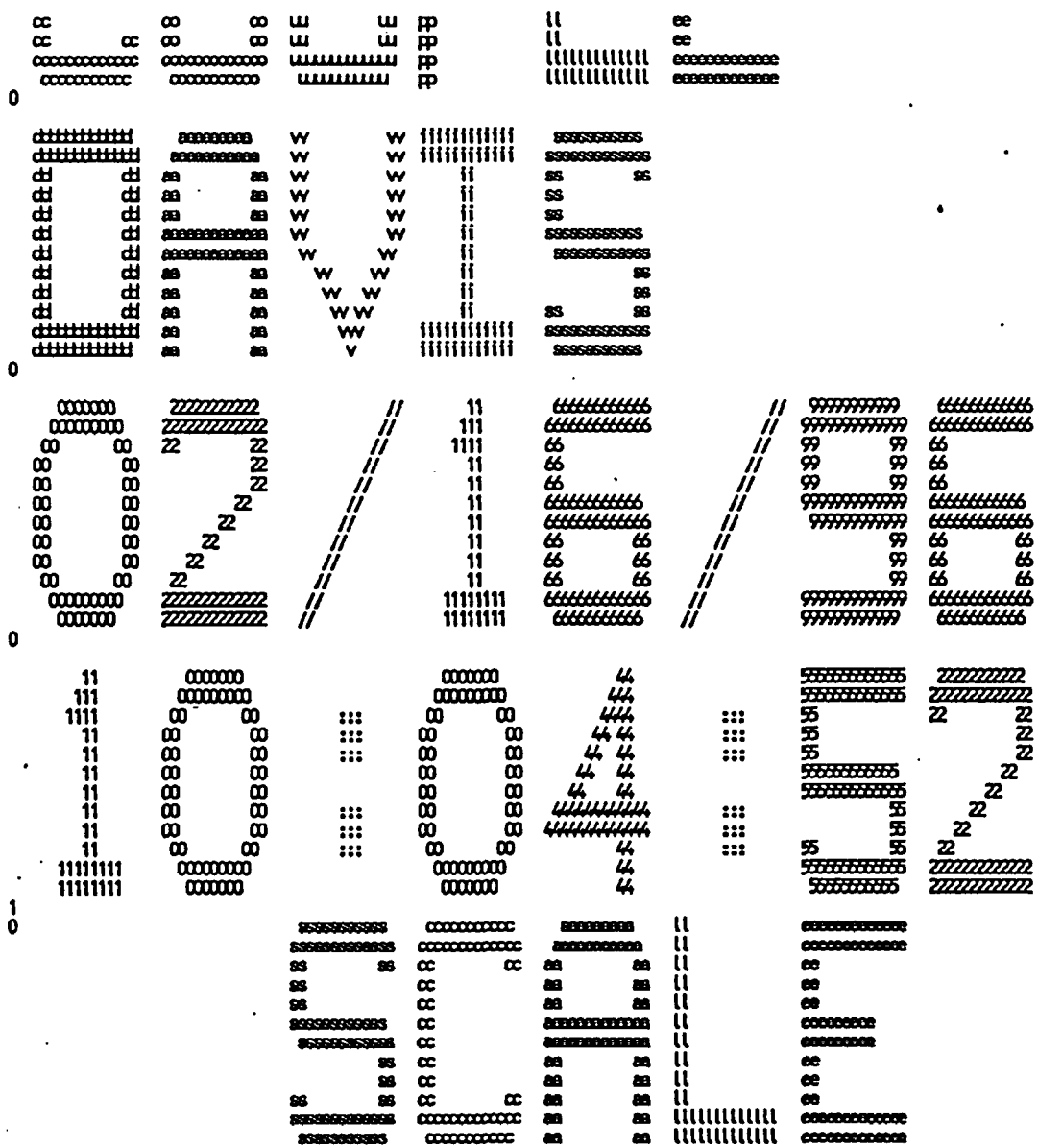
INFORMATION ONLY



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
```

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50100	to 10020	3.85350E-03
50100	to 30070	3.28386E+03
50100	to 20040	3.28404E+03
50100	to 10030	9.39363E-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 10030	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	9.72558E-05
80160	to 10010	9.72558E-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
400950	to 400940	1.37832E+01
400950	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
430990	to 430980	6.69255E-03
430990	to 431000	9.06183E+01
430990	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

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451030	to 451020	2.42626E-03
451030	to 451040	3.50205E+02
451030	tot-cap	3.50209E+02
451050	to 451060	8.21154E+03
451050	tot-cap	8.21154E+03
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-03
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	1.23092E+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	3.56195E-07
541320	to 10020	3.56195E-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	9.55785E-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-03
551330	to 551340	1.02525E+02
551330	to 541330	9.52659E-04

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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	1.69499E-06
591410	to 10030	1.69499E-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	2.58448E-06
601430	to 591410	3.72423E-06
601430	to 10030	3.72423E-06
601430	to 581410	1.78934E-03
601430	to 20030	1.78934E-03
601430	to 581400	5.73388E-04
601430	tot-cap	2.00825E+02
601450	to 601440	1.24443E-01
601450	to 601430	1.26481E-04
601450	to 581410	8.90192E-06
601450	to 20040	2.22408E-04
601450	to 591440	2.37587E-06
601450	to 10010	1.54304E-05
601450	to 601460	7.95924E+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	9.41176E-06
611470 to 20040	8.70684E-05
611470 to 601460	1.30192E-05
611470 to 10010	2.96031E-05
611470 to 611480	5.90067E+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	8.89030E-02
621470 to 621450	8.00533E-03
621470 to 601430	6.87306E-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	2.38020E+02
621490 to 621480	5.02405E-02
621490 to 621470	3.99031E-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	1.67820E-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

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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	1.95285E-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	5.37745E-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	3.12189E-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	1.30024E-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	1.20723E+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	3.05974E-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	3.42086E-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	7.40802E+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
952370	to 952360	1.55753E-02
952370	fission	5.32347E+00
952370	nu-sigf	1.60371E+01
952370	to 952350	5.95861E-05
952370	to 952380	3.04246E+02
952370	to 952371	7.87315E-01
952370	tot-cap	3.09588E+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	2.90260E+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-03
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	7.83761E-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  1.44656E+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
Ouse substitute nuclide in block 8 data.  or, update with new fission yield data.
Othe fission product transitions for  952430 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  962440 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  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  oooooooooo   rrrrrrrrrrr   iiiiiiiiiiii   gggggggggg   eeeeeeeeeeee   m       m   ssssssssss
  oooooooooooo  rrrrrrrrrrrr  iiiiiiiiiiii   gggggggggggg  eeeeeeeeeeee   mm      m   ssssssssssss
  oo       oo   rr       rr      ii        gg       gg   ee           mmm     m   ss       ss
  oo       oo   rr       rr      ii        gg           ee           mm m    m   ss
  oo       oo   rr       rr      ii        gg           ee           m  m    m   ss
  oo       oo   rrrrrrrrrrrr      ii        gg   gggggg  eeeeeeee     m   m   m   ssssssssssss
  oo       oo   rrrrrrrrrrrr      ii        gg   gggggg  eeeeeeee     m    m  m   ssssssssssss
  oo       oo   rr     rr        ii        gg       gg   ee           m     m m           ss
  oo       oo   rr      rr       ii        gg       gg   ee           m      mm           ss
  oo       oo   rr       rr      ii        gg       gg   ee           m       mm   ss       ss
  oooooooooooo  rr        rr  iiiiiiiiiiii   gggggggggggg  eeeeeeeeeeee   m        mm   ssssssssssss
   oooooooooo   rr        rr  iiiiiiiiiiii    gggggggggg   eeeeeeeeeeee   m         m   ssssssssss
0

  dddddddddd     aaaaaaaa    w        w  iiiiiiiiiiii    ssssssssss
  dddddddddddd   aaaaaaaaaa  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
  dddddddddd    aa       aa        v     iiiiiiiiiiii    ssssssssss
0

    0000000     22222222222          //      11      666666666666          //  99999999999   666666666666
   000000000    22222222222         //      111      666666666666         //  99999999999   666666666666
  00      00    22       22        //      1111      66                  //  99       99   66
 00       00            22        //        11      66                  //  99       99   66
 00       00            22        //        11      66                  //  99       99   66
 00       00          22         //        11      666666666666        //  99999999999   666666666666
 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
   000000000   22222222222  //        11111111  666666666666  //          99999999999   666666666666
    0000000    22222222222 //         11111111   66666666666 //           99999999999   66666666666
0

      11        0000000                 0000000          44                 555555555555   33333333333
     111       000000000               000000000         444                 555555555555   333333333333
    1111       00      00      :::     00      00       4444       :::      55           33       33
      11       00      00      :::     00      00      44 44       :::      55                    33
      11       00      00      :::     00      00     44  44       :::      55                    33
      11       00      00              00      00    44   44               555555555555          333
```

```
     11      00      00              00      00    44  44              555555555555        333
     11      00      00      :::     00      00    44  44      :::             55          33
     11      00      00      :::     00      00    44  44      :::             55          33
     11      00      00      :::     00      00        44      :::     55      55  33      33
  11111111   00000000                00000000         44              555555555555  333333333333
  11111111   000000                  000000           44               555555555    333333333
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
                        ssssssssssss  cc            aaaaaaaaaaaa ll         eeeeeeeeee
                         ssssssssssss cc            aaaaaaaaaaaa ll         eeeeeeeeee
                                  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         *****
*****                                                       *****
*****                                                       *****
*****************************************************************
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*****************************************************************
*****************************************************************
*****************************************************************
```

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: 10:04:53

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

INFORMATION ONLY

```
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, qn =    9.1188E-04
0            half-norm of matrix used, an =    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        5q 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 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:  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        ************************************************************************
```

INFORMATION

1

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

power= 8.466E-06mw, 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	1.14E-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	8.79E-12	9.78E-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	3.88E-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	2.35E-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	9.03E-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	8.98E-18	9.83E-18	1.07E-17	1.01E-17	1.17E-17	1.26E-17
am240	3.08E-15	3.52E-15	3.88E-15	4.26E-15	4.69E-15	4.58E-15	5.06E-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	5.88E-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	1.09E-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-06mw, 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  4.24E-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  3.76E-31  5.61E-31  8.25E-31  5.72E-32  1.19E-30  1.71E-30
  totals   2.24E-02  2.24E-02  2.24E-02  2.24E-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

