-08	5.74E-08	8.70E-08	1.21E-07	1.58E-07	1.97E-07
ac227	1.64E-06	2.04E-06	4.14E-06	8.07E-06	1.58E-05	2.34E-05	3.08E-05	3.81E-05	4.52E-05	5.21E-05	5.89E-05
ac228	8.19E-16	1.03E-15	2.07E-15	4.23E-15	8.77E-15	1.36E-14	1.86E-14	2.38E-14	2.91E-14	3.46E-14	4.01E-14
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	3.82E-09	4.74E-09	9.61E-09	1.87E-08	3.67E-08	5.43E-08	7.15E-08	8.83E-08	1.05E-07	1.21E-07	1.37E-07
th228	2.87E-07	1.07E-07	1.27E-09	5.35E-10	5.41E-10	5.48E-10	5.56E-10	5.64E-10	5.73E-10	5.82E-10	5.91E-10
th229	2.27E-05	3.75E-05	1.87E-04	9.27E-04	4.21E-03	9.63E-03	1.68E-02	2.55E-02	3.53E-02	4.62E-02	5.78E-02
th230	1.13E-01	1.43E-01	2.95E-01	5.98E-01	1.19E+00	1.77E+00	2.34E+00	2.89E+00	3.44E+00	3.96E+00	4.48E+00
th231	2.57E-08	2.58E-08	2.59E-08	2.62E-08	2.68E-08	2.73E-08	2.78E-08	2.82E-08	2.87E-08	2.91E-08	2.95E-08

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 42

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	1.67E-02	2.09E-02	4.22E-02	8.61E-02	1.79E-01	2.77E-01	3.79E-01	4.85E-01	5.94E-01	7.04E-01	8.17E-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	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06
pa231	2.71E-03	3.32E-03	6.34E-03	1.23E-02	2.42E-02	3.58E-02	4.71E-02	5.83E-02	6.91E-02	7.97E-02	9.01E-02
pa232	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pa233	1.08E-05	1.19E-05	1.55E-05	1.78E-05	1.84E-05	1.84E-05	1.84E-05	1.84E-05	1.84E-05	1.84E-05	1.84E-05
pa234m	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10
pa234	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11
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	1.04E-05	3.85E-06	4.62E-08	1.95E-08	1.92E-08	1.90E-08	1.88E-08	1.85E-08	1.83E-08	1.81E-08	1.79E-08
u233	2.99E-02	4.06E-02	1.06E-01	2.64E-01	6.03E-01	9.41E-01	1.28E+00	1.61E+00	1.94E+00	2.26E+00	2.59E+00
u234	1.09E+02	1.10E+02	1.11E+02	1.10E+02	1.10E+02	1.09E+02	1.09E+02	1.08E+02	1.08E+02	1.07E+02	1.07E+02
u235	6.33E+03	6.34E+03	6.37E+03	6.44E+03	6.58E+03	6.71E+03	6.83E+03	6.95E+03	7.06E+03	7.16E+03	7.26E+03
u236	1.44E+03	1.45E+03	1.48E+03	1.54E+03	1.64E+03	1.72E+03	1.79E+03	1.84E+03	1.89E+03	1.92E+03	1.95E+03
u237	2.28E-12	2.22E-12	2.13E-12	1.96E-12	1.67E-12	1.41E-12	1.20E-12	1.02E-12	8.67E-13	7.37E-13	6.26E-13
u238	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	2.39E-20	2.98E-20	5.96E-20	1.19E-19	2.38E-19	3.56E-19	4.73E-19	5.91E-19	7.07E-19	8.24E-19	9.39E-19
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	3.70E-04	3.70E-04	3.68E-04	3.66E-04	3.62E-04	3.58E-04	3.53E-04	3.49E-04	3.45E-04	3.41E-04	3.37E-04
np237	3.17E+02	3.51E+02	4.57E+02	5.25E+02	5.42E+02	5.42E+02	5.42E+02	5.41E+02	5.41E+02	5.41E+02	5.40E+02
np238	1.10E-08	6.73E-09	5.76E-10	4.22E-12	2.27E-16	1.22E-20	6.54E-25	3.51E-29	1.89E-33	8.80E-38	.00E+00
np239	8.36E-06	8.28E-06	7.90E-06	7.19E-06	5.96E-06	4.94E-06	4.09E-06	3.39E-06	2.81E-06	2.33E-06	1.93E-06
np240m	2.04E-22	2.55E-22	5.09E-22	1.02E-21	2.03E-21	3.04E-21	4.04E-21	5.04E-21	6.04E-21	7.03E-21	8.02E-21
np240	2.10E-24	2.62E-24	5.24E-24	1.05E-23	2.09E-23	3.12E-23	4.16E-23	5.19E-23	6.21E-23	7.23E-23	8.25E-23
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	8.30E-10	8.29E-10	8.27E-10	8.22E-10	8.12E-10	8.02E-10	7.93E-10	7.83E-10	7.74E-10	7.65E-10	7.55E-10
pu237	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu238	1.35E+00	6.24E-01	1.53E-02	1.74E-05	1.67E-09	9.00E-14	4.83E-18	2.60E-22	1.39E-26	7.49E-31	4.02E-35
pu239	2.60E+03	2.59E+03	2.56E+03	2.49E+03	2.35E+03	2.22E+03	2.10E+03	1.98E+03	1.87E+03	1.77E+03	1.67E+03
pu240	6.46E+02	6.39E+02	6.06E+02	5.45E+02	4.41E+02	3.57E+02	2.89E+02	2.34E+02	1.90E+02	1.53E+02	1.24E+02
pu241	7.54E-05	7.32E-05	7.03E-05	6.48E-05	5.50E-05	4.67E-05	3.97E-05	3.37E-05	2.86E-05	2.43E-05	2.07E-05
pu242	7.08E+01	7.08E+01	7.07E+01	7.06E+01	7.03E+01	7.01E+01	6.98E+01	6.96E+01	6.93E+01	6.91E+01	6.88E+01

pu243	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15
pu244	1.21E-09	1.51E-09	3.02E-09	6.03E-09	1.20E-08	1.80E-08	2.40E-08	2.99E-08	3.58E-08	4.17E-08	4.76E-08
pu245	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu246	1.23E-21	1.22E-21	1.20E-21	1.15E-21	1.07E-21	9.84E-22	9.09E-22	8.39E-22	7.75E-22	7.15E-22	6.61E-22
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	2.30E+02	1.96E+02	8.77E+01	1.77E+01	7.18E-01	3.05E-02	2.43E-03	1.11E-03	9.03E-04	7.66E-04	6.50E-04
am242m	6.05E-02	3.70E-02	3.17E-03	2.32E-05	1.25E-09	6.69E-14	3.60E-18	1.93E-22	1.04E-26	5.57E-31	2.99E-35
am242	7.80E-07	4.77E-07	4.08E-08	2.99E-10	1.61E-14	8.64E-19	4.64E-23	2.49E-27	1.34E-31	7.19E-36	.00E+00
am243	9.71E+00	9.62E+00	9.18E+00	8.36E+00	6.92E+00	5.74E+00	4.75E+00	3.94E+00	3.26E+00	2.70E+00	2.24E+00
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	3.07E-24	3.06E-24	3.00E-24	2.88E-24	2.66E-24	2.46E-24	2.27E-24	2.10E-24	1.94E-24	1.79E-24	1.65E-24
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 43

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	1.57E-04	9.63E-05	8.25E-06	6.04E-08	3.26E-12	1.75E-16	9.40E-21	5.05E-25	2.71E-29	1.46E-33	7.82E-38
cm243	3.59E-06	3.15E-07	1.65E-12	4.51E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm244	3.37E-07	7.32E-09	3.54E-17	8.24E-34	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm245	4.44E-02	4.40E-02	4.22E-02	3.89E-02	3.31E-02	2.81E-02	2.39E-02	2.03E-02	1.72E-02	1.46E-02	1.24E-02
cm246	2.83E-03	2.79E-03	2.59E-03	2.24E-03	1.67E-03	1.24E-03	9.28E-04	6.93E-04	5.17E-04	3.85E-04	2.88E-04
cm247	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05
cm248	1.64E-06	1.64E-06	1.64E-06	1.64E-06	1.63E-06	1.62E-06	1.62E-06	1.61E-06	1.60E-06	1.60E-06	1.59E-06
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm250	2.93E-15	2.92E-15	2.86E-15	2.75E-15	2.54E-15	2.34E-15	2.17E-15	2.00E-15	1.85E-15	1.70E-15	1.57E-15
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	8.65E-24	8.62E-24	8.45E-24	8.12E-24	7.50E-24	6.92E-24	6.39E-24	5.90E-24	5.45E-24	5.03E-24	4.65E-24
bk251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf249	8.41E-09	6.90E-09	2.57E-09	3.55E-10	6.79E-12	1.30E-13	2.49E-15	4.77E-17	9.12E-19	1.75E-20	3.34E-22
cf250	1.39E-18	3.13E-19	3.01E-19	2.89E-19	2.67E-19	2.47E-19	2.28E-19	2.10E-19	1.94E-19	1.79E-19	1.66E-19
cf251	6.26E-10	5.80E-10	3.94E-10	1.82E-10	3.89E-11	8.31E-12	1.77E-12	3.79E-13	8.09E-14	1.73E-14	3.69E-15
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	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 44

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	2.32E-12	8.41E-15	5.20E-27	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
li 6	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05
li 7	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06
be 9	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06
be 10	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.69E-05	3.68E-05	3.68E-05	3.68E-05	3.67E-05	3.67E-05	3.67E-05
c 14	7.12E-06	7.03E-06	6.62E-06	5.86E-06	4.60E-06	3.61E-06	2.84E-06	2.23E-06	1.75E-06	1.37E-06	1.08E-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	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

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	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08
zn 68	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-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	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08
zn 70	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-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	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-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	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-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	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-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	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03
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	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-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	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02
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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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 45

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-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	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-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	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-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	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01
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	1.39E+00	1.39E+00	1.37E+00	1.34E+00	1.29E+00	1.24E+00	1.18E+00	1.14E+00	1.09E+00	1.04E+00	1.00E+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	1.18E-02	1.47E-02	2.92E-02	5.77E-02	1.13E-01	1.66E-01	2.17E-01	2.66E-01	3.13E-01	3.57E-01	4.00E-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	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+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	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05
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	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00
kr 81	7.12E-07	7.11E-07	7.10E-07	7.08E-07	7.03E-07	6.99E-07	6.94E-07	6.90E-07	6.85E-07	6.81E-07	6.76E-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

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 46

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+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	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01
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	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+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	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01
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	3.89E-11	6.05E-14	5.49E-28	.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	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01
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	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01
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	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-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	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01
sr 87	3.07E-04	3.07E-04	3.07E-04	3.08E-04	3.11E-04	3.13E-04	3.15E-04	3.17E-04	3.19E-04	3.21E-04	3.23E-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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 47

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+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	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+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	8.57E-03	7.30E-04	3.28E-09	6.62E-20	2.70E-41	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y 90	2.23E-06	1.90E-07	8.52E-13	1.72E-23	.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	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+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	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02
nb 91	1.77E-10	1.60E-10	9.63E-11	3.47E-11	4.52E-12	5.89E-13	7.67E-14	9.98E-15	1.30E-15	1.69E-16	2.20E-17
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	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02
nb 92	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08
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	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02
nb 93	2.38E-02	3.01E-02	6.15E-02	1.24E-01	2.50E-01	3.76E-01	5.01E-01	6.26E-01	7.51E-01	8.76E-01	1.00E+00
nb 93m	1.46E-03	1.46E-03	1.46E-03	1.46E-03	1.46E-03	1.46E-03	1.46E-03	1.46E-03	1.46E-03	1.45E-03	1.45E-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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 48

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02
nb 94	1.23E-04	1.23E-04	1.21E-04	1.17E-04	1.09E-04	1.02E-04	9.50E-05	8.88E-05	8.29E-05	7.74E-05	7.23E-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	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+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	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+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	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+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	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	2.17E+02	2.17E+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	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
tc 98	1.37E-03	1.37E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03
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	2.30E+02	2.30E+02	2.30E+02	2.29E+02	2.28E+02	2.26E+02	2.25E+02	2.23E+02	2.22E+02	2.20E+02	2.19E+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	3.12E-01	3.87E-01	7.65E-01	1.52E+00	3.02E+00	4.51E+00	5.99E+00	7.46E+00	8.92E+00	1.04E+01	1.18E+01
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 49

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+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	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01
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	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
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	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+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	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+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	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+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	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+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	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 50

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+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	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.12E+01	5.11E+01	5.11E+01	5.11E+01	5.11E+01	5.11E+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	2.19E-03	2.74E-03	5.47E-03	1.09E-02	2.18E-02	3.28E-02	4.37E-02	5.46E-02	6.55E-02	7.64E-02	8.73E-02
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	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01
ag108	1.47E-14	8.49E-15	5.54E-16	2.36E-18	4.29E-23	7.79E-28	1.42E-32	2.57E-37	.00E+00	.00E+00	.00E+00
ag108m	4.75E-06	2.75E-06	1.80E-07	7.65E-10	1.39E-14	2.52E-19	4.59E-24	8.33E-29	1.51E-33	2.75E-38	4.54E-43
cd108	4.66E-05	4.67E-05	4.69E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05
zr109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag109	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+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	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 51