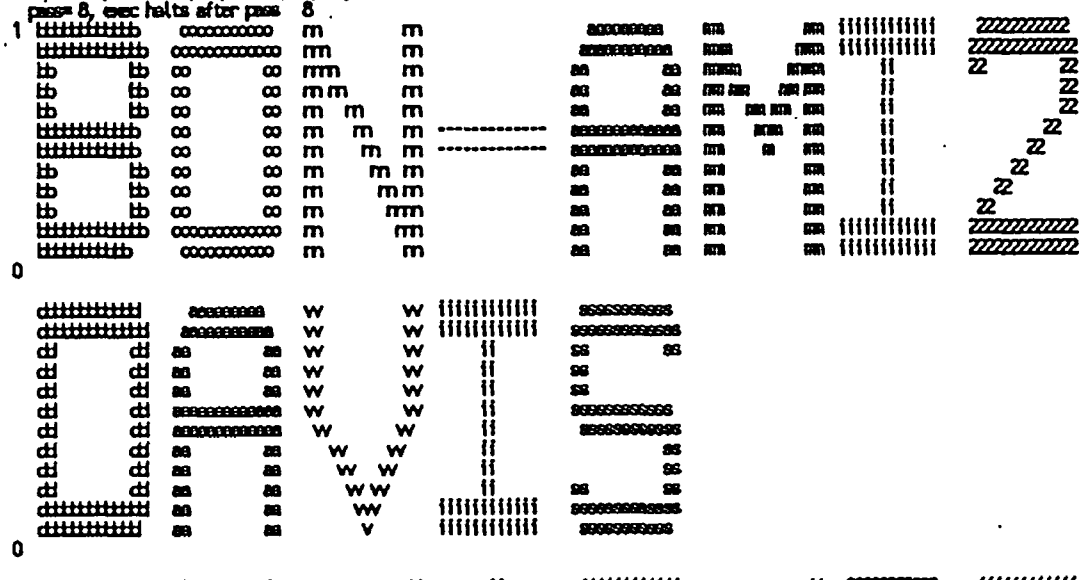
                                                1                1
0ndset          33
          15          4          1         27          6          0          0          0          0          0
           0          0          0          0          0          0         -1       1698        690        130
         880       7935          0          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  75953
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 3.489529E+00 1.000000E-31
0non            5
        7935         20          6         18       1697
0mm             19
           7          7          0          0          1          1          0          0          0          0
          21        100       1697          4          3         74          4          1          0
0tconst         5
```

INFORMATION ONLY

```
  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 ttttttttttb    cccccccccc  m       m                 aaaaaaaaa   mm       mm iiiiiiiiiiii   zzzzzzzzzz
  ttttttttttb   cccccccccccc  mm      m                aaaaaaaaaaa  mmm     mmm iiiiiiiiiiii  zzzzzzzzzzzz
  bb       bb  cc        cc  mmm     m               aa       aa  mmmm    mmmm     ii       zz       zz
  bb       bb  cc        cc  m m     m               aa       aa  mm mm   mm mm     ii                zz
  bb       bb  cc        cc  m  m    m               aa       aa  mm  mm mm  mm     ii                zz
  ttttttttttb   cc        cc  m   m   m ------------ aaaaaaaaaaaa  mm   mmm   mm     ii              zz
  ttttttttttb   cc        cc  m    m  m ------------ aaaaaaaaaaaa  mm    m    mm     ii            zz
  bb       bb  cc        cc  m     m m               aa       aa  mm         mm     ii          zz
  bb       bb  cc        cc  m      mm               aa       aa  mm         mm     ii        zz
  bb       bb  cc        cc  m       mm              aa       aa  mm         mm     ii      zz
  ttttttttttb   cccccccccccc  m       mm              aa       aa  mm         mm iiiiiiiiiiii  zzzzzzzzzzzz
  ttttttttttb    cccccccccc   m        m              aa       aa  mm         mm iiiiiiiiiiii  zzzzzzzzzzzz
0

  dttttttttttd    aaaaaaaaa   w        w iiiiiiiiiiii   ssssssssss
  dttttttttttd   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
  dttttttttttd  aa        aa       ww      iiiiiiiiiiii  ssssssssssss
  dttttttttttd  aa        aa        v      iiiiiiiiiiii   ssssssssss
0

    0000000     zzzzzzzzzz          //      11      666666666666          //  9999999999   666666666666
```



INFORMATION ONLY

```
   000000000   2222222222222          //      111      6666666666666          //  9999999999999  6666666666666
  00       00  22         22          //     1111      66                     //  99        99  66
 00         00            22          //       11      66                     //  99        99  66
 00         00            22          //       11      66                     //  99        99  66
 00         00          22           //       11      666666666666          //   9999999999999  666666666666
 00         00        22             //       11      6666666666666         //    999999999999  6666666666666
 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
   000000000   2222222222222         //    11111111   6666666666666         //  9999999999999  6666666666666
    0000000    2222222222222         //    11111111    666666666666         //   999999999999   666666666666
0

      11        0000000                  0000000          44                  5555555555555  7777777777777
     111       000000000                000000000         444                 5555555555555  7777777777777
    1111      00       00        :::   00       00       4444        :::     55             77        77
      11      00       00        :::   00       00      44 44        :::     55                      77
      11      00       00        :::   00       00     44  44        :::     55                      77
      11      00       00              00       00    44   44                5555555555555          77
      11      00       00              00       00    44   44                5555555555555          77
      11      00       00        :::   00       00  444444444444     :::                55          77
      11      00       00        :::   00       00  444444444444     :::                55          77
      11      00       00        :::   00       00        44        :::     55        55          77
   11111111    000000000                000000000         44                 5555555555555          77
   11111111     0000000                  0000000          44                  5555555555555          77
1
0                                 ssssssssss   cccccccccc   aaaaaaaaa   ll          eeeeeeeeeeeee
                                 ssssssssssss  cccccccccccc  aaaaaaaaaa  ll          eeeeeeeeeeeee
                                 ss        ss  cc        cc  aa       aa  ll          ee
                                 ss            cc            aa       aa  ll          ee
                                 ss            cc            aa       aa  ll          ee
                                 ssssssssss    cc            aaaaaaaaaaa  ll          eeeeeeeee
                                  ssssssssss   cc            aaaaaaaaaaa  ll          eeeeeeeee
                                          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  eeeeeeeeeeeee
                                  ssssssssss   cccccccccc   aa       aa  llllllllllll  eeeeeeeeeeeee
```

```
*****************************************************************************
*****************************************************************************
*****************************************************************************
*****                                                                   *****
*****                 program verification information                   *****
*****                                                                   *****
*****                code system:    scale  version:    4.2              *****
*****                                                                   *****
*****************************************************************************
*****************************************************************************
*****                                                                   *****
*****                                                                   *****
*****              program:  c0c008                                     *****
*****                                                                   *****
*****        creation date:  04/27/95                                   *****
*****                                                                   *****
*****              library:  /neutronics/scale/exe                      *****
```

INFORMATION ONLY

```
*****                                                                  *****
*****                                                                  *****
*****   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    2.17324E-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
```

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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	4.51576E-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	2.73886E-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	1.28677E-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	1.54884E-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

0geometry and material description

0zone	mixture	outer dimension	temperature	extra xs	type (0/1--fuel/mod)
1	1	4.68122E-01	9.75000E+02	9.05834E-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

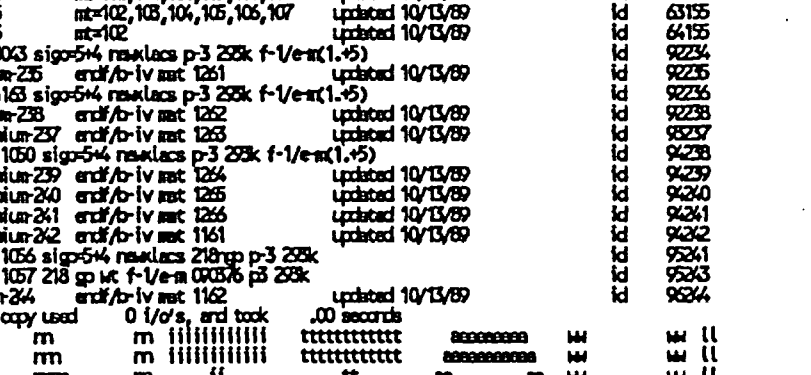
7711 locations of 200000 available are required to make a new master containing the self-shielded values
0no nuclides in your problem have bondarenko factor data**bonsai will copy from logical 12 to logical 1
0copy 999 1/v cross sectio from log 12 to log 18 bondarenko trigger 0
0copy 999 1/v cross sectio 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 218hyp	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

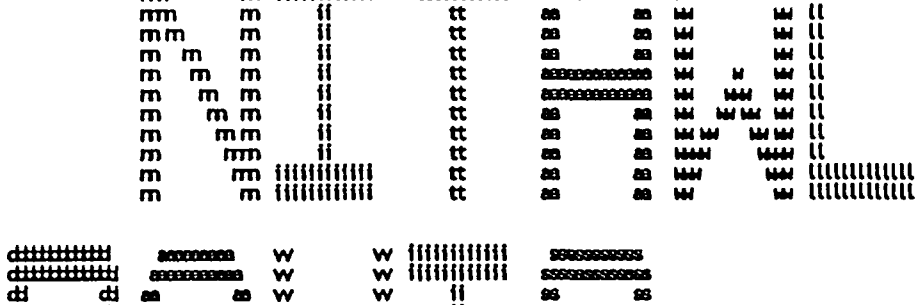
INFORMATION ONLY

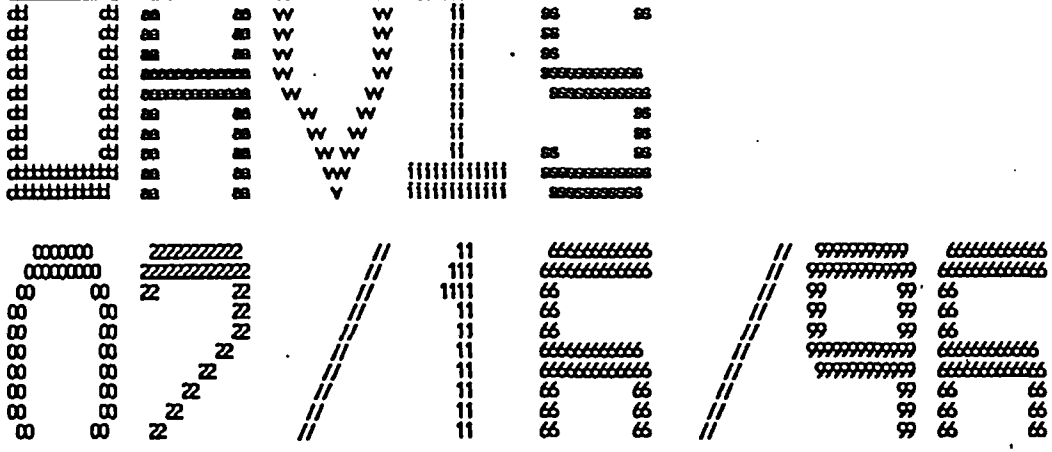
```
0copy    94240  plutonium-240   from log 12 to log  1   bondarenko trigger 0
0copy    94241  plutonium-241   from log 12 to log  1   bondarenko trigger 0
0copy    94242  plutonium-242   from log 12 to log  1   bondarenko trigger 0
0copy    95241  am-241 1056 sigp from log 12 to log  1   bondarenko 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 218ngp 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
```

INFORMATION ONLY



```
      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              rn        rn iiiiiiiiiiii   tttttttttttt    aaaaaaaaa    ww        ww  ll
               rnn       rn iiiiiiiiiiii   tttttttttttt    aaaaaaaaaaa  ww        ww  ll
               rnnn      rn      ii            tt        aa        aa  ww        ww  ll
               rn rn     rn      ii            tt        aa        aa  ww        ww  ll
               rn  rn    rn      ii            tt        aa        aa  ww        ww  ll
               rn   rn   rn      ii            tt        aaaaaaaaaaaaa  ww    w   ww  ll
               rn    rn  rn      ii            tt        aaaaaaaaaaaaa  ww   www  ww  ll
               rn     rn rn      ii            tt        aa        aa  ww  ww ww  ww  ll
               rn      rn rn     ii            tt        aa        aa  ww ww   ww ww  ll
               rn       rnn      ii            tt        aa        aa  wwww     wwww  ll
               rn        rnn iiiiiiiiiiii      tt        aa        aa  www       www  llllllllllll
               rn         rn iiiiiiiiiiii      tt        aa        aa  ww        ww  llllllllllll
0
   dddddddddddd    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  aaaaaaaaaaaaa  w        w      ii        ssssssssssss
   dd       dd  aaaaaaaaaaaaa   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
   dddddddddddd  aa        aa        v     iiiiiiiiiiii    ssssssssss
0
     0000000     22222222222          //      11      666666666666          //  99999999999   666666666666
    000000000    22222222222         //      111     666666666666          //  99999999999   666666666666
   00      00   22        22         //      1111    66                    //  99        99  66
  00       00            22         //        11    66                    //  99        99  66
  00       00            22         //        11    66                    //  99        99  66
  00       00          22          //        11    666666666666          //  99999999999   666666666666
  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

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```
program verification information
code system:  scale  version:  4.2

program:  c0c002
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:  10:04:58
```

```
                    *****                                                                  *****
                    *****                                                                  *****
                    ***********************************************************************
                    ***********************************************************************
                    ***********************************************************************
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 218ngp 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 sigo=5+4 newklacs p-3 293k f-1/e-m(1.+5)                    92234
  54   uranium-235   endf/b-iv mat 1261            updated 10/13/89          92235
  55   u-236 1163 sigo=5+4 newklacs p-3 293k f-1/e-m(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 sigo=5+4 newklacs p-3 293k f-1/e-m(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 sigo=5+4 newklacs 218rgp p-3 293k                          95241
  64   am-243 1057 218 gp wt f-1/e-m 090376 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 218rgp 042375 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   = 1.8137241E-06
0spin factor (g)        =  4988.190          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)= 9.4148664E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =  237.983          sigma(per absorber atom)= 1.0504055E+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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```
0volume fraction of lump in cell used to account for spatial self-shielding=1.00000
0group        res abs        res fiss        res scat
  11      -2.726823E-03    .000000E+00   -3.444124E-03
  12       2.164301E-02    .000000E+00    9.884226E-03
  13      -5.916534E-01    .000000E+00   -1.766241E-01
  14       4.783685E-05    .000000E+00   -1.724147E-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    =  237.933          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      -4.946415E-06    .000000E+00   -4.070307E-04
  10      -1.010821E-04    .000000E+00   -2.851098E-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   = 2.6124020E-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    =  237.933          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      -1.715812E-06    .000000E+00   -1.603045E-03
   9      -5.114553E-05    .000000E+00   -4.521406E-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
```

INFO...

```
0potential scatter sigma =     6.385          lumped nuclear density    = 4.2515602E-02
0spin factor (g)         =     1.079          lump dimension (a-bar)    = 5.4610002E-01
0inner radius            = 4.7878999E-01      dancoff correction (c)    = 5.0364637E-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      -1.780596E-03    .000000E+00   -1.286907E+00
   9      -5.898373E-02    .000000E+00   -2.695297E+00
  10      -6.959985E-02    .000000E+00   -1.601321E+00
  11      -1.883937E-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    = 1.4320781E-11
0spin factor (g)         = 43808.801          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)= 1.1923910E+10
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2     =   237.983          sigma(per absorber atom)= 1.3303366E+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)         =    94.091          temperature(kelvin)       =   975.000
0potential scatter sigma =     3.806          lumped nuclear density    = 2.3051618E-05
0spin factor (g)         =   607.724          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)= 7.4077100E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2     =   237.983          sigma(per absorber atom)= 8.2646943E+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      -6.205746E+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   = 2.5549456E-05
0spin factor (g)          =  4527.940          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)= 6.6834966E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =  237.953          sigma(per absorber atom)= 7.4566982E+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   -3.101468E-04
  13      -5.338085E-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       3.19699E+02
 fission           .00000E+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)          =  100.039          temperature(kelvin)      =  975.000
0potential scatter sigma  =    3.965          lumped nuclear density   = 2.3676123E-05
0spin factor (g)          =  8785.290          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)= 7.2123169E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =  237.953          sigma(per absorber atom)= 8.0466968E+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       7.89550E+01
 fission           .00000E+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  =    5.408          lumped nuclear density   = 1.4311722E-05
0spin factor (g)          =     .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)= 1.1931457E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =  237.953          sigma(per absorber atom)= 1.3311786E+04
```

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```
Qmoderator-2 will be treated by the nordheim integral method.
Qthis resonance material will be treated as a 2-dimensional object.
Qvolume fraction of lump in cell used to account for spatial self-shielding=1.00000
Qgroup        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       -1.880581E+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
Qexcess resonance integrals
Q                resolved
Qabsorption     1.13329E+03
 fission         .00000E+00
- elapsed time   .07 min.
Q rh-105          mt= 102                                    45105    temperature=  975.00
Q pd-105        mt=102                  updated 10/13/89     46105    temperature=  975.00
Qresonance data for this nuclide
Qmass number (a)          =   104.004          temperature(kelvin)      =   975.000
Qpotential scatter sigma  =     4.069          lumped nuclear density   = 1.0331927E-05
Qspin factor (g)          = 15210.000          lump dimension (a-bar)   = 4.6812201E-01
Qinner radius             =  .0000000E+00      dancoff correction (c)   = 3.4269261E-01
Qthe absorber will be treated by the nordheim integral method.
Qmass of moderator-1    =    15.995          sigma(per absorber atom)= 1.6527381E+04
Qmoderator-1 will be treated by the nordheim integral method.
Qmass of moderator-2    =   237.953          sigma(per absorber atom)= 1.8439402E+04
Qmoderator-2 will be treated by the nordheim integral method.
Qthis resonance material will be treated as a 2-dimensional object.
Qvolume fraction of lump in cell used to account for spatial self-shielding=1.00000
Qgroup        res abs        res fiss        res scat
 12       -6.809954E-02    .000000E+00   -2.334454E-03
 13       -7.995243E-02    .000000E+00   -1.860649E-03
 14        7.754399E-04    .000000E+00   -8.104906E-05
Qexcess resonance integrals
Q                resolved
Qabsorption     6.11507E+01
 fission         .00000E+00
- elapsed time   .07 min.
Q pd-108        mt=102                  updated 10/13/89     46108    temperature=  975.00
Qresonance data for this nuclide
Qmass number (a)          =   106.977          temperature(kelvin)      =   975.000
Qpotential scatter sigma  =     4.146          lumped nuclear density   = 3.1724992E-06
Qspin factor (g)          = 21175.100          lump dimension (a-bar)   = 4.6812201E-01
Qinner radius             =  .0000000E+00      dancoff correction (c)   = 3.4269261E-01
Qthe absorber will be treated by the nordheim integral method.
Qmass of moderator-1    =    15.995          sigma(per absorber atom)= 5.3824973E+04
Qmoderator-1 will be treated by the nordheim integral method.
Qmass of moderator-2    =   237.953          sigma(per absorber atom)= 6.0051887E+04
Qmoderator-2 will be treated by the nordheim integral method.
Qthis resonance material will be treated as a 2-dimensional object.
Qvolume fraction of lump in cell used to account for spatial self-shielding=1.00000
```

```
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      =   237.953          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      -9.998934E-03    .000000E+00   -7.288188E-03
  12      -7.463377E-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   = 1.1485292E-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      =   237.953          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
```