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+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	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+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	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+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	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02
cd113m	8.09E-11	5.93E-13	1.25E-23	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in113	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-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	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+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	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05
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	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01
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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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 52

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-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	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+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	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01
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	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+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	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01

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	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+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	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+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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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 53

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	3.03E-09	8.60E-10	1.58E-12	5.32E-18	6.03E-29	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sn121m	6.96E-05	1.98E-05	3.62E-08	1.22E-13	1.38E-24	1.57E-35	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sb121	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+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	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+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	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02
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	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00
te123	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04
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	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	2.20E+00	2.20E+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	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02
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	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
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	4.87E+00	4.87E+00	4.85E+00	4.82E+00	4.75E+00	4.69E+00	4.62E+00	4.56E+00	4.50E+00	4.43E+00	4.37E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 54

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	2.32E-07	2.31E-07	2.31E-07	2.29E-07	2.26E-07	2.23E-07	2.20E-07	2.17E-07	2.14E-07	2.11E-07	2.08E-07
sb126m	1.76E-09	1.76E-09	1.75E-09	1.74E-09	1.72E-09	1.69E-09	1.67E-09	1.65E-09	1.62E-09	1.60E-09	1.58E-09
te126	9.19E-02	9.53E-02	1.12E-01	1.46E-01	2.12E-01	2.77E-01	3.42E-01	4.06E-01	4.68E-01	5.30E-01	5.91E-01
xe126	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09
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	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
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	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+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	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01
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	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01
xe129	2.08E-03	2.30E-03	3.41E-03	5.61E-03	1.00E-02	1.44E-02	1.88E-02	2.33E-02	2.77E-02	3.21E-02	3.65E-02
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	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+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	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+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	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 55

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02
cs132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba132	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05
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	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02
ba133	9.02E-20	1.24E-22	6.10E-37	.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	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02
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	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+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	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.77E+02	1.76E+02	1.76E+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	5.95E-02	6.49E-02	9.16E-02	1.45E-01	2.52E-01	3.58E-01	4.65E-01	5.71E-01	6.78E-01	7.84E-01	8.91E-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	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 56

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	3.35E-02	3.32E-03	3.19E-08	2.94E-18	2.50E-38	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba137	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02
ba137m	5.11E-09	5.07E-10	4.87E-15	4.49E-25	.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	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02
la138	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03
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	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02
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	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
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	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+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	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+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	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 57

0

nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	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
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	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+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	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02
pm145	2.79E-11	5.55E-13	1.74E-21	1.71E-38	.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	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	1.87E+02
pm146	3.12E-25	1.12E-30	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm146	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03
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	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01
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	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+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

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 58

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01
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	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+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	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01
pm150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm150	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01
eu150	9.29E-11	1.34E-11	8.38E-16	3.28E-24	5.02E-41	.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	2.85E-01	1.32E-01	2.80E-03	1.26E-06	2.58E-13	5.26E-20	1.07E-26	2.19E-33	4.46E-40	.00E+00	.00E+00
eu151	5.93E+00	6.08E+00	6.21E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+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	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01
eu152	2.45E-11	1.35E-13	6.85E-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	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02
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	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+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	

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 59

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00
eu154	7.01E-14	2.19E-17	6.59E-35	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
gd154	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+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	5.83E-26	2.15E-32	.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	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+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	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+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	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-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	3.25E+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
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	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
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	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-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	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 60

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-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	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-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	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-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	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
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	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-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	1.89E-05	1.78E-05	1.34E-05	7.49E-06	2.36E-06	7.43E-07	2.34E-07	7.38E-08	2.32E-08	7.32E-09	2.30E-09
er166	1.55E-03	1.56E-03	1.56E-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
er167	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05
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	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-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	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-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	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-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	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06
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	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07
total	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03

1 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 61

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	3.35E+01	3.54E+01	3.73E+01	3.90E+01	4.05E+01	4.20E+01	4.33E+01	4.46E+01	4.58E+01	4.79E+01	4.89E+01
tl206	4.85E-16	5.50E-16	6.14E-16	6.76E-16	7.36E-16	7.95E-16	8.53E-16	9.09E-16	9.64E-16	1.07E-15	1.12E-15
tl207	2.23E-11	2.48E-11	2.72E-11	2.96E-11	3.19E-11	3.42E-11	3.64E-11	3.85E-11	4.06E-11	4.46E-11	4.65E-11
tl208	5.88E-16	5.97E-16	6.07E-16	6.17E-16	6.27E-16	6.37E-16	6.48E-16	6.58E-16	6.69E-16	6.90E-16	7.01E-16

tl209	5.88E-13	7.13E-13	8.43E-13	9.77E-13	1.12E-12	1.26E-12	1.40E-12	1.54E-12	1.69E-12	1.98E-12	2.12E-12
pb206	2.31E-01	2.99E-01	3.76E-01	4.61E-01	5.55E-01	6.56E-01	7.65E-01	8.81E-01	1.01E+00	1.27E+00	1.42E+00
pb207	1.41E-02	1.77E-02	2.17E-02	2.60E-02	3.07E-02	3.58E-02	4.12E-02	4.70E-02	5.30E-02	6.61E-02	7.31E-02
pb208	4.82E-04	4.82E-04	4.83E-04	4.83E-04	4.83E-04	4.84E-04	4.84E-04	4.84E-04	4.85E-04	4.86E-04	4.86E-04
pb209	2.48E-09	3.01E-09	3.56E-09	4.13E-09	4.71E-09	5.30E-09	5.90E-09	6.51E-09	7.12E-09	8.34E-09	8.96E-09
pb210	1.05E-03	1.19E-03	1.32E-03	1.46E-03	1.59E-03	1.71E-03	1.84E-03	1.96E-03	2.08E-03	2.31E-03	2.42E-03
pb211	1.72E-10	1.92E-10	2.11E-10	2.29E-10	2.47E-10	2.65E-10	2.82E-10	2.98E-10	3.14E-10	3.45E-10	3.60E-10
pb212	3.49E-13	3.54E-13	3.60E-13	3.66E-13	3.72E-13	3.78E-13	3.84E-13	3.90E-13	3.96E-13	4.09E-13	4.16E-13
pb214	2.44E-09	2.76E-09	3.08E-09	3.39E-09	3.70E-09	3.99E-09	4.28E-09	4.57E-09	4.84E-09	5.38E-09	5.63E-09
bi208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bi209	2.67E-02	3.70E-02	4.93E-02	6.36E-02	8.01E-02	9.88E-02	1.20E-01	1.43E-01	1.68E-01	2.26E-01	2.58E-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	6.44E-07	7.30E-07	8.14E-07	8.97E-07	9.77E-07	1.06E-06	1.13E-06	1.21E-06	1.28E-06	1.42E-06	1.49E-06
bi211	1.02E-11	1.14E-11	1.25E-11	1.36E-11	1.46E-11	1.57E-11	1.67E-11	1.77E-11	1.86E-11	2.04E-11	2.13E-11
bi212	3.31E-14	3.36E-14	3.41E-14	3.47E-14	3.53E-14	3.58E-14	3.64E-14	3.70E-14	3.76E-14	3.88E-14	3.94E-14
bi213	5.91E-10	7.17E-10	8.48E-10	9.83E-10	1.12E-09	1.26E-09	1.41E-09	1.55E-09	1.69E-09	1.99E-09	2.13E-09
bi214	1.81E-09	2.05E-09	2.29E-09	2.52E-09	2.75E-09	2.97E-09	3.18E-09	3.39E-09	3.60E-09	3.99E-09	4.18E-09
po210	1.78E-05	2.02E-05	2.25E-05	2.48E-05	2.70E-05	2.91E-05	3.13E-05	3.33E-05	3.53E-05	3.92E-05	4.11E-05
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
po211	1.13E-16	1.26E-16	1.38E-16	1.50E-16	1.62E-16	1.73E-16	1.84E-16	1.95E-16	2.06E-16	2.26E-16	2.36E-16
po212	1.74E-24	1.77E-24	1.79E-24	1.82E-24	1.85E-24	1.88E-24	1.91E-24	1.94E-24	1.98E-24	2.04E-24	2.07E-24
po213	8.89E-19	1.08E-18	1.27E-18	1.48E-18	1.69E-18	1.90E-18	2.11E-18	2.33E-18	2.55E-18	2.99E-18	3.20E-18
po214	2.49E-16	2.82E-16	3.15E-16	3.47E-16	3.78E-16	4.08E-16	4.38E-16	4.67E-16	4.95E-16	5.49E-16	5.75E-16
po215	1.44E-16	1.61E-16	1.76E-16	1.92E-16	2.07E-16	2.22E-16	2.36E-16	2.50E-16	2.63E-16	2.89E-16	3.01E-16
po216	1.34E-18	1.37E-18	1.39E-18	1.41E-18	1.43E-18	1.46E-18	1.48E-18	1.51E-18	1.53E-18	1.58E-18	1.60E-18
po218	2.87E-10	3.26E-10	3.63E-10	4.00E-10	4.36E-10	4.71E-10	5.05E-10	5.38E-10	5.71E-10	6.34E-10	6.64E-10
at217	7.11E-15	8.62E-15	1.02E-14	1.18E-14	1.35E-14	1.52E-14	1.69E-14	1.86E-14	2.04E-14	2.39E-14	2.57E-14
rn218	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rn219	3.27E-13	3.64E-13	4.00E-13	4.35E-13	4.69E-13	5.02E-13	5.34E-13	5.66E-13	5.96E-13	6.55E-13	6.83E-13
rn220	5.25E-16	5.34E-16	5.42E-16	5.51E-16	5.60E-16	5.69E-16	5.78E-16	5.88E-16	5.97E-16	6.16E-16	6.26E-16
rn222	5.20E-07	5.89E-07	6.57E-07	7.23E-07	7.88E-07	8.51E-07	9.13E-07	9.74E-07	1.03E-06	1.15E-06	1.20E-06
fr221	6.59E-11	8.00E-11	9.46E-11	1.10E-10	1.25E-10	1.41E-10	1.57E-10	1.73E-10	1.89E-10	2.22E-10	2.38E-10
fr223	1.52E-12	1.69E-12	1.86E-12	2.02E-12	2.18E-12	2.33E-12	2.48E-12	2.63E-12	2.77E-12	3.04E-12	3.17E-12
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	8.31E-08	9.25E-08	1.02E-07	1.10E-07	1.19E-07	1.28E-07	1.36E-07	1.44E-07	1.51E-07	1.66E-07	1.73E-07
ra224	3.04E-12	3.09E-12	3.14E-12	3.19E-12	3.24E-12	3.30E-12	3.35E-12	3.40E-12	3.46E-12	3.57E-12	3.63E-12
ra225	2.92E-07	3.54E-07	4.19E-07	4.86E-07	5.54E-07	6.24E-07	6.94E-07	7.65E-07	8.37E-07	9.81E-07	1.05E-06
ra226	8.08E-02	9.16E-02	1.02E-01	1.13E-01	1.23E-01	1.32E-01	1.42E-01	1.51E-01	1.61E-01	1.78E-01	1.87E-01
ra228	3.29E-10	3.75E-10	4.21E-10	4.68E-10	5.15E-10	5.62E-10	6.10E-10	6.58E-10	7.06E-10	8.02E-10	8.50E-10
ac225	1.97E-07	2.39E-07	2.83E-07	3.28E-07	3.74E-07	4.21E-07	4.69E-07	5.17E-07	5.65E-07	6.63E-07	7.11E-07
ac227	5.89E-05	6.55E-05	7.19E-05	7.82E-05	8.43E-05	9.03E-05	9.61E-05	1.02E-04	1.07E-04	1.18E-04	1.23E-04
ac228	4.01E-14	4.57E-14	5.14E-14	5.71E-14	6.29E-14	6.86E-14	7.45E-14	8.03E-14	8.61E-14	9.79E-14	1.04E-13
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	1.37E-07	1.52E-07	1.67E-07	1.81E-07	1.96E-07	2.10E-07	2.23E-07	2.36E-07	2.49E-07	2.73E-07	2.85E-07
th228	5.91E-10	6.00E-10	6.10E-10	6.20E-10	6.30E-10	6.40E-10	6.51E-10	6.61E-10	6.72E-10	6.94E-10	7.05E-10
th229	5.78E-02	7.01E-02	8.29E-02	9.61E-02	1.10E-01	1.23E-01	1.37E-01	1.51E-01	1.66E-01	1.94E-01	2.08E-01
th230	4.48E+00	4.99E+00	5.48E+00	5.96E+00	6.43E+00	6.89E+00	7.34E+00	7.78E+00	8.20E+00	9.03E+00	9.42E+00
th231	2.95E-08	2.99E-08	3.02E-08	3.06E-08	3.09E-08	3.12E-08	3.14E-08	3.17E-08	3.20E-08	3.24E-08	3.26E-08

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Part 8 B&W 15x15, 3.00wtX, 20gwd/mtu decay actinides page 62

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	8.17E-01	9.32E-01	1.05E+00	1.16E+00	1.28E+00	1.40E+00	1.52E+00	1.64E+00	1.76E+00	1.99E+00	2.11E+00
th233	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th234	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06
pa231	9.01E-02	1.00E-01	1.10E-01	1.20E-01	1.29E-01	1.38E-01	1.47E-01	1.56E-01	1.64E-01	1.80E-01	1.88E-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	1.84E-05	1.83E-05	1.83E-05	1.83E-05	1.83E-05	1.83E-05	1.83E-05	1.83E-05	1.83E-05	1.82E-05	1.82E-05
pa234m	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10

pa234	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11
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	1.79E-08	1.77E-08	1.75E-08	1.72E-08	1.70E-08	1.68E-08	1.66E-08	1.64E-08	1.62E-08	1.58E-08	1.57E-08
u233	2.59E+00	2.91E+00	3.23E+00	3.54E+00	3.85E+00	4.16E+00	4.46E+00	4.77E+00	5.07E+00	5.66E+00	5.95E+00
u234	1.07E+02	1.07E+02	1.06E+02	1.06E+02	1.05E+02	1.05E+02	1.04E+02	1.04E+02	1.03E+02	1.02E+02	1.02E+02
u235	7.26E+03	7.35E+03	7.43E+03	7.52E+03	7.59E+03	7.67E+03	7.73E+03	7.80E+03	7.86E+03	7.97E+03	8.03E+03
u236	1.95E+03	1.98E+03	1.99E+03	2.01E+03	2.02E+03	2.03E+03	2.04E+03	2.05E+03	2.05E+03	2.06E+03	2.06E+03
u237	6.26E-13	5.32E-13	4.52E-13	3.84E-13	3.26E-13	2.77E-13	2.35E-13	2.00E-13	1.70E-13	1.22E-13	1.04E-13
u238	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	9.39E-19	1.05E-18	1.17E-18	1.28E-18	1.40E-18	1.51E-18	1.62E-18	1.74E-18	1.85E-18	2.07E-18	2.18E-18
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	3.37E-04	3.33E-04	3.29E-04	3.25E-04	3.21E-04	3.17E-04	3.13E-04	3.09E-04	3.06E-04	2.98E-04	2.95E-04
np237	5.40E+02	5.40E+02	5.40E+02	5.39E+02	5.39E+02	5.39E+02	5.38E+02	5.38E+02	5.38E+02	5.37E+02	5.37E+02
np238	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np239	1.93E-06	1.60E-06	1.32E-06	1.10E-06	9.08E-07	7.52E-07	6.23E-07	5.17E-07	4.28E-07	2.94E-07	2.43E-07
np240m	8.02E-21	9.00E-21	9.98E-21	1.10E-20	1.19E-20	1.29E-20	1.39E-20	1.48E-20	1.58E-20	1.77E-20	1.86E-20
np240	8.25E-23	9.26E-23	1.03E-22	1.13E-22	1.23E-22	1.33E-22	1.43E-22	1.52E-22	1.62E-22	1.82E-22	1.92E-22
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	7.55E-10	7.46E-10	7.37E-10	7.29E-10	7.20E-10	7.11E-10	7.03E-10	6.94E-10	6.86E-10	6.70E-10	6.62E-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	4.02E-35	2.16E-39	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu239	1.67E+03	1.57E+03	1.49E+03	1.40E+03	1.33E+03	1.25E+03	1.18E+03	1.12E+03	1.05E+03	9.39E+02	8.87E+02
pu240	1.24E+02	1.01E+02	8.14E+01	6.59E+01	5.34E+01	4.32E+01	3.50E+01	2.83E+01	2.29E+01	1.50E+01	1.22E+01
pu241	2.07E-05	1.76E-05	1.49E-05	1.27E-05	1.08E-05	9.14E-06	7.77E-06	6.60E-06	5.61E-06	4.04E-06	3.44E-06
pu242	6.88E+01	6.85E+01	6.83E+01	6.80E+01	6.78E+01	6.75E+01	6.73E+01	6.70E+01	6.68E+01	6.63E+01	6.60E+01
pu243	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.13E-15	1.12E-15
pu244	4.76E-08	5.34E-08	5.92E-08	6.50E-08	7.08E-08	7.65E-08	8.22E-08	8.79E-08	9.36E-08	1.05E-07	1.10E-07
pu245	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu246	6.61E-22	6.10E-22	5.63E-22	5.20E-22	4.80E-22	4.44E-22	4.10E-22	3.78E-22	3.49E-22	2.98E-22	2.75E-22
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	6.50E-04	5.52E-04	4.69E-04	3.99E-04	3.39E-04	2.88E-04	2.44E-04	2.08E-04	1.76E-04	1.28E-04	1.08E-04
am242m	2.99E-35	1.61E-39	.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	2.24E+00	1.86E+00	1.54E+00	1.27E+00	1.06E+00	8.74E-01	7.24E-01	6.00E-01	4.97E-01	3.41E-01	2.83E-01
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	1.65E-24	1.52E-24	1.41E-24	1.30E-24	1.20E-24	1.11E-24	1.02E-24	9.45E-25	8.72E-25	7.44E-25	6.87E-25
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 63

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	7.82E-38	4.07E-42	.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	1.24E-02	1.06E-02	8.97E-03	7.62E-03	6.47E-03	5.50E-03	4.67E-03	3.97E-03	3.37E-03	2.43E-03	2.07E-03
cm246	2.88E-04	2.14E-04	1.60E-04	1.19E-04	8.90E-05	6.64E-05	4.96E-05	3.70E-05	2.76E-05	1.53E-05	1.14E-05
cm247	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05	3.24E-05
cm248	1.59E-06	1.58E-06	1.58E-06	1.57E-06	1.56E-06	1.56E-06	1.55E-06	1.54E-06	1.54E-06	1.53E-06	1.52E-06
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm250	1.57E-15	1.45E-15	1.34E-15	1.24E-15	1.14E-15	1.06E-15	9.76E-16	9.01E-16	8.32E-16	7.10E-16	6.55E-16
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	4.65E-24	4.29E-24	3.96E-24	3.66E-24	3.38E-24	3.12E-24	2.88E-24	2.66E-24	2.46E-24	2.10E-24	1.93E-24
bk251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf249	3.34E-22	6.40E-24	1.23E-25	2.35E-27	4.49E-29	8.59E-31	1.65E-32	3.15E-34	6.03E-36	2.21E-39	4.22E-41
cf250	1.66E-19	1.53E-19	1.41E-19	1.30E-19	1.20E-19	1.11E-19	1.03E-19	9.49E-20	8.76E-20	7.47E-20	6.90E-20
cf251	3.69E-15	7.88E-16	1.68E-16	3.60E-17	7.68E-18	1.64E-18	3.50E-19	7.48E-20	1.60E-20	7.29E-22	1.56E-22
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	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 64

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05
li 7	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06
be 9	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06
be 10	3.67E-05	3.67E-05	3.66E-05	3.66E-05	3.66E-05	3.65E-05	3.65E-05	3.65E-05	3.64E-05	3.64E-05	3.63E-05
c 14	1.08E-06	8.46E-07	6.64E-07	5.21E-07	4.09E-07	3.21E-07	2.52E-07	1.98E-07	1.55E-07	9.58E-08	7.52E-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	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
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	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08
zn 68	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-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	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08
zn 70	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-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	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-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	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-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	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-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	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03
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	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-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	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02
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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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 65

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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
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	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-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	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-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	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-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	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	
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	1.00E+00	9.60E-01	9.21E-01	8.83E-01	8.47E-01	8.12E-01	7.78E-01	7.46E-01	7.16E-01	6.58E-01	6.31E-01	
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	4.00E-01	4.42E-01	4.81E-01	5.19E-01	5.55E-01	5.90E-01	6.24E-01	6.56E-01	6.86E-01	7.44E-01	7.71E-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	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+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	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	
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	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00
kr 81	6.76E-07	6.72E-07	6.68E-07	6.63E-07	6.59E-07	6.55E-07	6.50E-07	6.46E-07	6.42E-07	6.34E-07	6.30E-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

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 66

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+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	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01
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	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+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	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01
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	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01
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	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01
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	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-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	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01
sr 87	3.23E-04	3.25E-04	3.27E-04	3.29E-04	3.31E-04	3.34E-04	3.36E-04	3.38E-04	3.40E-04	3.44E-04	3.46E-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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 67

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+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	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+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	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+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	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02
nb 91	2.20E-17	2.87E-18	3.73E-19	4.86E-20	6.33E-21	8.24E-22	1.07E-22	1.40E-23	1.82E-24	3.08E-26	4.01E-27
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	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02
nb 92	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08
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	1.38E+02	1.38E+02	1.38E+02	1.37E+02	1.37E+02	1.37E+02	1.37E+02	1.37E+02	1.37E+02	1.37E+02	1.36E+02
nb 93	1.00E+00	1.13E+00	1.25E+00	1.38E+00	1.50E+00	1.62E+00	1.75E+00	1.87E+00	2.00E+00	2.24E+00	2.37E+00

nb 93m	1.45E-03	1.45E-03	1.45E-03	1.45E-03	1.45E-03	1.45E-03	1.45E-03	1.44E-03	1.44E-03	1.44E-03	1.44E-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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 68

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02
nb 94	7.23E-05	6.75E-05	6.31E-05	5.89E-05	5.50E-05	5.14E-05	4.80E-05	4.48E-05	4.19E-05	3.65E-05	3.41E-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	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+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	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+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	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+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	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	2.17E+02	2.17E+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	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
tc 98	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03	1.36E-03
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	2.19E+02	2.17E+02	2.16E+02	2.14E+02	2.13E+02	2.12E+02	2.10E+02	2.09E+02	2.08E+02	2.05E+02	2.03E+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	1.18E+01	1.32E+01	1.47E+01	1.61E+01	1.75E+01	1.89E+01	2.03E+01	2.16E+01	2.30E+01	2.57E+01	2.71E+01
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 69

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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
zr100	.00E+00	.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	.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	.00E+00
mo100	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02
tc100	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru100	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01
rb101	.00E+00	.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	.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	.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	.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	.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	.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	.00E+00
ru101	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	2.18E+02
sr102	.00E+00	.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	.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	.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	.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	.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	.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	.00E+00
ru102	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02
rh102	.00E+00	.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	.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	.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	.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	.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	.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	.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	.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	.00E+00
rh103	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02
rh103m	.00E+00	.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	.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	.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	.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	.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	.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	.00E+00
ru104	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02
rh104	.00E+00	.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	.00E+00
pd104	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01
y105	.00E+00	.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	.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	.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	.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	.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	.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	.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	.00E+00
pd105	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 70

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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
y106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh106m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd106	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01
ag106	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
y107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
zr107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh107	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd107	5.11E+01	5.11E+01	5.11E+01	5.11E+01	5.11E+01	5.10E+01	5.10E+01	5.10E+01	5.10E+01	5.10E+01	5.10E+01	5.10E+01
pd107m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag107	8.73E-02	9.82E-02	1.09E-01	1.20E-01	1.31E-01	1.42E-01	1.53E-01	1.64E-01	1.74E-01	1.96E-01	2.07E-01	
zr108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh108m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd108	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	
ag108	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag108m	4.54E-43	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd108	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	
zr109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag109	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	
ag109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh110m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd110	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	
ag110	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag110m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00

1 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 71

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

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	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+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	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+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	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+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	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02
cd113m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in113	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-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	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+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	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05
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	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 72

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-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	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+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	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01
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	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+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	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01
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	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+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	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+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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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 73

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+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	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+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	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02
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	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00
te123	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04
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	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	2.20E+00	2.20E+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	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02
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	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
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	4.37E+00	4.31E+00	4.25E+00	4.20E+00	4.14E+00	4.08E+00	4.02E+00	3.97E+00	3.91E+00	3.81E+00	3.76E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 74

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	2.08E-07	2.05E-07	2.02E-07	1.99E-07	1.97E-07	1.94E-07	1.91E-07	1.89E-07	1.86E-07	1.81E-07	1.78E-07
sb126m	1.58E-09	1.56E-09	1.54E-09	1.52E-09	1.49E-09	1.47E-09	1.45E-09	1.43E-09	1.41E-09	1.38E-09	1.36E-09
te126	5.91E-01	6.52E-01	7.11E-01	7.70E-01	8.27E-01	8.84E-01	9.40E-01	9.96E-01	1.05E+00	1.16E+00	1.21E+00
xe126	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09
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	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
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	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+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	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01
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	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01	4.99E+01
xe129	3.65E-02	4.09E-02	4.53E-02	4.97E-02	5.41E-02	5.85E-02	6.29E-02	6.73E-02	7.17E-02	8.05E-02	8.49E-02
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	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+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	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+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	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 75

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02
cs132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba132	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05
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	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02
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	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02
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	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+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	1.76E+02	1.76E+02	1.76E+02	1.76E+02	1.76E+02	1.76E+02	1.76E+02	1.76E+02	1.75E+02	1.75E+02	1.75E+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	8.91E-01	9.97E-01	1.10E+00	1.21E+00	1.32E+00	1.42E+00	1.53E+00	1.63E+00	1.74E+00	1.95E+00	2.06E+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	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 76

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02
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	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02
la138	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03

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	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02
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	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
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	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+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	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+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	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 77

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	
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	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	
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	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+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	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+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	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	1.87E+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	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03
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	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01
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	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+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

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 78

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01
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	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+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	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01
pm150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm150	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01
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	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+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	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+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	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02
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	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+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

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 79

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+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	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+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	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+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	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+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	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-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	3.25E+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
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	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
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	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-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	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 80