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 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)          =   675.899          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      -3.613185E-05    .000000E+00   -1.677534E-04
  10      -1.091632E-02    .000000E+00   -1.389546E-01
  11       3.338928E-08    .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   = 2.8024819E-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      -7.626979E-05    .000000E+00   -5.370495E-04
  10      -3.880106E-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   -1.679363E-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      8.530733E-07     .000000E+00    3.484196E-07
  11     -4.364408E-05     .000000E+00   -3.643748E-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)= 6.9559902E+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     -3.693308E-05     .000000E+00   -3.093299E-03
  10     -5.133480E-04     .000000E+00   -2.743127E-02
  11       .000000E+00     .000000E+00     .000000E+00
  12     -9.349354E-02     .000000E+00   -5.643091E-02
0excess resonance integrals
0                resolved
0absorption      8.03619E+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)= 7.9196323E+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     -9.366466E-03     .000000E+00   -3.182227E-01
  11     -1.521154E-01     .000000E+00   -2.022333E+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=102                    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    = 2.0499998E-05
0spin factor (g)          =  1964.860          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)= 8.3297422E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   237.983          sigma(per absorber atom)= 9.2983945E+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    = 1.5470734E-05
0spin factor (g)          =  1007.250          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)= 1.1037595E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   237.983          sigma(per absorber atom)= 1.2314515E+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   -9.915684E-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   -1.451205E-04
  17       9.642470E-04     .000000E+00   -1.063907E-04
  18       8.539751E-04     .000000E+00   -9.313989E-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)= 3.7845547E+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    1.746655E-03
  17       1.369737E-02     .000000E+00    1.150451E-03
  18       1.253792E-02     .000000E+00    9.649321E-04
  19       6.998683E-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      -6.485435E-01     .000000E+00   -9.227741E-03
  15       3.108576E-01     .000000E+00   -1.889360E-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       8.434785E-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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Omass number (a)          =   147.638          temperature(kelvin)      =   975.000
Opotential scatter sigma  =     3.260          lumped nuclear density   = 9.0665708E-08
Ospin factor (g)          = 10407.900          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)= 1.8833989E+06
Omoderator-1 will be treated by the nordheim integral method.
Omass of moderator-2    =   237.983          sigma(per absorber atom)= 2.1012860E+06
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
  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
Oexcess resonance integrals
O                 resolved
Oabsorption      8.04326E+02
 fission          .00000E+00
- elapsed time    .15 min.
O sm-150        mt=102                    updated 10/13/89          62150     temperature=   975.00
Oresonance data for this nuclide
Omass number (a)          =   148.629          temperature(kelvin)      =   975.000
Opotential scatter sigma  =     5.162          lumped nuclear density   = 5.8421019E-06
Ospin factor (g)          = 4376.420           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)= 2.9229152E+04
Omoderator-1 will be treated by the nordheim integral method.
Omass of moderator-2    =   237.983          sigma(per absorber atom)= 3.2610619E+04
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
  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   -7.845757E+00
  14      1.064415E-04    .000000E+00   -6.365839E-05
Oexcess resonance integrals
O                 resolved
Oabsorption      2.83489E+02
 fission          .00000E+00
- elapsed time    .15 min.
O sm-151        mt=102,103,104,105,106,107   updated 10/13/89          62151     temperature=   975.00
Oresonance data for this nuclide
Omass number (a)          =   149.623          temperature(kelvin)      =   975.000
Opotential scatter sigma  =     5.185          lumped nuclear density   = 4.6165064E-07
Ospin factor (g)          = 75574.703          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)= 3.6988944E+05
Omoderator-1 will be treated by the nordheim integral method.
Omass of moderator-2    =   237.983          sigma(per absorber atom)= 4.1268128E+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
  14     -2.664968E-01    .000000E+00   -2.407252E-02
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  15      1.482324E+01     .000000E+00    7.495161E-02
  16     -2.184584E+01     .000000E+00   -6.215366E-02
  17      1.734203E+02     .000000E+00    8.254912E-01
  18     -3.208668E+02     .000000E+00   -1.785959E+00
  19      6.252787E+01     .000000E+00    3.867234E-01
  20      1.141006E+00     .000000E+00   -1.381543E-04
  21     -7.117630E-02     .000000E+00    1.244101E-02
  22      6.952575E-02     .000000E+00    3.833917E-03
  23     -1.091929E-02     .000000E+00    3.374082E-04
0excess resonance integrals
0                  resolved
0absorption      2.05581E+03
 fission          .00000E+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   = 2.705281E-06
0spin factor (g)          =  853.594          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   -3.406345E-02
  11     -3.158748E-02     .000000E+00   -1.201679E-01
  12     -2.107261E-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          .00000E+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   = 1.872983E-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   -6.169870E-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      1.505559E-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
0excess resonance integrals
0                  resolved
0absorption       1.35238E+03
 fission           .00000E+00
- elapsed time     .18 min.
0 eu-154        mt=102,103,104,105,106,107    updated 10/13/89          63154    temperature=   975.00
0resonance data for this nuclide
0mass number (a)          =   152.601          temperature(kelvin)      =   975.000
0potential scatter sigma  =     9.731          lumped nuclear density   = 4.843843E-07
0spin factor (g)          = 19135.801          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)= 3.5248997E+05
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   237.953          sigma(per absorber atom)= 3.9526891E+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     -4.021110E-01     .000000E+00   -6.263666E-02
  13     -3.529810E-01     .000000E+00   -2.641435E-02
  14      2.707021E-01     .000000E+00    1.353824E-02
  15      2.154105E-02     .000000E+00    2.040740E-02
  16      7.004523E+00     .000000E+00    9.140816E-02
  17     -1.450002E+02     .000000E+00   -1.900830E+00
  18      1.130468E+02     .000000E+00    1.854371E+00
  19     -1.014953E+02     .000000E+00    1.187526E+00
0excess resonance integrals
0                  resolved
0absorption       2.13529E+03
 fission           .00000E+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
0resonance data for this nuclide
0mass number (a)          =   153.592          temperature(kelvin)      =   975.000
0potential scatter sigma  =     5.277          lumped nuclear density   = 3.6002734E-09
0spin factor (g)          = 12700.100          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)= 4.7429644E+07
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   237.953          sigma(per absorber atom)= 5.2916696E+07
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     -1.439372E+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   -4.148862E-03
  17      1.568659E-01     .000000E+00   -1.479108E-03
  18      9.605182E-02     .000000E+00   -1.078062E-03
  19      6.295395E-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      -5.205858E+03     .000000E+00     1.961556E+00
  27      -1.660053E+03     .000000E+00     7.392990E-01
0excess resonance integrals
0                   resolved
0absorption       3.96996E+04
 fission           .00000E+00
- elapsed time     .20 min.
0u-234 1043 sigo=5+4 newdacs p-3 293k f-1/e-m(1.+5)                    92234     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)= 4.158294E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =  237.985          sigma(per absorber atom)= 4.637858E+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       5.85330E+02
 fission           .00000E+00
- elapsed time     .20 min.
0 uranium-235    endf/b-iv mat 1261          updated 10/13/89          92235     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)= 5.183160E+02
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =  238.049          sigma(per absorber atom)= 5.562993E+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    -2.519020E+00    -1.097110E-01
  14      -4.070005E+00    -2.511537E+00    -2.790143E-02
0excess resonance integrals
0                   resolved
0absorption       2.15877E+02
 fission          1.28393E+02
- elapsed time     .22 min.
0u-236 1163 sigo=5+4 newdacs p-3 293k f-1/e-m(1.+5)                    92236     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    =   237.934              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       2.64049E+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    = 2.1732399E-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)= 3.3831647E-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      -1.023260E+00   -1.739109E-05   -6.468191E+00
  11      -9.700805E+00     .000000E+00   -2.688294E+01
  12      -4.303446E+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       1.80867E+01
 fission          5.04166E-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   -2.341952E-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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  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 newxlacs 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 norcheim integral method.
0mass of moderator-1      =    15.995              sigma(per absorber atom)= 1.4771209E+05
0moderator-1 will be treated by the norcheim integral method.
0mass of moderator-2      =   238.051              sigma(per absorber atom)= 1.5844058E+05
0moderator-2 will be treated by the norcheim 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 norcheim integral method.
0mass of moderator-1      =    15.995              sigma(per absorber atom)= 1.3740361E+03
0moderator-1 will be treated by the norcheim integral method.
0mass of moderator-2      =   238.051              sigma(per absorber atom)= 1.4738339E+03
0moderator-2 will be treated by the norcheim 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   -2.088675E-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 norcheim 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)= 6.0463213E+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      -2.280458E-01    -1.319958E-03    -3.029641E-01
 12      -3.118556E+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       1.719924E-02     3.282550E-06     3.363419E-03
 16       2.579595E+00     4.923270E-04     3.156881E-01
 17       3.784549E+02     7.222978E-02     3.331969E+01
 18      -9.504828E+03    -1.814038E+00    -7.483503E+02
 19       4.425319E+02     8.445916E-02     3.632726E+01
 20      -9.435818E+01    -1.800868E-02     1.798456E+00
0excess resonance integrals
0                  resolved
0absorption       3.82386E+03
 fission          1.73142E+00
- elapsed time     .30 min.
0 plutonium-241  endf/b-iv mat 1266          updated 10/13/89          94241     temperature=   975.00
0resonance data for this nuclide
0mass number (a)          =   238.978          temperature(kelvin)       =   975.000
0potential scatter sigma  =    10.989          lumped nuclear density    = 1.8118280E-05
0spin factor (g)          = 16402.100          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)= 9.4247178E+03
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   238.051              sigma(per absorber atom)= 1.0109246E+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    -1.332271E-02     5.022025E-04
 13      -1.183183E+00    -9.034095E-01    -3.408006E-02
 14      -1.202047E+00    -8.511612E-01    -3.674328E-03
 15       1.777249E-02     1.592212E-02    -4.605964E-04
0excess resonance integrals
0                  resolved
0absorption       5.06232E+02
 fission          4.24597E+02
- elapsed time     .32 min.
0 plutonium-242  endf/b-iv mat 1161          updated 10/13/89          94242     temperature=   975.00
0resonance data for this nuclide
0mass number (a)          =   240.145          temperature(kelvin)       =   975.000
0potential scatter sigma  =    10.694          lumped nuclear density    = 2.9103480E-06
0spin factor (g)          =  6606.710          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)= 5.8673289E+04
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =   238.051              sigma(per absorber atom)= 6.2984798E+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
```

INFORMATION ONLY

```
  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    -5.726017E+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     1.112561E-02    .000000E+00   -1.430682E-03
0excess resonance integrals
0                 resolved
0absorption       1.07474E+03
 fission          .00000E+00
- elapsed time    .32 min.
0am-241 1056 sigp=5+4 resklass 218ngp p-3 298k                    9524l    temperature=  975.00
0resonance data for this nuclide
0mass number (a)        =  238.950          temperature(kelvin)     =  975.000
0potential scatter sigma =    9.511         lumped nuclear density  = 7.183569E-07
0spin factor (g)        = 82058.203         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)= 2.370869E+05
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =  238.051          sigma(per absorber atom)= 2.549757E+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
  13     4.803471E-01    1.205702E-02   4.248833E-03
  14    -4.924113E-01   -1.156366E-02  -5.801683E-03
0excess resonance integrals
0                 resolved
0absorption       1.93333E+02
 fission          1.07544E+00
- elapsed time    .32 min.
0am-243 1057 218 gp ut f-1/e-n 090376 p3 298k                     9523     temperature=  975.00
0resonance data for this nuclide
0mass number (a)        =  240.940          temperature(kelvin)     =  975.000
0potential scatter sigma =    9.511         lumped nuclear density  = 3.885146E-07
0spin factor (g)        = 82052.602         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)= 4.452488E+05
0moderator-1 will be treated by the nordheim integral method.
0mass of moderator-2    =  238.051          sigma(per absorber atom)= 4.775883E+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
  13    -1.088286E-02    .000000E+00   3.156997E-04
  14     1.681003E-03    .000000E+00  -7.326966E-05
0excess resonance integrals
0                 resolved
0absorption       1.60121E+02
 fission          .00000E+00
- elapsed time    .32 min.
0 curium-244     endf/b-iv mat 1162          updated 10/13/89          9624     temperature=  975.00
0resonance data for this nuclide
0mass number (a)        =  242.133          temperature(kelvin)     =  975.000
0potential scatter sigma =   10.320          lumped nuclear density  = 5.301753E-08
0spin factor (g)        = 5251.750          lump dimension (a-bar)  = 4.681220E-01
```

INFORMATION ONLY

```
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      1.565525E-04   1.130185E-05  -4.530439E-05
  13      1.849926E-03   9.752654E-05   6.787102E-04
  14     -1.728596E-01  -1.034203E-02  -5.648884E-02
0excess resonance integrals
0                 resolved
0absorption      6.13582E+02
 fission         3.54030E+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
                                  table of contents
      1/v cross sections normalized to 1.0 at 0.0253 ev                          id     999
       hydrogen      endf/b-iv mat 1269/thrm1002   updated 10/13/89              id    1001
      b-10 1273 218ngp 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
```

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      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 newklacs 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 newklacs 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 newklacs 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 newklacs 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  dddddddddd  rrrrrrrrrr  rrr       rrr  pppppppppp  mmm       mmm
  xx        xx  ssssssssssss dddddddddd  rrrrrrrrrr  rrrr      rrr  pppppppppp  mmm       mmm
    xx    xx  ss        ss  dd        dd  rr        rr  rrrrr     rrr  pp        pp  mmmm     mmmm
     xx   xx  ss            dd        dd  rr        rr  rrrrr     rrr  pp        pp  mmmm     mmmm
      xx xx   ss            dd        dd  rr        rr  rrrrr     rrr  pp        pp  mmmm     mmmm
       xxx    ssssssssssss  dd        dd  rrrrrrrrrr  rrrrr     rrr  pppppppppp  mmmm     mmmm
       xxx     ssssssssssss dd        dd  rrrrrrrrrr  rrrrr     rrr  pppppppppp  mmmm     mmmm
      xx xx            ss  dd        dd  rr        rr  rrrrr     rrr  pp          mmmm     mmmm
     xx   xx           ss  dd        dd  rr        rr  rrrrr     rrr  pp          mmmm     mmmm
    xx     xx  ss        ss  dd        dd  rr        rr  rrrrr     rrr  pp          mmmm     mmmm
  xx        xx  ssssssssssss dddddddddd  rr        rr  rrrrr     rrr  pp          mmmm     mmmm
 xx         xx  ssssssssssss dddddddddd  rr        rr  rrrrr     rrr  pp          mmmm     mmmm
0

 dddddddddd    aaaaaaaaa   w         w  iiiiiiiiiiii   ssssssssssss
 dddddddddd    aaaaaaaaaa  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
 dddddddddd    aa        aa       ww     iiiiiiiiiiii   ssssssssssss
 dddddddddd    aa        aa        v     iiiiiiiiiiii    ssssssssssss
```

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```
0

   000000     22222222222        //     11     666666666666        //   999999999999   666666666666
  00000000    22222222222       //     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     66                 //   99      99     66
00        00         22     //        11     666666666666       //   999999999999   666666666666
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
  00000000      22222222222          11111111 666666666666     //   999999999999   666666666666
   000000       22222222222          11111111  666666666666    //    99999999999   666666666666
0

    11      000000                    000000     666666666666          000000     7777777777777
   111     00000000                  00000000    666666666666         00000000    7777777777777
  1111    00      00      :::      00      00   66              :::  00      00  77      77
   11    00        00     :::     00        00  66              :::  00        00        77
   11    00        00     :::     00        00  66              :::  00        00       77
   11    00        00             00        00  666666666666         00        00      77
   11    00        00             00        00  666666666666         00        00      77
   11    00        00      :::    00        00  66      66      :::  00        00      77
   11    00        00      :::    00        00  66      66      :::  00        00      77
   11     00      00      :::     00      00   66      66      :::   00      00      77
 11111111  00000000                00000000    666666666666          00000000      77
 11111111   000000                  000000     666666666666           000000       77
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
                    ssssssssss   cc            aaaaaaaaaa ll          eeeeeeeee
                     ssssssssss  cc            aaaaaaaaaa ll          eeeeeeeee
                            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: c0c001