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-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	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-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	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-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	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
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	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-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	2.30E-09	7.26E-10	2.29E-10	7.20E-11	2.27E-11	7.14E-12	2.25E-12	7.08E-13	2.23E-13	2.21E-14	6.97E-15
er166	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	1.57E-03	1.57E-03
er167	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05
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	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-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	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-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	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-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	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06
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	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07
total	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 81

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
he 4	4.89E+01	4.98E+01	5.19E+01	5.37E+01	5.52E+01	5.66E+01	5.78E+01	5.89E+01	6.33E+01	6.96E+01	7.18E+01
tl206	1.12E-15	1.17E-15	1.29E-15	1.40E-15	1.51E-15	1.61E-15	1.70E-15	1.79E-15	2.25E-15	2.72E-15	2.71E-15
tl207	4.65E-11	4.84E-11	5.27E-11	5.68E-11	6.06E-11	6.40E-11	6.72E-11	7.02E-11	8.33E-11	9.83E-11	9.99E-11
tl208	7.01E-16	7.12E-16	7.40E-16	7.68E-16	7.96E-16	8.25E-16	8.54E-16	8.84E-16	1.07E-15	1.74E-15	2.10E-15
tl209	2.12E-12	2.26E-12	2.62E-12	2.98E-12	3.33E-12	3.67E-12	4.01E-12	4.34E-12	6.15E-12	1.12E-11	1.21E-11
pb206	1.42E+00	1.57E+00	1.98E+00	2.42E+00	2.90E+00	3.42E+00	3.97E+00	4.54E+00	8.56E+00	2.54E+01	3.43E+01
pb207	7.31E-02	8.03E-02	9.97E-02	1.21E-01	1.43E-01	1.67E-01	1.92E-01	2.19E-01	3.96E-01	1.11E+00	1.49E+00
pb208	4.86E-04	4.87E-04	4.88E-04	4.89E-04	4.91E-04	4.92E-04	4.93E-04	4.95E-04	5.05E-04	5.51E-04	5.83E-04
pb209	8.96E-09	9.57E-09	1.11E-08	1.26E-08	1.41E-08	1.55E-08	1.69E-08	1.83E-08	2.60E-08	4.74E-08	5.12E-08
pb210	2.42E-03	2.53E-03	2.78E-03	3.03E-03	3.25E-03	3.47E-03	3.67E-03	3.85E-03	4.86E-03	5.86E-03	5.85E-03
pb211	3.60E-10	3.74E-10	4.08E-10	4.39E-10	4.69E-10	4.95E-10	5.20E-10	5.43E-10	6.45E-10	7.61E-10	7.72E-10
pb212	4.16E-13	4.22E-13	4.39E-13	4.55E-13	4.72E-13	4.89E-13	5.07E-13	5.24E-13	6.33E-13	1.03E-12	1.24E-12
pb214	5.63E-09	5.88E-09	6.48E-09	7.05E-09	7.58E-09	8.07E-09	8.54E-09	8.98E-09	1.13E-08	1.37E-08	1.36E-08
bi208	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
bi209	2.58E-01	2.93E-01	3.90E-01	5.00E-01	6.25E-01	7.63E-01	9.14E-01	1.08E+00	2.33E+00	9.35E+00	1.39E+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	1.49E-06	1.55E-06	1.71E-06	1.86E-06	2.00E-06	2.13E-06	2.26E-06	2.37E-06	2.99E-06	3.61E-06	3.60E-06
bi211	2.13E-11	2.22E-11	2.42E-11	2.60E-11	2.78E-11	2.94E-11	3.08E-11	3.22E-11	3.82E-11	4.51E-11	4.58E-11
bi212	3.94E-14	4.00E-14	4.16E-14	4.32E-14	4.48E-14	4.64E-14	4.80E-14	4.97E-14	6.00E-14	9.77E-14	1.18E-13
bi213	2.13E-09	2.28E-09	2.64E-09	3.00E-09	3.35E-09	3.69E-09	4.03E-09	4.36E-09	6.19E-09	1.13E-08	1.22E-08
bi214	4.18E-09	4.37E-09	4.81E-09	5.23E-09	5.63E-09	6.00E-09	6.34E-09	6.67E-09	8.41E-09	1.01E-08	1.01E-08
po210	4.11E-05	4.29E-05	4.73E-05	5.14E-05	5.53E-05	5.89E-05	6.23E-05	6.55E-05	8.26E-05	9.96E-05	9.94E-05
po211m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
po211	2.36E-16	2.45E-16	2.67E-16	2.88E-16	3.07E-16	3.25E-16	3.41E-16	3.56E-16	4.22E-16	4.98E-16	5.06E-16
po212	2.07E-24	2.10E-24	2.19E-24	2.27E-24	2.35E-24	2.44E-24	2.52E-24	2.61E-24	3.15E-24	5.13E-24	6.19E-24
po213	3.20E-18	3.42E-18	3.97E-18	4.50E-18	5.03E-18	5.55E-18	6.06E-18	6.55E-18	9.30E-18	1.70E-17	1.83E-17
po214	5.75E-16	6.01E-16	6.62E-16	7.20E-16	7.74E-16	8.25E-16	8.72E-16	9.17E-16	1.16E-15	1.39E-15	1.39E-15
po215	3.01E-16	3.13E-16	3.42E-16	3.68E-16	3.92E-16	4.15E-16	4.36E-16	4.55E-16	5.40E-16	6.37E-16	6.47E-16
po216	1.60E-18	1.63E-18	1.69E-18	1.76E-18	1.82E-18	1.89E-18	1.95E-18	2.02E-18	2.44E-18	3.97E-18	4.79E-18
po218	6.64E-10	6.93E-10	7.64E-10	8.31E-10	8.93E-10	9.52E-10	1.01E-09	1.06E-09	1.33E-09	1.61E-09	1.61E-09
at217	2.57E-14	2.74E-14	3.18E-14	3.61E-14	4.03E-14	4.44E-14	4.85E-14	5.25E-14	7.45E-14	1.36E-13	1.47E-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	6.83E-13	7.10E-13	7.74E-13	8.34E-13	8.89E-13	9.40E-13	9.87E-13	1.03E-12	1.22E-12	1.44E-12	1.47E-12
rn220	6.26E-16	6.36E-16	6.61E-16	6.86E-16	7.11E-16	7.37E-16	7.63E-16	7.89E-16	9.53E-16	1.55E-15	1.87E-15

rn222	1.20E-06	1.25E-06	1.38E-06	1.50E-06	1.62E-06	1.72E-06	1.82E-06	1.91E-06	2.41E-06	2.91E-06	2.90E-06
fr221	2.38E-10	2.54E-10	2.94E-10	3.34E-10	3.73E-10	4.12E-10	4.49E-10	4.86E-10	6.90E-10	1.26E-09	1.36E-09
fr223	3.17E-12	3.29E-12	3.59E-12	3.87E-12	4.13E-12	4.36E-12	4.58E-12	4.78E-12	5.68E-12	6.70E-12	6.80E-12
ra222	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ra223	1.73E-07	1.80E-07	1.97E-07	2.12E-07	2.26E-07	2.39E-07	2.51E-07	2.62E-07	3.11E-07	3.67E-07	3.72E-07
ra224	3.63E-12	3.68E-12	3.83E-12	3.97E-12	4.12E-12	4.27E-12	4.42E-12	4.57E-12	5.52E-12	8.98E-12	1.08E-11
ra225	1.05E-06	1.13E-06	1.30E-06	1.48E-06	1.65E-06	1.82E-06	1.99E-06	2.15E-06	3.06E-06	5.58E-06	6.03E-06
ra226	1.87E-01	1.95E-01	2.15E-01	2.34E-01	2.51E-01	2.68E-01	2.83E-01	2.98E-01	3.76E-01	4.53E-01	4.52E-01
ra228	8.50E-10	8.98E-10	1.02E-09	1.14E-09	1.26E-09	1.38E-09	1.50E-09	1.62E-09	2.35E-09	4.77E-09	5.97E-09
ac225	7.11E-07	7.60E-07	8.81E-07	1.00E-06	1.12E-06	1.23E-06	1.34E-06	1.45E-06	2.06E-06	3.77E-06	4.07E-06
ac227	1.23E-04	1.28E-04	1.39E-04	1.50E-04	1.60E-04	1.69E-04	1.77E-04	1.85E-04	2.20E-04	2.60E-04	2.64E-04
ac228	1.04E-13	1.10E-13	1.24E-13	1.39E-13	1.54E-13	1.69E-13	1.83E-13	1.98E-13	2.87E-13	5.82E-13	7.29E-13
th226	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
th227	2.85E-07	2.96E-07	3.23E-07	3.48E-07	3.71E-07	3.92E-07	4.12E-07	4.30E-07	5.11E-07	6.02E-07	6.12E-07
th228	7.05E-10	7.16E-10	7.43E-10	7.72E-10	8.00E-10	8.29E-10	8.59E-10	8.88E-10	1.07E-09	1.75E-09	2.11E-09
th229	2.08E-01	2.23E-01	2.58E-01	2.93E-01	3.27E-01	3.61E-01	3.94E-01	4.26E-01	6.05E-01	1.10E+00	1.19E+00
th230	9.42E+00	9.81E+00	1.07E+01	1.16E+01	1.24E+01	1.32E+01	1.39E+01	1.46E+01	1.78E+01	2.16E+01	2.14E+01
th231	3.26E-08	3.28E-08	3.33E-08	3.37E-08	3.40E-08	3.43E-08	3.45E-08	3.48E-08	3.56E-08	3.61E-08	3.62E-08

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 82

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
th232	2.11E+00	2.23E+00	2.53E+00	2.84E+00	3.14E+00	3.44E+00	3.74E+00	4.04E+00	5.85E+00	1.19E+01	1.49E+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	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06	6.42E-06
pa231	1.88E-01	1.95E-01	2.13E-01	2.30E-01	2.45E-01	2.59E-01	2.72E-01	2.84E-01	3.37E-01	3.97E-01	4.04E-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	1.82E-05	1.82E-05	1.82E-05	1.82E-05	1.81E-05	1.81E-05	1.81E-05	1.80E-05	1.79E-05	1.73E-05	1.70E-05
pa234m	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10	2.17E-10
pa234	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11	9.67E-11
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	1.57E-08	1.55E-08	1.50E-08	1.46E-08	1.41E-08	1.37E-08	1.33E-08	1.29E-08	1.08E-08	5.90E-09	4.36E-09
u233	5.95E+00	6.24E+00	6.95E+00	7.64E+00	8.32E+00	8.98E+00	9.62E+00	1.03E+01	1.37E+01	2.22E+01	2.51E+01
u234	1.02E+02	1.02E+02	1.00E+02	9.94E+01	9.83E+01	9.73E+01	9.62E+01	9.52E+01	8.94E+01	7.33E+01	6.68E+01
u235	8.03E+03	8.07E+03	8.18E+03	8.28E+03	8.36E+03	8.43E+03	8.50E+03	8.55E+03	8.75E+03	8.89E+03	8.89E+03
u236	2.06E+03	2.06E+03	2.07E+03	2.07E+03	2.07E+03	2.07E+03	2.07E+03	2.07E+03	2.07E+03	2.06E+03	2.06E+03
u237	1.04E-13	8.84E-14	5.88E-14	3.91E-14	2.60E-14	1.73E-14	1.15E-14	7.65E-15	6.62E-16	1.90E-19	3.22E-21
u238	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05	4.42E+05
u239	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
u240	2.18E-18	2.29E-18	2.57E-18	2.84E-18	3.10E-18	3.37E-18	3.63E-18	3.89E-18	5.40E-18	9.79E-18	1.17E-17
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	2.95E-04	2.91E-04	2.83E-04	2.74E-04	2.66E-04	2.58E-04	2.51E-04	2.43E-04	2.03E-04	1.11E-04	8.21E-05
np237	5.37E+02	5.36E+02	5.35E+02	5.34E+02	5.34E+02	5.33E+02	5.32E+02	5.31E+02	5.26E+02	5.09E+02	5.01E+02
np238	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
np239	2.43E-07	2.02E-07	1.26E-07	7.87E-08	4.92E-08	3.07E-08	1.92E-08	1.20E-08	7.14E-10	7.13E-14	1.30E-14
np240m	1.86E-20	1.96E-20	2.19E-20	2.42E-20	2.65E-20	2.88E-20	3.10E-20	3.32E-20	4.60E-20	8.36E-20	9.96E-20
np240	1.92E-22	2.01E-22	2.25E-22	2.49E-22	2.73E-22	2.96E-22	3.19E-22	3.42E-22	4.74E-22	8.60E-22	1.02E-21
np241	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu236	6.62E-10	6.54E-10	6.34E-10	6.15E-10	5.97E-10	5.79E-10	5.62E-10	5.46E-10	4.55E-10	2.49E-10	1.84E-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	8.87E+02	8.37E+02	7.25E+02	6.28E+02	5.44E+02	4.71E+02	4.08E+02	3.54E+02	1.49E+02	8.42E+00	2.00E+00
pu240	1.22E+01	9.85E+00	5.81E+00	3.42E+00	2.02E+00	1.19E+00	7.02E-01	4.14E-01	1.74E-02	4.50E-07	2.34E-09
pu241	3.44E-06	2.92E-06	1.94E-06	1.29E-06	8.59E-07	5.71E-07	3.80E-07	2.53E-07	2.19E-08	6.27E-12	1.06E-13
pu242	6.60E+01	6.58E+01	6.52E+01	6.46E+01	6.40E+01	6.34E+01	6.28E+01	6.22E+01	5.89E+01	4.89E+01	4.46E+01

pu243	1.12E-15	1.12E-15	1.12E-15	1.12E-15	1.12E-15	1.12E-15	1.12E-15	1.12E-15	1.12E-15	1.12E-15	1.11E-15
pu244	1.10E-07	1.16E-07	1.30E-07	1.44E-07	1.57E-07	1.71E-07	1.84E-07	1.97E-07	2.73E-07	4.96E-07	5.91E-07
pu245	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pu246	2.75E-22	2.54E-22	2.08E-22	1.70E-22	1.40E-22	1.14E-22	9.38E-23	7.68E-23	2.33E-23	4.33E-25	5.90E-26
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	1.08E-04	9.18E-05	5.86E-05	3.89E-05	2.59E-05	1.72E-05	1.15E-05	7.62E-06	6.59E-07	1.99E-10	3.20E-12
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	2.83E-01	2.34E-01	1.46E-01	9.15E-02	5.72E-02	3.57E-02	2.23E-02	1.39E-02	8.30E-04	8.29E-08	1.52E-08
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	6.87E-25	6.34E-25	5.20E-25	4.26E-25	3.49E-25	2.86E-25	2.34E-25	1.92E-25	5.81E-26	1.08E-27	1.48E-28
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 83

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	2.07E-03	1.75E-03	1.17E-03	7.76E-04	5.16E-04	3.43E-04	2.28E-04	1.52E-04	1.31E-05	3.77E-09	6.39E-11
cm246	1.14E-05	8.54E-06	4.10E-06	1.97E-06	9.48E-07	4.56E-07	2.19E-07	1.05E-07	1.30E-09	5.63E-16	3.85E-19
cm247	3.24E-05	3.24E-05	3.24E-05	3.23E-05	3.23E-05	3.23E-05	3.23E-05	3.23E-05	3.23E-05	3.21E-05	3.21E-05
cm248	1.52E-06	1.51E-06	1.50E-06	1.48E-06	1.47E-06	1.45E-06	1.44E-06	1.42E-06	1.34E-06	1.09E-06	9.86E-07
cm249	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cm250	6.55E-16	6.05E-16	4.96E-16	4.06E-16	3.33E-16	2.73E-16	2.23E-16	1.83E-16	5.56E-17	1.03E-18	1.41E-19
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	1.93E-24	1.79E-24	1.46E-24	1.20E-24	9.83E-25	8.05E-25	6.60E-25	5.41E-25	1.64E-25	3.05E-27	4.15E-28
bk251	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf249	4.22E-41	6.98E-43	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
cf250	6.90E-20	6.37E-20	5.22E-20	4.28E-20	3.50E-20	2.87E-20	2.35E-20	1.93E-20	5.83E-21	1.09E-22	1.48E-23
cf251	1.56E-22	3.32E-23	7.00E-25	1.48E-26	3.11E-28	6.56E-30	1.38E-31	2.91E-33	3.52E-43	.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	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05	4.54E+05

1

Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 84

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05	7.49E-05
li 7	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06	2.88E-06
be 9	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06	5.54E-06
be 10	3.63E-05	3.63E-05	3.62E-05	3.61E-05	3.61E-05	3.60E-05	3.59E-05	3.58E-05	3.54E-05	3.39E-05	3.31E-05
c 14	7.52E-08	5.91E-08	3.23E-08	1.76E-08	9.62E-09	5.25E-09	2.87E-09	1.57E-09	4.15E-11	2.31E-16	5.45E-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	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

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	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08	2.32E-08
zn 68	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-09	2.07E-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	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08	7.63E-08
zn 70	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-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	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-09	2.79E-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	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-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	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-03	1.30E-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	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03	4.09E-03
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	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-03	3.49E-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	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02	3.33E-02
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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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 85

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-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	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-04	6.31E-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	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-01	2.33E-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	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01
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	6.31E-01	6.05E-01	5.45E-01	4.90E-01	4.41E-01	3.97E-01	3.58E-01	3.22E-01	1.71E-01	2.10E-02	7.33E-03
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	7.71E-01	7.97E-01	8.57E-01	9.12E-01	9.61E-01	1.00E+00	1.04E+00	1.08E+00	1.23E+00	1.38E+00	1.39E+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	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+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	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05	1.50E-05
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	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00	5.85E+00
kr 81	6.30E-07	6.26E-07	6.15E-07	6.06E-07	5.96E-07	5.86E-07	5.77E-07	5.67E-07	5.15E-07	3.72E-07	3.16E-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

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 86

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+00	9.54E+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	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01	1.22E-01
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	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+01	1.35E+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	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01	3.28E+01
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	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01	3.46E+01
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	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01	5.55E+01
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	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-02	6.45E-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	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01	7.25E+01
sr 87	3.46E-04	3.48E-04	3.53E-04	3.59E-04	3.64E-04	3.69E-04	3.74E-04	3.80E-04	4.11E-04	5.16E-04	5.68E-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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 87

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+02	1.04E+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	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+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	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+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	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02	1.79E+02
nb 91	4.01E-27	5.22E-28	3.19E-30	1.95E-32	1.19E-34	7.31E-37	4.47E-39	2.73E-41	.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	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02	1.89E+02
nb 92	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.28E-08	3.27E-08	3.27E-08
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	1.36E+02	1.36E+02	1.36E+02	1.36E+02	1.35E+02	1.35E+02	1.35E+02	1.34E+02	1.33E+02	1.27E+02	1.24E+02
nb 93	2.37E+00	2.49E+00	2.80E+00	3.11E+00	3.42E+00	3.72E+00	4.03E+00	4.33E+00	6.15E+00	1.20E+01	1.49E+01
nb 93m	1.44E-03	1.44E-03	1.43E-03	1.43E-03	1.43E-03	1.42E-03	1.42E-03	1.42E-03	1.40E-03	1.34E-03	1.31E-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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 88

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02	2.23E+02
nb 94	3.41E-05	3.19E-05	2.69E-05	2.26E-05	1.91E-05	1.61E-05	1.36E-05	1.14E-05	4.11E-06	1.35E-07	2.45E-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	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+02	2.24E+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	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+02	2.32E+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	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+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	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	2.17E+02	2.17E+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	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
tc 98	1.36E-03	1.36E-03	1.36E-03	1.35E-03	1.35E-03	1.35E-03	1.35E-03	1.35E-03	1.34E-03	1.32E-03	1.31E-03
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	2.03E+02	2.02E+02	1.99E+02	1.96E+02	1.92E+02	1.89E+02	1.86E+02	1.83E+02	1.66E+02	1.20E+02	1.01E+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	2.71E+01	2.84E+01	3.17E+01	3.49E+01	3.81E+01	4.12E+01	4.43E+01	4.74E+01	6.45E+01	1.11E+02	1.29E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 89

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	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	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+02	2.63E+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	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01	1.89E+01
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	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
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	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+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	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.44E+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	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+02	1.39E+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	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.10E+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	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 90

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+01	7.94E+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	5.10E+01	5.10E+01	5.09E+01	5.09E+01	5.09E+01	5.09E+01	5.08E+01	5.08E+01	5.06E+01	5.01E+01	4.98E+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	2.07E-01	2.18E-01	2.45E-01	2.72E-01	2.99E-01	3.27E-01	3.54E-01	3.81E-01	5.43E-01	1.08E+00	1.35E+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	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+01	3.25E+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	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05	4.70E-05
zr109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
nb109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
mo109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
tc109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ru109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ag109	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+01	2.19E+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	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+00	9.64E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 91

0 nuclide concentrations, grams

basis =per B&W assembly, 0.409 mthm for grams

	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
cd110	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+00	5.76E+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	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.04E+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	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+00	2.64E+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	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02
cd113m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
in113	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-02	3.00E-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	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+00	2.93E+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	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05	7.51E-05
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	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01
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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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 92

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
sn115	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-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	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+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	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01	4.77E-01
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	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+00	1.19E+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	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01	9.73E-01

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	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+00	1.03E+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	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+00	1.01E+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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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 93

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+00	1.05E+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	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+00	1.31E+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	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02
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	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00
te123	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04	3.68E-04
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	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	2.20E+00	2.20E+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	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02	3.98E-02
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	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
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	3.76E+00	3.70E+00	3.58E+00	3.46E+00	3.34E+00	3.22E+00	3.11E+00	3.01E+00	2.44E+00	1.22E+00	8.64E-01

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 94

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
sb126	1.78E-07	1.76E-07	1.70E-07	1.64E-07	1.59E-07	1.53E-07	1.48E-07	1.43E-07	1.16E-07	5.80E-08	4.10E-08
sb126m	1.36E-09	1.34E-09	1.29E-09	1.25E-09	1.21E-09	1.16E-09	1.12E-09	1.09E-09	8.83E-10	4.41E-10	3.12E-10
te126	1.21E+00	1.26E+00	1.39E+00	1.51E+00	1.63E+00	1.74E+00	1.85E+00	1.96E+00	2.52E+00	3.74E+00	4.10E+00
xe126	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09	1.22E-09
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	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
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	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+01	2.43E+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	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01	3.97E-01
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	4.99E+01	4.99E+01	4.98E+01	4.98E+01	4.98E+01	4.98E+01	4.98E+01	4.98E+01	4.97E+01	4.95E+01	4.94E+01
xe129	8.49E-02	8.93E-02	1.00E-01	1.11E-01	1.22E-01	1.33E-01	1.44E-01	1.55E-01	2.21E-01	4.40E-01	5.50E-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	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.01E+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	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+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	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.38E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 95

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nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02	2.84E+02
cs132	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba132	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05	4.90E-05
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	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02	3.41E+02
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	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02	4.27E+02
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	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+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	1.75E+02	1.75E+02	1.75E+02	1.75E+02	1.74E+02	1.74E+02	1.74E+02	1.73E+02	1.72E+02	1.67E+02	1.64E+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	2.06E+00	2.16E+00	2.43E+00	2.69E+00	2.95E+00	3.21E+00	3.48E+00	3.74E+00	5.30E+00	1.04E+01	1.29E+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	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02	5.61E+02
cs136	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
ba136	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.78E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 96

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02	3.60E+02
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	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02	3.65E+02
la138	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03	2.18E-03
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	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02	3.47E+02
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	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
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	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+02	3.21E+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	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+02	3.23E+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	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 97

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	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
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	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+02	3.42E+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	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+02	2.03E+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	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	1.87E+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	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03
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	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01	8.97E+01
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	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+02	1.03E+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

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 98

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
sm148	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01	2.89E+01
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	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+00	1.42E+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	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01	4.85E+01
pm150	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
sm150	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01	8.04E+01
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	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+00	6.22E+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	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+01	3.74E+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	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02	3.19E-02
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	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+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

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 99

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
sm154	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+00	9.08E+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	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+00	7.93E+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	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+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	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+00	9.32E+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	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-02	3.11E-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	3.25E+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
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	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
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	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-01	2.25E-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	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02
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 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	40000. yr	45000. yr	50000. yr	55000. yr	60000. yr	65000. yr	70000. yr	100000. yr	200000. yr	250000. yr
dy161	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-02	8.26E-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	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-02	5.62E-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	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-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	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02
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	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-03	9.50E-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	6.97E-15	2.20E-15	1.22E-16	6.81E-18	3.79E-19	2.11E-20	1.17E-21	6.54E-23	1.95E-30	.00E+00	.00E+00
er166	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	1.57E-03	1.57E-03
er167	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05	2.44E-05
er167m	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00	.00E+00
er168	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05	2.01E-05
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	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-07	7.41E-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	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-07	7.89E-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	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-09	4.62E-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	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06	1.05E-06
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	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07	6.73E-07
total	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03	9.58E+03