INFORMATION ONLY

```
*****        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, 3.00wt%, 20gwd/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, 3.00wt%, 20gwd/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
 izm  number of zones                    4        isct order of scattering               3
 im   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/an/opt           0
 ms   mixing table length               65        ith  0/1 = forward/adjoint             0
 igm  number of energy groups           27        iflu not used(always wgtd)             0
 nng  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 nd/pch n/both     53
 iftg 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/n=no/yes)    0        idfm 0/1 = none/density factors 38*    1
 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    53        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 rebaln 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 psn in brd gp tables  3
 igmf number of broad groups            27        ndsf psn 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
 ipp  -2/-1/0/n=wgted xsect print       -2        macm extra 1-d x-sect positions        0
 iep  -1/n anisn xsect print            -1
0                                  floating point parameters
```

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```
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=1.42089E+00 1.42089E+00    xrpm 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, 3.00w%, 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.)
```

	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	4.10548E-06	
3	5010		1	92236	6.72906E-05	
4	5011		1	92238	2.17524E-02	
5	8016		1	8016	4.55359E-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	2.30514E-05	
12	40094		1	40093	1.64590E-05	
13	40095		1	40094	2.61240E-05	
14	40902		1	40095	1.99652E-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-03	
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	3.60032E-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-03	
41	60147		1	60147	1.28677E-07	
42	61147		1	62147	2.20534E-06	
43	61148		1	62149	9.06657E-03	
44	62147		1	62150	5.84210E-06	

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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	40302	4.25156E-02
52	64155	3	1001	4.19420E-02
53	92234	3	5010	3.81515E-06
54	92235	3	5011	1.54884E-05
55	92236	1	55133	2.80248E-05
56	92238	1	93237	5.71129E-06
57	93237	1	94238	1.15603E-06
58	94238	1	94239	1.24278E-04
59	94239	1	94240	3.02952E-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	3.83519E-07
64	95243	1	96244	5.30179E-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%, 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	4.40985E-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	1.06620E+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	2.72415E+08	8	0	8	1.00000E+00	
9	1.70000E+04	6.37713E+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	9.80818E+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	5.69395E+06	13	0	13	1.00000E+00	
14	1.00000E+01	1.38155E+01	3.20957E+06	14	0	14	1.00000E+00	
15	3.04999E+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	1.59955E+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	4.86953E+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	

INFORMATION ONLY

27	1.00000E-02	2.07233E+01	8.88201E+04	Z7	0	Z7	1.00000E+00
28	1.00000E-05	2.76310E+01					

1 1200 d, sas2h: babcock wilcox 15x15, 3.00w%, 20gd/tnu 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	-1.97286E-01	3	-9.98548E-03
3	2	3			5.06143E-02	1.97286E-01	2	9.98548E-03
4	3	3			0	-6.04419E-01	8	0
5					5.59953E-02	-5.58410E-01	8	-3.10550E-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	3.10550E-02
9					0	-8.50774E-01	15	0
10					5.22884E-02	-8.21784E-01	15	-4.29665E-02
11					5.22884E-02	-6.01588E-01	14	-3.14537E-02
12					5.22884E-02	-2.20196E-01	13	-1.15128E-02
13					5.22884E-02	2.20196E-01	12	1.15128E-02
14					5.22884E-02	6.01588E-01	11	3.14537E-02
15					5.22884E-02	8.21784E-01	10	4.29665E-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

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	-1.97286E-01	8.83235E-01	.00000E+00	-4.36228E-01	1.21411E-02
3	1.97286E-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	-1.98456E-01	-4.86835E-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	-2.20196E-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	1.40530E-01	-3.44245E-01
15	8.21784E-01	-8.57235E-02	5.42862E-01	1.91694E-01	3.44245E-01
16	-9.83032E-01	-4.44528E-01	8.36885E-01	5.00703E-01	-7.51005E-01
17	-9.64143E-01	-4.44528E-01	7.73181E-01	4.91083E-01	-6.24438E-01
18	-8.17361E-01	-4.44528E-01	3.20262E-01	4.16320E-01	1.46514E-01
19	-5.46143E-01	-4.44528E-01	-3.20262E-01	2.78176E-01	7.36575E-01
20	-1.91780E-01	-4.44528E-01	-7.73181E-01	9.76824E-02	4.17256E-01
21	1.91780E-01	-4.44528E-01	-7.73181E-01	-9.76824E-02	-4.17256E-01
22	5.46143E-01	-4.44528E-01	-3.20262E-01	-2.78176E-01	-7.36575E-01
23	8.17361E-01	-4.44528E-01	3.20262E-01	-4.16320E-01	-1.46514E-01
24	9.64143E-01	-4.44528E-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	1.29551E-02	1	0	2.10906E-03	1.00000E+00	0	
2	2.59102E-02	4.33406E-02	1	1.62758E-01	9.49318E-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	

INFORMATION ONLY

5	2.34061E-01	2.93967E-01	1	1.47065E+00	2.21259E-01	1.00000E+00
6	3.53873E-01	3.80612E-01	1	2.22345E+00	1.27890E-01	1.00000E+00
7	4.07351E-01	4.24781E-01	1	2.55946E+00	9.30429E-02	1.00000E+00
8	4.42212E-01	4.55167E-01	1	2.77850E+00	7.41004E-02	1.00000E+00
9	4.68122E-01	4.68814E-01	2	2.94130E+00	4.07946E-03	0
10	4.69507E-01	4.71481E-01	2	2.95000E+00	1.16988E-02	0
11	4.73456E-01	4.75431E-01	2	2.97481E+00	1.17968E-02	0
12	4.77405E-01	4.78098E-01	2	2.99962E+00	4.16023E-03	0
13	4.78790E-01	4.83159E-01	3	3.00833E+00	2.65268E-02	1.00000E+00
14	4.87528E-01	4.99987E-01	3	3.06325E+00	7.82768E-02	1.00000E+00
15	5.12445E-01	5.24903E-01	3	3.21979E+00	8.21777E-02	1.00000E+00
16	5.37362E-01	5.41731E-01	3	3.37634E+00	2.97427E-02	1.00000E+00
17	5.46100E-01	5.53513E-01	4	3.43125E+00	5.15631E-02	1.00000E+00
18	5.60926E-01	5.70900E-01	4	3.52440E+00	7.15548E-02	1.00000E+00
19	5.80874E-01	5.96175E-01	4	3.64974E+00	1.14628E-01	1.00000E+00
20	6.11475E-01	6.45755E-01	4	3.84201E+00	2.78169E-01	1.00000E+00
21	6.80034E-01	7.14313E-01	4	4.27278E+00	3.07702E-01	1.00000E+00
22	7.48592E-01	7.63898E-01	4	4.70354E+00	1.46875E-01	1.00000E+00
23	7.79193E-01	7.89167E-01	4	4.89582E+00	9.89114E-02	1.00000E+00
24	7.99141E-01	8.06554E-01	4	5.02115E+00	7.51357E-02	1.00000E+00
25	8.13968E-01			5.11431E+00		

- elapsed time .00 min.

1 outer iter	inner iters	1 - balance	eigenvalue	1 - source ratio	1 - scatter ratio	1 - upscat ratio	search parameter	time (min)
1	101	1.11787E-05	9.95993E-01	6.49892E-03	1.00000E+00	2.52158E-03	.00000E+00	.0000
2	149	-8.33695E-06	9.95406E-01	2.43131E-04	7.98063E-04	2.45349E-04	.00000E+00	.0000
3	181	1.44078E-05	9.95092E-01	2.80463E-05	6.79948E-05	4.57289E-05	.00000E+00	.0000

grp	to grp	inner iters	mfd int.	max. flux difference	msf int.	max. scale factor	coarse mesh
1	1	1	1	5.73095E-08	24	1.00000E+00	1
2	2	1	2	5.51458E-08	24	1.00000E+00	1
3	3	1	1	6.01701E-08	24	1.00000E+00	1
4	4	1	1	6.03779E-08	24	1.00000E+00	1
5	5	1	1	6.98855E-08	24	1.00000E+00	1
6	6	1	1	4.77424E-08	24	1.00000E+00	1
7	7	1	24	1.37317E-07	24	1.00000E+00	1
8	8	1	24	1.62673E-08	24	1.00000E+00	1
9	9	1	24	4.18811E-08	24	1.00000E+00	1
10	10	1	24	4.67403E-08	24	1.00000E+00	1
11	11	1	24	5.11897E-08	24	1.00000E+00	1
12	12	1	24	9.35846E-08	24	1.00000E+00	1
13	13	1	24	1.00540E-07	24	1.00000E+00	1
14	14	1	24	7.25213E-08	24	1.00000E+00	1
15	15	1	24	5.27113E-05	24	1.00008E+00	1
16	16	1	24	6.67454E-05	24	1.00002E+00	1
17	17	1	18	2.26954E-05	24	1.00006E+00	1
18	18	1	19	4.83348E-05	24	1.00004E+00	2
19	19	1	18	2.16966E-05	24	1.00006E+00	1
20	20	1	24	5.35083E-05	24	1.00004E+00	1
21	21	1	18	2.70142E-05	24	1.00006E+00	1
22	22	1	24	3.62316E-05	24	1.00002E+00	1
23	23	1	24	7.42565E-06	24	9.99998E-01	1
24	24	1	24	1.55458E-05	24	9.99990E-01	1
25	25	1	24	2.10491E-05	24	9.99994E-01	1
26	26	1	21	1.97174E-05	24	9.99983E-01	2
27	27	1	2	6.17690E-06	24	9.99994E-01	2

4	208	4.57026E-07	9.95225E-01	4.67737E-06	1.25755E-05	1.06706E-05	.00000E+00	.0000

final monitor

lambda 9.95227E-01 production/absorption 9.95230E-01 angular flux on 16

- elapsed time .00 min.

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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	1.14246E-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	1.27890E-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	4.78098E-01	2.99962E+00	4.16023E-03	.00000E+00
13	3	4.78790E-01	4.83159E-01	3.00833E+00	2.65268E-02	.00000E+00
14	3	4.87528E-01	4.99987E-01	3.06329E+00	7.82768E-02	.00000E+00
15	3	5.12445E-01	5.24903E-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	4.70354E+00	1.46875E-01	.00000E+00
23	4	7.79193E-01	7.89167E-01	4.89582E+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	1.69091E+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	2.08389E+00