1 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 101

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	300000. yr	500000. yr	999999. yr
he 4	7.18E+01	7.39E+01	8.21E+01	9.90E+01
tl206	2.71E-15	2.61E-15	2.01E-15	1.18E-15
tl207	9.99E-11	1.00E-10	1.01E-10	1.01E-10
tl208	2.10E-15	2.46E-15	3.99E-15	7.90E-15

tl209	1.21E-11	1.33E-11	1.59E-11	1.52E-11
pb206	3.43E+01	4.31E+01	7.35E+01	1.23E+02
pb207	1.49E+00	1.87E+00	3.42E+00	7.27E+00
pb208	5.83E-04	6.21E-04	8.35E-04	1.82E-03
pb209	5.12E-08	5.61E-08	6.74E-08	6.41E-08
pb210	5.85E-03	5.63E-03	4.33E-03	2.55E-03
pb211	7.72E-10	7.77E-10	7.79E-10	7.78E-10
pb212	1.24E-12	1.46E-12	2.37E-12	4.68E-12
pb214	1.36E-08	1.31E-08	1.01E-08	5.95E-09
bi208	.00E+00	.00E+00	.00E+00	.00E+00
bi209	1.39E+01	1.89E+01	4.26E+01	1.06E+02
bi210m	.00E+00	.00E+00	.00E+00	.00E+00
bi210	3.60E-06	3.47E-06	2.67E-06	1.57E-06
bi211	4.58E-11	4.60E-11	4.62E-11	4.61E-11
bi212	1.18E-13	1.39E-13	2.24E-13	4.44E-13
bi213	1.22E-08	1.34E-08	1.60E-08	1.53E-08
bi214	1.01E-08	9.74E-09	7.50E-09	4.42E-09
po210	9.94E-05	9.57E-05	7.37E-05	4.34E-05
po211m	.00E+00	.00E+00	.00E+00	.00E+00
po211	5.06E-16	5.09E-16	5.10E-16	5.10E-16
po212	6.19E-24	7.28E-24	1.18E-23	2.33E-23
po213	1.83E-17	2.01E-17	2.41E-17	2.30E-17
po214	1.39E-15	1.34E-15	1.03E-15	6.08E-16
po215	6.47E-16	6.50E-16	6.52E-16	6.52E-16
po216	4.79E-18	5.63E-18	9.13E-18	1.81E-17
po218	1.61E-09	1.55E-09	1.19E-09	7.01E-10
at217	1.47E-13	1.61E-13	1.93E-13	1.84E-13
rn218	.00E+00	.00E+00	.00E+00	.00E+00
rn219	1.47E-12	1.47E-12	1.48E-12	1.48E-12
rn220	1.87E-15	2.20E-15	3.57E-15	7.05E-15
rn222	2.90E-06	2.80E-06	2.15E-06	1.27E-06
fr221	1.36E-09	1.49E-09	1.79E-09	1.70E-09
fr223	6.80E-12	6.84E-12	6.86E-12	6.86E-12
ra222	.00E+00	.00E+00	.00E+00	.00E+00
ra223	3.72E-07	3.74E-07	3.75E-07	3.75E-07
ra224	1.08E-11	1.27E-11	2.06E-11	4.09E-11
ra225	6.03E-06	6.60E-06	7.92E-06	7.54E-06
ra226	4.52E-01	4.35E-01	3.35E-01	1.97E-01
ra228	5.97E-09	7.18E-09	1.20E-08	2.39E-08
ac225	4.07E-06	4.46E-06	5.35E-06	5.09E-06
ac227	2.64E-04	2.65E-04	2.66E-04	2.66E-04
ac228	7.29E-13	8.76E-13	1.46E-12	2.91E-12
th226	.00E+00	.00E+00	.00E+00	.00E+00
th227	6.12E-07	6.15E-07	6.17E-07	6.17E-07
th228	2.11E-09	2.48E-09	4.01E-09	7.94E-09
th229	1.19E+00	1.31E+00	1.57E+00	1.49E+00
th230	2.14E+01	2.06E+01	1.60E+01	9.46E+00
th231	3.62E-08	3.62E-08	3.62E-08	3.61E-08

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 102

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	300000. yr	500000. yr	999999. yr
th232	1.49E+01	1.79E+01	2.98E+01	5.93E+01
th233	.00E+00	.00E+00	.00E+00	.00E+00
th234	6.42E-06	6.42E-06	6.42E-06	6.42E-06
pa231	4.04E-01	4.06E-01	4.07E-01	4.07E-01
pa232	.00E+00	.00E+00	.00E+00	.00E+00
pa233	1.70E-05	1.67E-05	1.57E-05	1.33E-05
pa234m	2.17E-10	2.17E-10	2.17E-10	2.17E-10

pa234	9.67E-11	9.67E-11	9.67E-11	9.67E-11
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	4.36E-09	3.23E-09	9.67E-10	4.75E-11
u233	2.51E+01	2.73E+01	3.16E+01	3.05E+01
u234	6.68E+01	6.12E+01	4.51E+01	2.91E+01
u235	8.89E+03	8.89E+03	8.89E+03	8.89E+03
u236	2.06E+03	2.06E+03	2.05E+03	2.01E+03
u237	3.22E-21	5.45E-23	4.48E-30	.00E+00
u238	4.42E+05	4.42E+05	4.42E+05	4.42E+05
u239	.00E+00	.00E+00	.00E+00	.00E+00
u240	1.17E-17	1.34E-17	1.87E-17	2.53E-17
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	8.21E-05	6.08E-05	1.82E-05	8.93E-07
np237	5.01E+02	4.93E+02	4.62E+02	3.93E+02
np238	.00E+00	.00E+00	.00E+00	.00E+00
np239	1.30E-14	1.25E-14	1.24E-14	1.21E-14
np240m	9.96E-20	1.14E-19	1.59E-19	2.16E-19
np240	1.02E-21	1.17E-21	1.64E-21	2.22E-21
np241	.00E+00	.00E+00	.00E+00	.00E+00
pu236	1.84E-10	1.36E-10	4.08E-11	2.01E-12
pu237	.00E+00	.00E+00	.00E+00	.00E+00
pu238	.00E+00	.00E+00	.00E+00	.00E+00
pu239	2.00E+00	4.75E-01	1.51E-03	4.61E-08
pu240	2.34E-09	6.49E-11	7.61E-11	1.03E-10
pu241	1.06E-13	1.80E-15	1.48E-22	.00E+00
pu242	4.46E+01	4.06E+01	2.80E+01	1.11E+01
pu243	1.11E-15	1.11E-15	1.10E-15	1.08E-15
pu244	5.91E-07	6.77E-07	9.45E-07	1.28E-06
pu245	.00E+00	.00E+00	.00E+00	.00E+00
pu246	5.90E-26	8.06E-27	2.79E-30	.00E+00
am239	.00E+00	.00E+00	.00E+00	.00E+00
am240	.00E+00	.00E+00	.00E+00	.00E+00
am241	3.20E-12	5.42E-14	4.70E-21	9.14E-39
am242m	.00E+00	.00E+00	.00E+00	.00E+00
am242	.00E+00	.00E+00	.00E+00	.00E+00
am243	1.52E-08	1.45E-08	1.44E-08	1.41E-08
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	1.48E-28	2.01E-29	6.97E-33	1.55E-41
cm241	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 103

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	6.39E-11	1.08E-12	8.90E-20	1.73E-37
cm246	3.85E-19	2.26E-21	9.53E-25	2.13E-33
cm247	3.21E-05	3.20E-05	3.17E-05	3.10E-05
cm248	9.86E-07	8.91E-07	5.92E-07	2.14E-07
cm249	.00E+00	.00E+00	.00E+00	.00E+00
cm250	1.41E-19	1.92E-20	6.65E-24	1.48E-32
cm251	.00E+00	.00E+00	.00E+00	.00E+00

bk249	.00E+00	.00E+00	.00E+00	.00E+00
bk250	4.15E-28	5.67E-29	1.96E-32	.00E+00
bk251	.00E+00	.00E+00	.00E+00	.00E+00
cf249	.00E+00	.00E+00	.00E+00	.00E+00
cf250	1.48E-23	2.02E-24	7.00E-28	1.56E-36
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	4.54E+05	4.54E+05	4.54E+05	4.54E+05

1

Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 104

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial	300000. yr	500000. yr	999999. yr
h 3	.00E+00	.00E+00	.00E+00	.00E+00
li 6	7.49E-05	7.49E-05	7.49E-05	7.49E-05
li 7	2.88E-06	2.88E-06	2.88E-06	2.88E-06
be 9	5.54E-06	5.54E-06	5.54E-06	5.54E-06
be 10	3.31E-05	3.24E-05	2.97E-05	2.40E-05
c 14	5.45E-19	1.29E-21	3.98E-32	.00E+00
ni 66	.00E+00	.00E+00	.00E+00	.00E+00
cu 66	.00E+00	.00E+00	.00E+00	.00E+00
zn 66	1.75E-07	1.75E-07	1.75E-07	1.75E-07
cu 67	.00E+00	.00E+00	.00E+00	.00E+00
zn 67	2.32E-08	2.32E-08	2.32E-08	2.32E-08
zn 68	2.07E-09	2.07E-09	2.07E-09	2.07E-09
zn 69	.00E+00	.00E+00	.00E+00	.00E+00
zn 69m	.00E+00	.00E+00	.00E+00	.00E+00
ga 69	7.63E-08	7.63E-08	7.63E-08	7.63E-08
zn 70	2.03E-06	2.03E-06	2.03E-06	2.03E-06
ga 70	.00E+00	.00E+00	.00E+00	.00E+00
ge 70	2.79E-09	2.79E-09	2.79E-09	2.79E-09
zn 71	.00E+00	.00E+00	.00E+00	.00E+00
zn 71m	.00E+00	.00E+00	.00E+00	.00E+00
ga 71	2.00E-05	2.00E-05	2.00E-05	2.00E-05
ge 71	.00E+00	.00E+00	.00E+00	.00E+00
ge 71m	.00E+00	.00E+00	.00E+00	.00E+00
co 72	.00E+00	.00E+00	.00E+00	.00E+00
ni 72	.00E+00	.00E+00	.00E+00	.00E+00
cu 72	.00E+00	.00E+00	.00E+00	.00E+00
zn 72	.00E+00	.00E+00	.00E+00	.00E+00
ga 72	.00E+00	.00E+00	.00E+00	.00E+00
ge 72	1.30E-03	1.30E-03	1.30E-03	1.30E-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	4.09E-03	4.09E-03	4.09E-03	4.09E-03
ge 73m	.00E+00	.00E+00	.00E+00	.00E+00
co 74	.00E+00	.00E+00	.00E+00	.00E+00
ni 74	.00E+00	.00E+00	.00E+00	.00E+00
cu 74	.00E+00	.00E+00	.00E+00	.00E+00

zn 74	.00E+00	.00E+00	.00E+00	.00E+00
ga 74	.00E+00	.00E+00	.00E+00	.00E+00
ge 74	3.49E-03	3.49E-03	3.49E-03	3.49E-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	3.33E-02	3.33E-02	3.33E-02	3.33E-02
ni 76	.00E+00	.00E+00	.00E+00	.00E+00
cu 76	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 105

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial300000. yr	500000. yr	999999. yr	
zn 76	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	1.02E-01	1.02E-01	1.02E-01	1.02E-01
as 76	.00E+00	.00E+00	.00E+00	.00E+00
se 76	6.31E-04	6.31E-04	6.31E-04	6.31E-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	2.33E-01	2.33E-01	2.33E-01	2.33E-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	7.25E-01	7.25E-01	7.25E-01	7.25E-01
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	7.33E-03	2.56E-03	3.83E-05	1.05E-09
se 79m	.00E+00	.00E+00	.00E+00	.00E+00
br 79	1.39E+00	1.40E+00	1.40E+00	1.40E+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	3.93E+00	3.93E+00	3.93E+00	3.93E+00
br 80	.00E+00	.00E+00	.00E+00	.00E+00
br 80m	.00E+00	.00E+00	.00E+00	.00E+00
kr 80	1.50E-05	1.50E-05	1.50E-05	1.50E-05
cu 81	.00E+00	.00E+00	.00E+00	.00E+00
zn 81	.00E+00	.00E+00	.00E+00	.00E+00

ga 81	.00E+00	.00E+00	.00E+00	.00E+00
ge 81	.00E+00	.00E+00	.00E+00	.00E+00
as 81	.00E+00	.00E+00	.00E+00	.00E+00
se 81	.00E+00	.00E+00	.00E+00	.00E+00
se 81m	.00E+00	.00E+00	.00E+00	.00E+00
br 81	5.85E+00	5.85E+00	5.85E+00	5.85E+00
kr 81	3.16E-07	2.68E-07	1.40E-07	2.75E-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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 106

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial300000. yr500000. yr999999. 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	9.54E+00	9.54E+00	9.54E+00	9.54E+00
br 82	.00E+00	.00E+00	.00E+00	.00E+00
br 82m	.00E+00	.00E+00	.00E+00	.00E+00
kr 82	1.22E-01	1.22E-01	1.22E-01	1.22E-01
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	1.35E+01	1.35E+01	1.35E+01	1.35E+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	3.28E+01	3.28E+01	3.28E+01	3.28E+01
ga 85	.00E+00	.00E+00	.00E+00	.00E+00
ge 85	.00E+00	.00E+00	.00E+00	.00E+00
as 85	.00E+00	.00E+00	.00E+00	.00E+00
se 85	.00E+00	.00E+00	.00E+00	.00E+00
se 85m	.00E+00	.00E+00	.00E+00	.00E+00
br 85	.00E+00	.00E+00	.00E+00	.00E+00
kr 85	.00E+00	.00E+00	.00E+00	.00E+00
kr 85m	.00E+00	.00E+00	.00E+00	.00E+00
rb 85	3.46E+01	3.46E+01	3.46E+01	3.46E+01
ge 86	.00E+00	.00E+00	.00E+00	.00E+00
as 86	.00E+00	.00E+00	.00E+00	.00E+00
se 86	.00E+00	.00E+00	.00E+00	.00E+00
br 86	.00E+00	.00E+00	.00E+00	.00E+00
br 86m	.00E+00	.00E+00	.00E+00	.00E+00
kr 86	5.55E+01	5.55E+01	5.55E+01	5.55E+01
rb 86	.00E+00	.00E+00	.00E+00	.00E+00
rb 86m	.00E+00	.00E+00	.00E+00	.00E+00
sr 86	6.45E-02	6.45E-02	6.45E-02	6.45E-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	7.25E+01	7.25E+01	7.25E+01	7.25E+01
sr 87	5.68E-04	6.20E-04	8.30E-04	1.35E-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 8 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 107