3	1.85797E-01	1.34706E+00	1.69098E+00	1.04531E+00	1.57854E+00	3.05195E+00	2.90611E+00	2.08269E+00
4	1.85389E-01	1.34279E+00	1.68555E+00	1.04202E+00	1.57311E+00	3.02153E+00	2.89584E+00	2.08163E+00
5	1.82330E-01	1.33178E+00	1.67175E+00	1.03368E+00	1.55994E+00	2.99570E+00	2.88439E+00	2.07901E+00
6	1.81106E-01	1.31920E+00	1.65618E+00	1.02435E+00	1.54530E+00	2.96738E+00	2.85753E+00	2.07611E+00
7	1.80125E-01	1.30832E+00	1.64414E+00	1.01722E+00	1.53425E+00	2.94646E+00	2.85518E+00	2.07328E+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	1.29337E+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	1.78052E-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	1.76878E-01	1.27788E+00	1.60648E+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	1.49349E+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	1.25885E+00	1.57807E+00	9.74795E-01	1.46669E+00	2.81597E+00	2.77950E+00	2.06602E+00
22	1.75480E-01	1.25873E+00	1.57777E+00	9.74612E-01	1.46617E+00	2.81498E+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	1.75651E-01	1.26062E+00	1.58029E+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	7.97791E-01	6.69819E-01	5.76649E-01	3.64428E-01	1.98572E-01
2	1.58980E+00	1.45025E+00	1.31018E+00	7.97560E-01	6.69607E-01	5.76358E-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	3.64934E-01	1.98838E-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

INFORMATION ONLY

6	1.59637E+00	1.45775E+00	1.32671E+00	8.17298E-01	6.86718E-01	6.02749E-01	3.67410E-01	2.00675E-01
7	1.59852E+00	1.46009E+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	3.69635E-01	2.02315E-01
11	1.60211E+00	1.46373E+00	1.34000E+00	8.33431E-01	7.00688E-01	6.24645E-01	3.69737E-01	2.02392E-01
12	1.60225E+00	1.46385E+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	3.69987E-01	2.02543E-01
14	1.60367E+00	1.46531E+00	1.34344E+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	7.07769E-01	6.35498E-01	3.70978E-01	2.03301E-01
16	1.60530E+00	1.46787E+00	1.34899E+00	8.44006E-01	7.09973E-01	6.38869E-01	3.71381E-01	2.03585E-01
17	1.60558E+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	6.56938E-01	3.72726E-01	2.04868E-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	1.36062E+00	8.57178E-01	7.21110E-01	6.56269E-01	3.72475E-01	2.04785E-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	7.63974E-02	2.34338E-02	1.10591E-01	4.04565E-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	6.24811E-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	1.18255E-01	4.17252E-01	1.08984E-01	1.88518E-01	6.77004E-01	5.16683E-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	4.29348E-02	1.19534E-01	4.19433E-01	1.11131E-01	1.95138E-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	6.92105E-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	1.21745E-01	4.23155E-01	1.14570E-01	2.04888E-01	7.03206E-01	5.38457E-01
17	8.34478E-02	4.77335E-02	1.22185E-01	4.23849E-01	1.15282E-01	2.06906E-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	7.18346E-01	5.52619E-01
20	8.48003E-02	5.16798E-02	1.24339E-01	4.27269E-01	1.18931E-01	2.17434E-01	7.26569E-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	5.68304E-01
23	8.51267E-02	5.26404E-02	1.24821E-01	4.27900E-01	1.19849E-01	2.20122E-01	7.32480E-01	5.67296E-01
24	8.50034E-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	1.39129E-01	2.16530E-02
8	2.20985E-01	1.43604E-01	2.30958E-02
9	2.23448E-01	1.45956E-01	2.38661E-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	1.47028E-01	2.41675E-02
13	2.25318E-01	1.47626E-01	2.43353E-02
14	2.27352E-01	1.49425E-01	2.48316E-02
15	2.30000E-01	1.51731E-01	2.54885E-02

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16	2.31583E-01	1.53082E-01	2.57881E-02
17	2.33174E-01	1.54698E-01	2.63213E-02
18	2.35811E-01	1.57524E-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	3.30008E-03	1.15058E-02	9.98841E-01
2	.00000E+00	1.95084E-01	2.41777E-03	1.68673E-01	6.72845E-02	1.36905E-02	1.16535E-01	1.00004E+00
3	.00000E+00	2.14067E-01	2.66656E-02	1.61736E-01	8.16111E-02	1.54956E-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	6.85491E-02	2.60142E-01	9.47464E-02	4.36290E-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	9.73270E-04	2.17502E-02	5.36086E-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	3.50686E-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	7.38525E-03	8.33912E-02	8.76155E-03	8.05705E-03	-9.53961E-03	1.00632E+00
16	.00000E+00	4.17172E-10	8.91009E-03	4.16488E-02	9.35774E-03	6.78972E-03	-7.31175E-03	1.00461E+00
17	.00000E+00	1.34350E-10	7.63423E-03	1.36579E-02	6.98405E-03	1.01912E-02	-9.71775E-03	1.00156E+00
18	.00000E+00	9.61905E-11	6.73231E-03	7.16929E-03	3.12028E-03	3.16056E-02	-2.80013E-02	1.00020E+00
19	.00000E+00	1.35998E-10	5.40004E-03	2.18239E-02	7.97073E-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	2.64602E-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	-2.50569E-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	3.59055E-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	2.04524E-02	1.06694E-01	2.07018E-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	-5.27962E-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	1.43658E-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	n2n rate	fiss rate	flux*dx**2	total flux
1	1.78643E-01	1.15058E-02	1.85726E-01	.00000E+00	2.32484E-03	2.69862E-03	.00000E+00	1.25126E-01
2	1.29471E+00	1.16535E-01	1.34641E+00	.00000E+00	1.68249E-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	1.14605E+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	1.06949E+00
6	2.91786E+00	2.50401E-01	3.03090E+00	.00000E+00	.00000E+00	1.42756E-03	.00000E+00	2.05399E+00
7	2.83849E+00	1.42050E-01	2.90573E+00	.00000E+00	.00000E+00	1.31395E-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	1.09752E+00
10	1.46325E+00	-2.49887E-02	1.45046E+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	4.10563E-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	1.37796E-01
17	8.14204E-02	-9.71775E-03	7.64719E-02	.00000E+00	.00000E+00	1.25536E-03	.00000E+00	5.40798E-02
18	4.17338E-02	-2.80013E-02	2.34500E-02	.00000E+00	.00000E+00	7.33272E-04	.00000E+00	2.10146E-02
19	1.18918E-01	-1.56190E-02	1.10714E-01	.00000E+00	.00000E+00	2.00413E-03	.00000E+00	7.86402E-02

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20.	4.18359E-01	-2.67453E-02	4.04792E-01	.00000E+00	.00000E+00	1.39996E-02	.00000E+00	2.82661E-01
21	1.10135E-01	-2.50669E-02	9.68741E-02	.00000E+00	.00000E+00	1.54127E-02	.00000E+00	7.05084E-02
22	1.92276E-01	-7.16532E-02	1.51921E-01	.00000E+00	.00000E+00	4.42529E-02	.00000E+00	1.16059E-01
23	6.82388E-01	-1.23805E-01	6.19014E-01	.00000E+00	.00000E+00	7.05656E-02	.00000E+00	4.44514E-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	1.20257E-01	.00000E+00	.00000E+00	3.16494E-02	.00000E+00	9.01527E-02
27	2.38426E-02	-1.35299E-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	slf 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	n2n rate	fiss rate	flux*dif**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	1.29058E+00	1.16535E-01	1.29471E+00	1.16535E-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	5.15445E-02
4	1.00439E+00	8.78426E-02	1.00705E+00	8.78426E-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	2.83849E+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	8.33984E-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	6.99558E-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	3.69814E-01	-9.53959E-03	3.69541E-01	-9.53961E-03	.00000E+00	.00000E+00	.00000E+00	1.17521E-02
16	2.02653E-01	-7.31179E-03	2.02364E-01	-7.31179E-03	.00000E+00	.00000E+00	.00000E+00	6.42175E-03
17	8.16934E-02	-9.71775E-03	8.14204E-02	-9.71775E-03	.00000E+00	.00000E+00	.00000E+00	2.58944E-03
18	4.25738E-02	-2.80013E-02	4.17398E-02	-2.80013E-02	.00000E+00	.00000E+00	.00000E+00	1.33810E-03
19	1.19844E-01	-1.56190E-02	1.18918E-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	1.10828E-01	-2.50569E-02	1.10135E-01	-2.50569E-02	.00000E+00	.00000E+00	.00000E+00	3.50659E-03
22	1.94278E-01	-7.16532E-02	1.92276E-01	-7.16532E-02	.00000E+00	.00000E+00	.00000E+00	6.13453E-03
23	6.85683E-01	-1.23805E-01	6.82388E-01	-1.23805E-01	.00000E+00	.00000E+00	.00000E+00	2.17091E-02
24	5.24079E-01	-1.06097E-01	5.21309E-01	-1.06097E-01	.00000E+00	.00000E+00	.00000E+00	1.65887E-02
25	2.24735E-01	-5.27962E-02	2.23367E-01	-5.27962E-02	.00000E+00	.00000E+00	.00000E+00	7.11064E-03
26	1.47108E-01	-4.85021E-02	1.45875E-01	-4.85021E-02	.00000E+00	.00000E+00	.00000E+00	4.64936E-03
27	2.41885E-02	-1.35299E-02	2.38426E-02	-1.35299E-02	.00000E+00	.00000E+00	.00000E+00	7.62287E-04
28	2.31390E+01	5.79058E-02	2.31429E+01	5.79064E-02	.00000E+00	.00000E+00	.00000E+00	7.34381E-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	3.92766E-03	2.94428E-03	1.50882E-05	-2.85434E-03	1.00001E+00
2	.00000E+00	.00000E+00	5.14212E-04	2.62972E-02	1.88695E-02	5.22637E-05	-1.84078E-02	1.00000E+00
3	.00000E+00	.00000E+00	2.69852E-03	5.04487E-02	1.59513E-02	1.37981E-04	-1.33897E-02	9.99998E-01