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	1.04E+02	1.04E+02	1.04E+02	1.04E+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	1.39E+02	1.39E+02	1.39E+02	1.39E+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	1.70E+02	1.70E+02	1.70E+02	1.70E+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	1.79E+02	1.79E+02	1.79E+02	1.79E+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	1.89E+02	1.89E+02	1.89E+02	1.89E+02
nb 92	3.27E-08	3.26E-08	3.25E-08	3.22E-08
se 93	.00E+00	.00E+00	.00E+00	.00E+00
br 93	.00E+00	.00E+00	.00E+00	.00E+00
kr 93	.00E+00	.00E+00	.00E+00	.00E+00
rb 93	.00E+00	.00E+00	.00E+00	.00E+00
sr 93	.00E+00	.00E+00	.00E+00	.00E+00
y 93	.00E+00	.00E+00	.00E+00	.00E+00
zr 93	1.24E+02	1.21E+02	1.11E+02	8.82E+01
nb 93	1.49E+01	1.76E+01	2.81E+01	5.06E+01

nb 93m	1.31E-03	1.28E-03	1.17E-03	9.30E-04
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 108

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	2.23E+02	2.23E+02	2.23E+02	2.23E+02
nb 94	2.45E-08	4.44E-09	4.80E-12	1.84E-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	2.24E+02	2.24E+02	2.24E+02	2.24E+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	2.32E+02	2.32E+02	2.32E+02	2.32E+02
nb 96	.00E+00	.00E+00	.00E+00	.00E+00
mo 96	6.56E+00	6.56E+00	6.56E+00	6.56E+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	2.17E+02	2.17E+02	2.17E+02	2.17E+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	2.33E+02	2.33E+02	2.33E+02	2.33E+02
tc 98	1.31E-03	1.30E-03	1.26E-03	1.16E-03
rb 99	.00E+00	.00E+00	.00E+00	.00E+00
sr 99	.00E+00	.00E+00	.00E+00	.00E+00
y 99	.00E+00	.00E+00	.00E+00	.00E+00
zr 99	.00E+00	.00E+00	.00E+00	.00E+00
nb 99	.00E+00	.00E+00	.00E+00	.00E+00
nb 99m	.00E+00	.00E+00	.00E+00	.00E+00
mo 99	.00E+00	.00E+00	.00E+00	.00E+00
tc 99	1.01E+02	8.61E+01	4.46E+01	8.64E+00
tc 99m	.00E+00	.00E+00	.00E+00	.00E+00
ru 99	1.29E+02	1.44E+02	1.86E+02	2.22E+02
rb100	.00E+00	.00E+00	.00E+00	.00E+00
sr100	.00E+00	.00E+00	.00E+00	.00E+00

y100	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 109

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	2.63E+02	2.63E+02	2.63E+02	2.63E+02
tc100	.00E+00	.00E+00	.00E+00	.00E+00
ru100	1.89E+01	1.89E+01	1.89E+01	1.89E+01
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	2.18E+02	2.18E+02	2.18E+02	2.18E+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	2.10E+02	2.10E+02	2.10E+02	2.10E+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	1.44E+02	1.44E+02	1.44E+02	1.44E+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	1.39E+02	1.39E+02	1.39E+02	1.39E+02
rh104	.00E+00	.00E+00	.00E+00	.00E+00
rh104m	.00E+00	.00E+00	.00E+00	.00E+00
pd104	4.10E+01	4.10E+01	4.10E+01	4.10E+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	1.01E+02	1.01E+02	1.01E+02	1.01E+02

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 110

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	7.94E+01	7.94E+01	7.94E+01	7.94E+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	4.98E+01	4.96E+01	4.85E+01	4.60E+01
pd107m	.00E+00	.00E+00	.00E+00	.00E+00
ag107	1.35E+00	1.61E+00	2.66E+00	5.18E+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	3.25E+01	3.25E+01	3.25E+01	3.25E+01
ag108	.00E+00	.00E+00	.00E+00	.00E+00
ag108m	.00E+00	.00E+00	.00E+00	.00E+00
cd108	4.70E-05	4.70E-05	4.70E-05	4.70E-05
zr109	.00E+00	.00E+00	.00E+00	.00E+00
nb109	.00E+00	.00E+00	.00E+00	.00E+00
mo109	.00E+00	.00E+00	.00E+00	.00E+00
tc109	.00E+00	.00E+00	.00E+00	.00E+00
ru109	.00E+00	.00E+00	.00E+00	.00E+00
rh109	.00E+00	.00E+00	.00E+00	.00E+00
rh109m	.00E+00	.00E+00	.00E+00	.00E+00
pd109	.00E+00	.00E+00	.00E+00	.00E+00
pd109m	.00E+00	.00E+00	.00E+00	.00E+00
ag109	2.19E+01	2.19E+01	2.19E+01	2.19E+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	9.64E+00	9.64E+00	9.64E+00	9.64E+00
ag110	.00E+00	.00E+00	.00E+00	.00E+00
ag110m	.00E+00	.00E+00	.00E+00	.00E+00

1 Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 111

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

initial300000. yr 500000. yr 999999. yr

cd110	5.76E+00	5.76E+00	5.76E+00	5.76E+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	5.04E+00	5.04E+00	5.04E+00	5.04E+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	2.64E+00	2.64E+00	2.64E+00	2.64E+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	4.58E-02	4.58E-02	4.58E-02	4.58E-02
cd113m	.00E+00	.00E+00	.00E+00	.00E+00
in113	3.00E-02	3.00E-02	3.00E-02	3.00E-02
in113m	.00E+00	.00E+00	.00E+00	.00E+00
mo114	.00E+00	.00E+00	.00E+00	.00E+00
tc114	.00E+00	.00E+00	.00E+00	.00E+00
ru114	.00E+00	.00E+00	.00E+00	.00E+00
rh114	.00E+00	.00E+00	.00E+00	.00E+00
pd114	.00E+00	.00E+00	.00E+00	.00E+00
ag114	.00E+00	.00E+00	.00E+00	.00E+00
cd114	2.93E+00	2.93E+00	2.93E+00	2.93E+00
in114	.00E+00	.00E+00	.00E+00	.00E+00
in114m	.00E+00	.00E+00	.00E+00	.00E+00
sn114	7.51E-05	7.51E-05	7.51E-05	7.51E-05
mo115	.00E+00	.00E+00	.00E+00	.00E+00
tc115	.00E+00	.00E+00	.00E+00	.00E+00
ru115	.00E+00	.00E+00	.00E+00	.00E+00
rh115	.00E+00	.00E+00	.00E+00	.00E+00
pd115	.00E+00	.00E+00	.00E+00	.00E+00
ag115	.00E+00	.00E+00	.00E+00	.00E+00
ag115m	.00E+00	.00E+00	.00E+00	.00E+00
cd115	.00E+00	.00E+00	.00E+00	.00E+00
cd115m	.00E+00	.00E+00	.00E+00	.00E+00
in115	4.59E-01	4.59E-01	4.59E-01	4.59E-01
in115m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 112

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial300000. yr	500000. yr	999999. yr	
sn115	4.57E-02	4.57E-02	4.57E-02	4.57E-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	1.31E+00	1.31E+00	1.31E+00	1.31E+00
in116	.00E+00	.00E+00	.00E+00	.00E+00
in116m	.00E+00	.00E+00	.00E+00	.00E+00
sn116	4.77E-01	4.77E-01	4.77E-01	4.77E-01
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	1.19E+00	1.19E+00	1.19E+00	1.19E+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	9.73E-01	9.73E-01	9.73E-01	9.73E-01
ru119	.00E+00	.00E+00	.00E+00	.00E+00
rh119	.00E+00	.00E+00	.00E+00	.00E+00
pd119	.00E+00	.00E+00	.00E+00	.00E+00
ag119	.00E+00	.00E+00	.00E+00	.00E+00
cd119	.00E+00	.00E+00	.00E+00	.00E+00
cd119m	.00E+00	.00E+00	.00E+00	.00E+00
in119	.00E+00	.00E+00	.00E+00	.00E+00
in119m	.00E+00	.00E+00	.00E+00	.00E+00
sn119	1.03E+00	1.03E+00	1.03E+00	1.03E+00
sn119m	.00E+00	.00E+00	.00E+00	.00E+00
ru120	.00E+00	.00E+00	.00E+00	.00E+00
rh120	.00E+00	.00E+00	.00E+00	.00E+00
pd120	.00E+00	.00E+00	.00E+00	.00E+00
ag120	.00E+00	.00E+00	.00E+00	.00E+00
cd120	.00E+00	.00E+00	.00E+00	.00E+00
in120	.00E+00	.00E+00	.00E+00	.00E+00
in120m	.00E+00	.00E+00	.00E+00	.00E+00
sn120	1.01E+00	1.01E+00	1.01E+00	1.01E+00
rh121	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 113

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial300000. yr	500000. yr	999999. yr	
pd121	.00E+00	.00E+00	.00E+00	.00E+00
ag121	.00E+00	.00E+00	.00E+00	.00E+00
cd121	.00E+00	.00E+00	.00E+00	.00E+00
in121	.00E+00	.00E+00	.00E+00	.00E+00
in121m	.00E+00	.00E+00	.00E+00	.00E+00
sn121	.00E+00	.00E+00	.00E+00	.00E+00

sn121m	.00E+00	.00E+00	.00E+00	.00E+00
sb121	1.05E+00	1.05E+00	1.05E+00	1.05E+00
rh122	.00E+00	.00E+00	.00E+00	.00E+00
pd122	.00E+00	.00E+00	.00E+00	.00E+00
ag122	.00E+00	.00E+00	.00E+00	.00E+00
cd122	.00E+00	.00E+00	.00E+00	.00E+00
in122	.00E+00	.00E+00	.00E+00	.00E+00
in122m	.00E+00	.00E+00	.00E+00	.00E+00
sn122	1.31E+00	1.31E+00	1.31E+00	1.31E+00
sb122	.00E+00	.00E+00	.00E+00	.00E+00
sb122m	.00E+00	.00E+00	.00E+00	.00E+00
te122	4.68E-02	4.68E-02	4.68E-02	4.68E-02
rh123	.00E+00	.00E+00	.00E+00	.00E+00
pd123	.00E+00	.00E+00	.00E+00	.00E+00
ag123	.00E+00	.00E+00	.00E+00	.00E+00
cd123	.00E+00	.00E+00	.00E+00	.00E+00
in123	.00E+00	.00E+00	.00E+00	.00E+00
in123m	.00E+00	.00E+00	.00E+00	.00E+00
sn123	.00E+00	.00E+00	.00E+00	.00E+00
sn123m	.00E+00	.00E+00	.00E+00	.00E+00
sb123	1.23E+00	1.23E+00	1.23E+00	1.23E+00
te123	3.68E-04	3.68E-04	3.68E-04	3.68E-04
te123m	.00E+00	.00E+00	.00E+00	.00E+00
pd124	.00E+00	.00E+00	.00E+00	.00E+00
ag124	.00E+00	.00E+00	.00E+00	.00E+00
cd124	.00E+00	.00E+00	.00E+00	.00E+00
in124	.00E+00	.00E+00	.00E+00	.00E+00
sn124	2.20E+00	2.20E+00	2.20E+00	2.20E+00
sb124	.00E+00	.00E+00	.00E+00	.00E+00
sb124m	.00E+00	.00E+00	.00E+00	.00E+00
te124	3.98E-02	3.98E-02	3.98E-02	3.98E-02
pd125	.00E+00	.00E+00	.00E+00	.00E+00
ag125	.00E+00	.00E+00	.00E+00	.00E+00
cd125	.00E+00	.00E+00	.00E+00	.00E+00
in125	.00E+00	.00E+00	.00E+00	.00E+00
in125m	.00E+00	.00E+00	.00E+00	.00E+00
sn125	.00E+00	.00E+00	.00E+00	.00E+00
sn125m	.00E+00	.00E+00	.00E+00	.00E+00
sb125	.00E+00	.00E+00	.00E+00	.00E+00
te125	2.68E+00	2.68E+00	2.68E+00	2.68E+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	8.64E-01	6.11E-01	1.53E-01	4.77E-03

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 114

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial300000. yr	500000. yr	999999. yr	
sb126	4.10E-08	2.90E-08	7.25E-09	2.27E-10
sb126m	3.12E-10	2.21E-10	5.52E-11	1.72E-12
te126	4.10E+00	4.35E+00	4.81E+00	4.96E+00
xe126	1.22E-09	1.22E-09	1.22E-09	1.22E-09
ag127	.00E+00	.00E+00	.00E+00	.00E+00
cd127	.00E+00	.00E+00	.00E+00	.00E+00
in127	.00E+00	.00E+00	.00E+00	.00E+00
in127m	.00E+00	.00E+00	.00E+00	.00E+00
sn127	.00E+00	.00E+00	.00E+00	.00E+00

sn127m	.00E+00	.00E+00	.00E+00	.00E+00
sb127	.00E+00	.00E+00	.00E+00	.00E+00
te127	.00E+00	.00E+00	.00E+00	.00E+00
te127m	.00E+00	.00E+00	.00E+00	.00E+00
i127	1.12E+01	1.12E+01	1.12E+01	1.12E+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	2.43E+01	2.43E+01	2.43E+01	2.43E+01
i128	.00E+00	.00E+00	.00E+00	.00E+00
xe128	3.97E-01	3.97E-01	3.97E-01	3.97E-01
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	4.94E+01	4.93E+01	4.89E+01	4.78E+01
xe129	5.50E-01	6.58E-01	1.09E+00	2.16E+00
xe129m	.00E+00	.00E+00	.00E+00	.00E+00
cd130	.00E+00	.00E+00	.00E+00	.00E+00
in130	.00E+00	.00E+00	.00E+00	.00E+00
sn130	.00E+00	.00E+00	.00E+00	.00E+00
sb130	.00E+00	.00E+00	.00E+00	.00E+00
sb130m	.00E+00	.00E+00	.00E+00	.00E+00
te130	1.01E+02	1.01E+02	1.01E+02	1.01E+02
i130	.00E+00	.00E+00	.00E+00	.00E+00
i130m	.00E+00	.00E+00	.00E+00	.00E+00
xe130	1.16E+00	1.16E+00	1.16E+00	1.16E+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	1.38E+02	1.38E+02	1.38E+02	1.38E+02
xe131m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 115