4	.00000E+00	.00000E+00	5.19375E-03	4.22522E-02	5.47074E-03	1.03724E-04	-3.81322E-04	9.99998E-01
5	.00000E+00	.00000E+00	1.11840E-02	8.17850E-02	5.17228E-03	1.52364E-04	5.85908E-03	1.00000E+00
6	.00000E+00	.00000E+00	1.85328E-02	2.35164E-01	3.21300E-03	3.20227E-04	1.50998E-02	1.00000E+00
7	.00000E+00	.00000E+00	1.23767E-02	2.35250E-01	1.18269E-03	3.44604E-04	1.08478E-02	9.99999E-01
8	.00000E+00	.00000E+00	2.16908E-03	1.58719E-01	7.64257E-03	2.95174E-04	-5.76928E-03	1.00002E+00
9	.00000E+00	.00000E+00	7.67613E-03	1.05369E-01	8.78570E-04	1.11110E-03	5.68685E-03	9.99990E-01
10	.00000E+00	.00000E+00	8.79567E-04	8.58097E-02	8.51381E-04	8.37983E-04	-8.09861E-04	1.00000E+00
11	.00000E+00	.00000E+00	8.51443E-04	7.73469E-02	8.73519E-04	1.34209E-03	-1.36416E-03	1.00000E+00
12	.00000E+00	.00000E+00	8.73525E-04	4.69586E-02	8.73277E-04	4.17908E-05	-4.15519E-05	1.00000E+00
13	.00000E+00	.00000E+00	8.73278E-04	3.94928E-02	8.05625E-04	5.99614E-05	7.74115E-06	9.99999E-01
14	.00000E+00	.00000E+00	8.05626E-04	3.54601E-02	6.68816E-04	9.45295E-05	4.25193E-05	1.00000E+00
15	.00000E+00	.00000E+00	7.11807E-04	2.05544E-02	8.33058E-04	8.17407E-05	-2.05708E-04	1.00007E+00
16	.00000E+00	.00000E+00	9.26294E-04	1.06770E-02	9.24984E-04	5.03123E-05	-4.94584E-05	1.00006E+00
17	.00000E+00	.00000E+00	9.70918E-04	3.78339E-03	9.31292E-04	2.28563E-05	1.67394E-05	1.00000E+00
18	.00000E+00	.00000E+00	9.73845E-04	1.94598E-03	6.28349E-04	1.33260E-05	3.32095E-04	1.00000E+00
19	.00000E+00	.00000E+00	6.85313E-04	6.00804E-03	8.86432E-04	3.89239E-05	-2.40121E-04	1.00000E+00
20	.00000E+00	.00000E+00	1.05638E-03	2.30911E-02	9.81685E-04	1.71684E-04	-9.77423E-05	1.00008E+00
21	.00000E+00	.00000E+00	1.19553E-03	5.20795E-03	1.24399E-03	5.73756E-05	-1.05906E-04	1.00000E+00
22	.00000E+00	.00000E+00	1.57133E-03	1.00920E-02	1.34889E-03	1.17601E-04	1.04651E-04	1.00000E+00
23	.00000E+00	.00000E+00	2.04398E-03	3.70180E-02	2.71774E-03	5.60603E-04	-1.23431E-03	1.00000E+00
24	.00000E+00	.00000E+00	3.37802E-03	2.67407E-02	3.66978E-03	6.22915E-04	-9.14447E-04	9.99998E-01
25	.00000E+00	.00000E+00	3.31770E-03	1.03898E-02	2.67419E-03	3.53384E-04	2.90211E-04	9.99998E-01
26	.00000E+00	.00000E+00	1.39170E-03	7.59759E-03	1.00409E-03	3.31784E-04	5.57713E-05	1.00000E+00
27	.00000E+00	.00000E+00	2.91152E-04	1.43516E-03	7.39446E-07	1.04989E-04	1.85450E-04	1.00000E+00
28	.00000E+00	.00000E+00	8.32426E-02	1.38867E+00	8.32426E-02	7.43662E-03	-7.33284E-03	1.00001E+00

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	rxn rate	fiss rate	flux*bdy**2	total flux
1	1.76518E-01	8.65149E-03	1.78206E-01	1.15058E-02	1.05196E-04	.00000E+00	.00000E+00	3.84029E-02
2	1.27280E+00	9.81276E-02	1.29058E+00	1.14635E-01	.00000E+00	.00000E+00	.00000E+00	2.77507E-01
3	1.59866E+00	1.32237E-01	1.62183E+00	1.45627E-01	.00000E+00	.00000E+00	.00000E+00	3.48733E-01
4	9.89769E-01	8.72625E-02	1.00439E+00	8.76426E-02	.00000E+00	.00000E+00	.00000E+00	2.16013E-01
5	1.49195E+00	1.38861E-01	1.51498E+00	1.33002E-01	.00000E+00	.00000E+00	.00000E+00	3.25778E-01
6	2.86549E+00	2.65500E-01	2.91103E+00	2.50401E-01	.00000E+00	.00000E+00	.00000E+00	6.25897E-01
7	2.80653E+00	1.52899E-01	2.85474E+00	1.42050E-01	.00000E+00	.00000E+00	.00000E+00	6.11500E-01
8	2.06971E+00	1.51360E-02	2.07006E+00	2.09053E-02	.00000E+00	.00000E+00	.00000E+00	4.48215E-01
9	1.60540E+00	-1.49212E-02	1.60254E+00	-2.06081E-02	.00000E+00	.00000E+00	.00000E+00	3.47664E-01
10	1.46814E+00	-2.57984E-02	1.46394E+00	-2.49886E-02	.00000E+00	.00000E+00	.00000E+00	3.17741E-01
11	1.34956E+00	-5.63761E-02	1.34035E+00	-5.50120E-02	.00000E+00	.00000E+00	.00000E+00	2.91536E-01
12	8.44656E-01	-6.55441E-02	8.39984E-01	-6.55026E-02	.00000E+00	.00000E+00	.00000E+00	1.81964E-01
13	7.10543E-01	-5.72711E-02	7.01173E-01	-5.72788E-02	.00000E+00	.00000E+00	.00000E+00	1.53052E-01
14	6.39739E-01	-8.79560E-02	6.25389E-01	-8.79984E-02	.00000E+00	.00000E+00	.00000E+00	1.37178E-01
15	3.71482E-01	-9.74330E-03	3.69814E-01	-9.53959E-03	.00000E+00	.00000E+00	.00000E+00	8.03365E-02
16	2.08657E-01	-7.36125E-03	2.09253E-01	-7.31179E-03	.00000E+00	.00000E+00	.00000E+00	4.40141E-02
17	8.32672E-02	-9.70101E-03	8.16934E-02	-9.71775E-03	.00000E+00	.00000E+00	.00000E+00	1.78860E-02
18	4.72122E-02	-2.76692E-02	4.25738E-02	-2.80013E-02	.00000E+00	.00000E+00	.00000E+00	9.76614E-03
19	1.21898E-01	-1.58691E-02	1.19344E-01	-1.56190E-02	.00000E+00	.00000E+00	.00000E+00	2.61554E-02
20	4.23401E-01	-2.68431E-02	4.19102E-01	-2.67453E-02	.00000E+00	.00000E+00	.00000E+00	9.13242E-02
21	1.14803E-01	-2.51628E-02	1.10828E-01	-2.50569E-02	.00000E+00	.00000E+00	.00000E+00	2.44765E-02

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22	2.0554E-01	-7.1545E-02	1.9427E-01	-7.1653E-02	.00000E+00	.00000E+00	.00000E+00	4.3406E-02
23	7.0430E-01	-1.2503E-01	6.6568E-01	-1.2380E-01	.00000E+00	.00000E+00	.00000E+00	1.5075E-01
24	5.3952E-01	-1.0701E-01	5.2409E-01	-1.0609E-01	.00000E+00	.00000E+00	.00000E+00	1.1536E-01
25	2.3197E-01	-5.2506E-02	2.2475E-01	-5.2796E-02	.00000E+00	.00000E+00	.00000E+00	4.9562E-02
26	1.5340E-01	-4.8463E-02	1.4710E-01	-4.8502E-02	.00000E+00	.00000E+00	.00000E+00	3.2634E-02
27	2.5866E-02	-1.3344E-02	2.4188E-02	-1.3529E-02	.00000E+00	.00000E+00	.00000E+00	5.4473E-03
28	2.3114E+01	5.0572E-02	2.3139E+01	5.7905E-02	1.0519E-04	.00000E+00	.00000E+00	5.0123E+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	6.2059E-03	8.2141E-03	4.3777E-04	-8.6514E-03	9.9995E-01
2	.00000E+00	.00000E+00	4.7131E-03	7.7420E-02	1.0175E-01	1.0902E-03	-9.8127E-02	9.9996E-01
3	.00000E+00	.00000E+00	4.8903E-02	6.9590E-02	1.8053E-01	5.4539E-06	-1.3225E-01	9.9997E-01
4	.00000E+00	.00000E+00	7.0815E-02	4.6007E-02	1.5807E-01	3.2417E-06	-8.7262E-02	9.9998E-01
5	.00000E+00	.00000E+00	1.3063E-01	1.4875E-01	2.6949E-01	3.7816E-06	-1.3886E-01	9.9999E-01
6	.00000E+00	.00000E+00	2.7591E-01	4.5553E-01	5.4140E-01	1.1483E-05	-2.6550E-01	9.9999E-01
7	.00000E+00	.00000E+00	5.5360E-01	7.9554E-01	7.0538E-01	2.5363E-05	-1.5289E-01	9.9998E-01
8	.00000E+00	.00000E+00	7.3597E-01	1.0017E+00	7.5113E-01	4.7050E-05	-1.5136E-02	9.9991E-01
9	.00000E+00	.00000E+00	7.4137E-01	9.1733E-01	7.2641E-01	9.6089E-05	1.4921E-02	9.9989E-01
10	.00000E+00	.00000E+00	7.2308E-01	8.6747E-01	6.9714E-01	2.1194E-04	2.5798E-02	9.9989E-01
11	.00000E+00	.00000E+00	7.0159E-01	8.0815E-01	6.4520E-01	4.5893E-04	5.6376E-02	9.9994E-01
12	.00000E+00	.00000E+00	5.6155E-01	4.2105E-01	4.9542E-01	5.9910E-04	6.5544E-02	9.9979E-01
13	.00000E+00	.00000E+00	4.9138E-01	3.3782E-01	4.3325E-01	8.9733E-04	5.7271E-02	9.9970E-01
14	.00000E+00	.00000E+00	4.7070E-01	3.1920E-01	3.8130E-01	1.4446E-03	8.7956E-02	9.9989E-01
15	.00000E+00	.00000E+00	2.4967E-01	1.2739E-01	2.3866E-01	1.2693E-03	9.7415E-03	1.0000E+00
16	.00000E+00	.00000E+00	1.6525E-01	5.3294E-02	1.5701E-01	8.6269E-04	7.3995E-03	9.9997E-01
17	.00000E+00	.00000E+00	8.4621E-02	1.4322E-02	7.4519E-02	4.0005E-04	9.7054E-03	9.9995E-01
18	.00000E+00	.00000E+00	7.4475E-02	8.5185E-03	4.6546E-02	2.6063E-04	2.7671E-02	9.9983E-01
19	.00000E+00	.00000E+00	1.1956E-01	3.1152E-02	1.0339E-01	6.8283E-04	1.5865E-02	9.9995E-01
20	.00000E+00	.00000E+00	2.9046E-01	2.3065E-01	2.6067E-01	2.9496E-03	2.6841E-02	9.9999E-01
21	.00000E+00	.00000E+00	1.3425E-01	4.1538E-02	1.0806E-01	1.0292E-03	2.5169E-02	9.9996E-01
22	.00000E+00	.00000E+00	2.5168E-01	1.1435E-01	1.7796E-01	2.1737E-03	7.1548E-02	9.9992E-01
23	.00000E+00	.00000E+00	5.8710E-01	6.8854E-01	4.5214E-01	9.9265E-03	1.2508E-01	9.9992E-01
24	.00000E+00	.00000E+00	5.9507E-01	6.1777E-01	4.7885E-01	1.1199E-02	1.0701E-01	9.9990E-01
25	.00000E+00	.00000E+00	3.8495E-01	2.5341E-01	3.2602E-01	6.4275E-03	5.2507E-02	9.9991E-01
26	.00000E+00	.00000E+00	3.0453E-01	2.7048E-01	2.4984E-01	6.2490E-03	4.8437E-02	1.0000E+00
27	.00000E+00	.00000E+00	1.0161E-01	5.6531E-02	8.6120E-02	2.1510E-03	1.3342E-02	1.0000E+00
28	.00000E+00	.00000E+00	8.8535E+00	8.7795E+00	8.8535E+00	5.0914E-02	-5.0567E-02	9.9996E-01

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	r&n rate	fiss rate	flux*df**2	total flux
1	1.7569E-01	2.0318E-09	1.7651E-01	8.6514E-03	4.5426E-10	.00000E+00	.00000E+00	2.0106E-01
2	1.2611E+00	-1.4789E-08	1.2728E+00	9.8127E-02	.00000E+00	.00000E+00	.00000E+00	1.4439E+00
3	1.5809E+00	9.3039E-08	1.5986E+00	1.3225E-01	.00000E+00	.00000E+00	.00000E+00	1.8106E+00
4	9.7660E-01	9.5899E-08	9.8769E-01	8.7262E-02	.00000E+00	.00000E+00	.00000E+00	1.1189E+00
5	1.4695E+00	-1.7540E-08	1.4919E+00	1.3886E-01	.00000E+00	.00000E+00	.00000E+00	1.6840E+00
6	2.8215E+00	1.7406E-07	2.8654E+00	2.6550E-01	.00000E+00	.00000E+00	.00000E+00	3.2350E+00
7	2.7832E+00	9.9847E-09	2.8053E+00	1.5289E-01	.00000E+00	.00000E+00	.00000E+00	3.1874E+00
8	2.0669E+00	3.2091E-08	2.0669E+00	1.5136E-02	.00000E+00	.00000E+00	.00000E+00	2.3669E+00
9	1.6074E+00	3.3492E-09	1.6054E+00	-1.4921E-02	.00000E+00	.00000E+00	.00000E+00	1.8396E+00
10	1.4727E+00	3.2165E-08	1.4681E+00	-2.5798E-02	.00000E+00	.00000E+00	.00000E+00	1.6652E+00
11	1.3695E+00	4.9813E-08	1.3495E+00	-5.6376E-02	.00000E+00	.00000E+00	.00000E+00	1.5552E+00
12	8.5589E-01	4.6727E-08	8.4456E-01	-6.5544E-02	.00000E+00	.00000E+00	.00000E+00	9.7875E-01