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial300000. yr500000. yr999999. 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	2.84E+02	2.84E+02	2.84E+02	2.84E+02
cs132	.00E+00	.00E+00	.00E+00	.00E+00
ba132	4.90E-05	4.90E-05	4.90E-05	4.90E-05
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	3.41E+02	3.41E+02	3.41E+02	3.41E+02
ba133	.00E+00	.00E+00	.00E+00	.00E+00
in134	.00E+00	.00E+00	.00E+00	.00E+00
sn134	.00E+00	.00E+00	.00E+00	.00E+00
sb134	.00E+00	.00E+00	.00E+00	.00E+00
sb134m	.00E+00	.00E+00	.00E+00	.00E+00
te134	.00E+00	.00E+00	.00E+00	.00E+00
i134	.00E+00	.00E+00	.00E+00	.00E+00
i134m	.00E+00	.00E+00	.00E+00	.00E+00
xe134	4.27E+02	4.27E+02	4.27E+02	4.27E+02
xe134m	.00E+00	.00E+00	.00E+00	.00E+00
cs134	.00E+00	.00E+00	.00E+00	.00E+00
cs134m	.00E+00	.00E+00	.00E+00	.00E+00
ba134	2.97E+01	2.97E+01	2.97E+01	2.97E+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	1.64E+02	1.62E+02	1.52E+02	1.31E+02
cs135m	.00E+00	.00E+00	.00E+00	.00E+00
ba135	1.29E+01	1.54E+01	2.48E+01	4.61E+01
ba135m	.00E+00	.00E+00	.00E+00	.00E+00
sn136	.00E+00	.00E+00	.00E+00	.00E+00
sb136	.00E+00	.00E+00	.00E+00	.00E+00
te136	.00E+00	.00E+00	.00E+00	.00E+00
i136	.00E+00	.00E+00	.00E+00	.00E+00
i136m	.00E+00	.00E+00	.00E+00	.00E+00
xe136	5.61E+02	5.61E+02	5.61E+02	5.61E+02
cs136	.00E+00	.00E+00	.00E+00	.00E+00
ba136	4.78E+00	4.78E+00	4.78E+00	4.78E+00
ba136m	.00E+00	.00E+00	.00E+00	.00E+00

1

Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 116

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	3.60E+02	3.60E+02	3.60E+02	3.60E+02
ba137m	.00E+00	.00E+00	.00E+00	.00E+00
sb138	.00E+00	.00E+00	.00E+00	.00E+00
te138	.00E+00	.00E+00	.00E+00	.00E+00
i138	.00E+00	.00E+00	.00E+00	.00E+00
xe138	.00E+00	.00E+00	.00E+00	.00E+00
cs138	.00E+00	.00E+00	.00E+00	.00E+00
cs138m	.00E+00	.00E+00	.00E+00	.00E+00
ba138	3.65E+02	3.65E+02	3.65E+02	3.65E+02
la138	2.18E-03	2.18E-03	2.18E-03	2.18E-03

sb139	.00E+00	.00E+00	.00E+00	.00E+00
te139	.00E+00	.00E+00	.00E+00	.00E+00
i139	.00E+00	.00E+00	.00E+00	.00E+00
xe139	.00E+00	.00E+00	.00E+00	.00E+00
cs139	.00E+00	.00E+00	.00E+00	.00E+00
ba139	.00E+00	.00E+00	.00E+00	.00E+00
la139	3.47E+02	3.47E+02	3.47E+02	3.47E+02
ce139	.00E+00	.00E+00	.00E+00	.00E+00
pr139	.00E+00	.00E+00	.00E+00	.00E+00
te140	.00E+00	.00E+00	.00E+00	.00E+00
i140	.00E+00	.00E+00	.00E+00	.00E+00
xe140	.00E+00	.00E+00	.00E+00	.00E+00
cs140	.00E+00	.00E+00	.00E+00	.00E+00
ba140	.00E+00	.00E+00	.00E+00	.00E+00
la140	.00E+00	.00E+00	.00E+00	.00E+00
ce140	3.67E+02	3.67E+02	3.67E+02	3.67E+02
pr140	.00E+00	.00E+00	.00E+00	.00E+00
te141	.00E+00	.00E+00	.00E+00	.00E+00
i141	.00E+00	.00E+00	.00E+00	.00E+00
xe141	.00E+00	.00E+00	.00E+00	.00E+00
cs141	.00E+00	.00E+00	.00E+00	.00E+00
ba141	.00E+00	.00E+00	.00E+00	.00E+00
la141	.00E+00	.00E+00	.00E+00	.00E+00
ce141	.00E+00	.00E+00	.00E+00	.00E+00
pr141	3.21E+02	3.21E+02	3.21E+02	3.21E+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	3.23E+02	3.23E+02	3.23E+02	3.23E+02
pr142	.00E+00	.00E+00	.00E+00	.00E+00
pr142m	.00E+00	.00E+00	.00E+00	.00E+00
nd142	3.24E+00	3.24E+00	3.24E+00	3.24E+00
i143	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 117

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	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	2.69E+02	2.69E+02	2.69E+02	2.69E+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	3.42E+02	3.42E+02	3.42E+02	3.42E+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	2.03E+02	2.03E+02	2.03E+02	2.03E+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	1.87E+02	1.87E+02	1.87E+02	1.87E+02
pm146	.00E+00	.00E+00	.00E+00	.00E+00
sm146	2.58E-03	2.58E-03	2.57E-03	2.57E-03
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	8.97E+01	8.97E+01	8.97E+01	8.97E+01
cs148	.00E+00	.00E+00	.00E+00	.00E+00
ba148	.00E+00	.00E+00	.00E+00	.00E+00
la148	.00E+00	.00E+00	.00E+00	.00E+00
ce148	.00E+00	.00E+00	.00E+00	.00E+00
pr148	.00E+00	.00E+00	.00E+00	.00E+00
nd148	1.03E+02	1.03E+02	1.03E+02	1.03E+02
pm148	.00E+00	.00E+00	.00E+00	.00E+00
pm148m	.00E+00	.00E+00	.00E+00	.00E+00

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 118

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial300000. yr	500000. yr	999999. yr	
sm148	2.89E+01	2.89E+01	2.89E+01	2.89E+01
cs149	.00E+00	.00E+00	.00E+00	.00E+00
ba149	.00E+00	.00E+00	.00E+00	.00E+00
la149	.00E+00	.00E+00	.00E+00	.00E+00
ce149	.00E+00	.00E+00	.00E+00	.00E+00
pr149	.00E+00	.00E+00	.00E+00	.00E+00
nd149	.00E+00	.00E+00	.00E+00	.00E+00
pm149	.00E+00	.00E+00	.00E+00	.00E+00
sm149	1.42E+00	1.42E+00	1.42E+00	1.42E+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	4.85E+01	4.85E+01	4.85E+01	4.85E+01
pm150	.00E+00	.00E+00	.00E+00	.00E+00
sm150	8.04E+01	8.04E+01	8.04E+01	8.04E+01
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

INFORMATION ONLY

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	6.22E+00	6.22E+00	6.22E+00	6.22E+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	3.74E+01	3.74E+01	3.74E+01	3.74E+01
eu152	.00E+00	.00E+00	.00E+00	.00E+00
eu152m	.00E+00	.00E+00	.00E+00	.00E+00
gd152	3.19E-02	3.19E-02	3.19E-02	3.19E-02
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	2.70E+01	2.70E+01	2.70E+01	2.70E+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

1

Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 119

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial300000. yr	500000. yr	999999. yr	
sm154	9.08E+00	9.08E+00	9.08E+00	9.08E+00
eu154	.00E+00	.00E+00	.00E+00	.00E+00
gd154	7.93E+00	7.93E+00	7.93E+00	7.93E+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	3.18E+00	3.18E+00	3.18E+00	3.18E+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	9.32E+00	9.32E+00	9.32E+00	9.32E+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	3.11E-02	3.11E-02	3.11E-02	3.11E-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	3.25E+00	3.25E+00	3.25E+00	3.25E+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	5.03E-01	5.03E-01	5.03E-01	5.03E-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	2.25E-01	2.25E-01	2.25E-01	2.25E-01
tb160	.00E+00	.00E+00	.00E+00	.00E+00
dy160	3.93E-02	3.93E-02	3.93E-02	3.93E-02
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 B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 120

0 nuclide concentrations, grams
basis =per B&W assembly, 0.409 mthm for grams

	initial300000. yr	500000. yr	999999. yr	
dy161	8.26E-02	8.26E-02	8.26E-02	8.26E-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	5.62E-02	5.62E-02	5.62E-02	5.62E-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	3.66E-02	3.66E-02	3.66E-02	3.66E-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	1.00E-02	1.00E-02	1.00E-02	1.00E-02
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	9.50E-03	9.50E-03	9.50E-03	9.50E-03
dy166	.00E+00	.00E+00	.00E+00	.00E+00

```
     ho166     .00E+00   .00E+00   .00E+00   .00E+00
     ho166m    .00E+00   .00E+00   .00E+00   .00E+00
     er166    1.57E-03  1.57E-03  1.57E-03  1.57E-03
     er167    2.44E-05  2.44E-05  2.44E-05  2.44E-05
     er167m    .00E+00   .00E+00   .00E+00   .00E+00
     er168    2.01E-05  2.01E-05  2.01E-05  2.01E-05
     yb168     .00E+00   .00E+00   .00E+00   .00E+00
     er169     .00E+00   .00E+00   .00E+00   .00E+00
     tm169    7.41E-07  7.41E-07  7.41E-07  7.41E-07
     yb169     .00E+00   .00E+00   .00E+00   .00E+00
     er170    7.89E-07  7.89E-07  7.89E-07  7.89E-07
     tm170     .00E+00   .00E+00   .00E+00   .00E+00
     tm170m    .00E+00   .00E+00   .00E+00   .00E+00
     yb170    4.62E-09  4.62E-09  4.62E-09  4.62E-09
     er171     .00E+00   .00E+00   .00E+00   .00E+00
     tm171     .00E+00   .00E+00   .00E+00   .00E+00
     yb171    1.05E-06  1.05E-06  1.05E-06  1.05E-06
     er172     .00E+00   .00E+00   .00E+00   .00E+00
     tm172     .00E+00   .00E+00   .00E+00   .00E+00
     yb172    6.73E-07  6.73E-07  6.73E-07  6.73E-07
   total      9.58E+03  9.58E+03  9.58E+03  9.58E+03
1  * normal termination of execution *
0                                             table of contents for material tables
0                                               case or subcase printed      page

                                                          1                    1
                                                          2                   21
                                                          3                   41
                                                          4                   61
                                                          5                   81
                                                          6                  101
Ondset          33
            21          4          1         27          6          0          0          0          0          0
             0          0          0          0          0          0         -1       1698        690        130
           880       7935          0          5         99          4         20         95         18         18
            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
```

```
  5.279960E-01 3.626268E-01 2.877356E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay
    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
  5.279960E-01 3.626268E-01 2.877356E+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 B&W 15x15, 3.00wt%, 20gwd/mtu decay
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
  5.279960E-01 3.626268E-01 2.877356E+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 B&W 15x15, 3.00wtX, 20gwd/mtu decay
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
  5.279960E-01 3.626268E-01 2.877356E+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
0pow              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 B&W 15x15, 3.00wtX, 20gwd/mtu decay
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
  5.279960E-01 3.626268E-01 2.877356E+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 3.800000E+04 2.500000E+01  .000000E+00 5.000000E-02
0mzero          4
            21         689         129         879
0pow            3
   .000000E+00  .000000E+00  .000000E+00
0 (inp          9
             6           0          51          26           2        3000        1000        1697           5
0 case or subcase    5  Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
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
0jopt          12
             0           0           0           0           0           0           0           0           0           0
             0           0
0therm          4
  5.279960E-01 3.626268E-01 2.877356E+00 1.000000E-25
0non            5
          7935          20           6          18        1697
0mmn           19
             0           3           0           0           1           1           0           0           0          10
            21         100           0           5           0           0           4           0           0
0tconst         5
  3.156000E+07 2.500000E+05 2.600000E+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
0 case or subcase    6  Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay
    56$$ 0 -10 a10 1 e  t
0   56$ array     20 entries read
0    0t
```