13	7.1995E-01	5.6550E-09	7.1043E-01	-5.7271E-02	.00000E+00	.00000E+00	.00000E+00	8.2345E-01
14	6.5452E-01	5.2430E-08	6.3973E-01	-8.7956E-02	.00000E+00	.00000E+00	.00000E+00	7.4814E-01
15	3.7222E-01	-1.7285E-06	3.7148E-01	-9.7433E-03	.00000E+00	.00000E+00	.00000E+00	4.2658E-01
16	2.0462E-01	-1.6859E-06	2.0367E-01	-7.3612E-03	.00000E+00	.00000E+00	.00000E+00	2.3423E-01
17	8.4785E-02	4.3419E-06	8.3267E-02	-9.7010E-03	.00000E+00	.00000E+00	.00000E+00	9.7085E-02
18	5.2105E-02	1.9788E-06	4.7212E-02	-2.7664E-02	.00000E+00	.00000E+00	.00000E+00	5.9316E-02
19	1.2449E-01	6.4167E-06	1.2158E-01	-1.5859E-02	.00000E+00	.00000E+00	.00000E+00	1.4234E-01
20	4.2731E-01	-1.5128E-06	4.2540E-01	-2.6843E-02	.00000E+00	.00000E+00	.00000E+00	4.8902E-01
21	1.1943E-01	6.7012E-06	1.1480E-01	-2.5162E-02	.00000E+00	.00000E+00	.00000E+00	1.3621E-01
22	2.1868E-01	4.3347E-07	2.0554E-01	-7.1545E-02	.00000E+00	.00000E+00	.00000E+00	2.4913E-01

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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	5.39525E-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	2.79572E-01
26	1.69172E-01	-8.74475E-06	1.53406E-01	-4.84463E-02	.00000E+00	.00000E+00	.00000E+00	1.90525E-01
27	3.12850E-02	-2.91616E-07	2.58465E-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	4.54265E-10	.00000E+00	.00000E+00	2.64885E+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	2.20661E-02	3.75285E-03	2.03183E-09	9.98836E-01
2	.00000E+00	1.95084E-01	7.64510E-03	2.72390E-01	1.85909E-01	1.48330E-02	-1.47858E-08	1.00002E+00
3	.00000E+00	2.16057E-01	7.76674E-02	2.81575E-01	2.78102E-01	1.56370E-02	9.30598E-08	9.99986E-01
4	.00000E+00	1.23484E-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	4.51906E-03	-1.75408E-08	9.99989E-01
6	.00000E+00	1.76465E-01	4.29656E-01	1.34449E+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	7.64158E-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	3.61185E-02	3.21656E-08	9.99900E-01
11	.00000E+00	5.68697E-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	7.09685E-01	5.05695E-01	6.49518E-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	9.99971E-01
14	.00000E+00	1.25715E-08	4.77663E-01	5.05764E-01	3.89278E-01	8.83998E-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	1.67288E-01	7.70273E-03	-1.68595E-06	1.00042E+00
17	.00000E+00	1.34350E-10	9.30263E-02	3.17637E-02	8.25846E-02	1.06141E-02	4.43419E-06	1.00025E+00
18	.00000E+00	9.61905E-11	8.21837E-02	1.76338E-02	5.02962E-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	1.00018E+00
20	.00000E+00	2.21138E-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	3.59055E-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	7.51209E-01	5.01257E-01	1.17538E-01	9.46295E-07	1.00020E+00
25	.00000E+00	2.86090E-12	4.06057E-01	3.04507E-01	3.42208E-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	-8.74475E-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	1.55567E+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	rxn rate	fiss rate	flux*dx**2	total flux
1	1.75658E-01	2.03183E-09	1.83726E-01	.00000E+00	2.43004E-03	2.69862E-03	.00000E+00	3.70280E-01
2	1.26115E+00	-1.47858E-08	1.34641E+00	.00000E+00	1.68249E-05	1.19016E-02	.00000E+00	2.67534E+00
3	1.58097E+00	9.30598E-08	1.69009E+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	1.46556E+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	3.08090E+00	.00000E+00	.00000E+00	1.42756E-03	.00000E+00	6.00588E+00
7	2.78326E+00	9.98467E-09	2.90573E+00	.00000E+00	.00000E+00	1.31995E-03	.00000E+00	5.88978E+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	7.70592E-01
16	2.04622E-01	-1.68595E-06	1.98607E-01	.00000E+00	.00000E+00	1.21258E-03	.00000E+00	4.22462E-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	1.24498E-01	6.41674E-06	1.10714E-01	.00000E+00	.00000E+00	2.00413E-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	4.14737E-01
23	7.29984E-01	-3.22225E-06	6.19016E-01	.00000E+00	.00000E+00	7.05656E-02	.00000E+00	1.44946E+00

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24	5.65102E-01	9.46258E-07	4.67341E-01	.00000E+00	.00000E+00	6.12938E-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	1.20267E-01	.00000E+00	.00000E+00	3.16494E-02	.00000E+00	3.17966E-01
27	3.12850E-02	-2.91616E-07	1.60728E-02	.00000E+00	.00000E+00	8.98464E-03	.00000E+00	5.40468E-02
28	2.31512E+01	5.21995E-06	2.31043E+01	.00000E+00	2.44686E-03	3.72532E-01	.00000E+00	4.81547E+01

- elapsed time .00 min.

0direct 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	2.45895E-03	2.51122E-02	3.15610E-02	1.90883E-02	2.90346E-02	5.55033E-02	3.15969E-02	4.66847E-03
2	3.86780E-03	3.91746E-02	4.89541E-02	2.94619E-02	4.47095E-02	8.41748E-02	4.77516E-02	7.02753E-03
3	3.14281E-03	3.34202E-02	4.32300E-02	2.71747E-02	4.22143E-02	8.00934E-02	4.57827E-02	5.62349E-03
4	1.09486E-03	1.22971E-02	1.65667E-02	1.09275E-02	1.73884E-02	3.32406E-02	1.92173E-02	2.02157E-03
5	1.79607E-03	1.91449E-02	2.47951E-02	1.55844E-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	1.63485E-03
2	6.92764E-03	8.40018E-03	1.84928E-02	2.20194E-02	1.92545E-02	2.95815E-02	3.20688E-03	2.45795E-03
3	5.54294E-03	7.88691E-03	1.72594E-02	2.03592E-02	1.77966E-02	2.73365E-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	1.03139E-02	1.57767E-02	1.78852E-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	2.73227E-02	2.33288E-02
2	3.26685E-03	9.41307E-03	5.25072E-03	8.99094E-03	8.42348E-03	2.40870E-02	4.16175E-02	3.56646E-02
3	3.01702E-03	8.64944E-03	4.80055E-03	8.32568E-03	7.80167E-03	2.23477E-02	3.86547E-02	3.31035E-02
4	1.20694E-03	3.41263E-03	1.99330E-03	3.42387E-03	3.13115E-03	8.90294E-03	1.59649E-02	1.35687E-02
5	1.73774E-03	4.73108E-03	2.86448E-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	1.15586E-02	1.04798E-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	8.59198E-03	2.27131E-03	3.13661E-01

1 1200 d, ss2h: babcock wilcox 15x15, 3.00w/o, 20gd/intu burn high temp

0cell 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	2.98353E+00	2.87721E+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	1.28046E+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	2.78493E+00	2.06629E+00
5	1.77896E-01	1.28533E+00	1.61283E+00	9.97192E-01	1.50255E+00	2.88544E+00	2.82005E+00	2.07033E+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	5.96365E-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	6.32562E-01	3.70686E-01	2.03088E-01
4	1.60732E+00	1.47262E+00	1.35881E+00	8.55150E-01	7.19460E-01	6.53638E-01	3.72458E-01	2.04650E-01
5	1.60277E+00	1.46617E+00	1.34515E+00	8.39092E-01	7.05576E-01	6.32098E-01	3.70317E-01	2.02966E-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	1.14229E-01	4.10580E-01	1.08417E-01	1.68582E-01	6.45731E-01	4.90136E-01
2	8.15657E-02	4.21646E-02	1.19142E-01	4.18751E-01	1.10475E-01	1.95304E-01	6.84069E-01	5.22722E-01
3	8.25288E-02	4.50625E-02	1.20685E-01	4.21385E-01	1.12589E-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	2.24061E-01	1.46505E-01	2.40202E-02
3	2.28688E-01	1.50581E-01	2.51349E-02
4	2.44091E-01	1.66468E-01	3.02307E-02
5	2.30075E-01	1.52762E-01	2.59661E-02

0flux disadvantage factors (zone average/cell average-flux)

INFORMATION ONLY

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	1.00885E+00	1.00005E+00
3	9.96074E-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	9.80358E-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	9.99498E-01	9.98247E-01	9.95955E-01	9.92844E-01	9.92644E-01	9.87487E-01	9.98258E-01	9.96982E-01
3	1.00089E+00	9.99957E-01	1.00003E+00	1.00052E+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	1.03409E+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	9.52602E-01	6.95522E-01	9.47565E-01	9.75233E-01	9.08278E-01	8.46065E-01	9.27274E-01	9.17026E-01
2	9.89113E-01	9.60728E-01	9.88321E-01	9.94640E-01	9.79918E-01	9.70132E-01	9.82328E-01	9.78192E-01
3	1.00082E+00	1.02676E+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	1.03165E+00	1.01488E+00	1.05543E+00	1.09264E+00	1.04445E+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	9.59086E-01	9.25062E-01
3	9.98971E-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	2.45899E-03	2.51122E-02	3.15610E-02	1.90885E-02	2.90346E-02	5.55035E-02	3.15969E-02	4.66847E-03
2	3.85780E-03	3.91746E-02	4.85541E-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	8.00984E-02	4.57827E-02	5.62349E-03
4	1.08486E-03	1.22971E-02	1.65667E-02	1.09273E-02	1.75834E-02	3.33405E-02	1.92173E-02	2.02157E-03
5	1.79607E-03	1.91449E-02	2.47951E-02	1.55844E-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	1.45827E-02	1.27543E-02	1.94613E-02	2.15574E-03	1.63485E-03
2	6.92764E-03	8.40018E-03	1.84928E-02	2.20194E-02	1.92546E-02	2.95815E-02	3.20888E-03	2.45795E-03
3	5.54298E-03	7.88697E-03	1.72694E-02	2.08592E-02	1.77966E-02	2.73365E-02	2.99527E-03	2.27942E-03
4	1.83450E-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	1.17714E-02	1.05139E-02	1.57167E-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	2.73227E-02	2.33248E-02
2	3.26685E-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	4.89055E-03	8.32569E-03	7.80167E-03	2.22477E-02	3.86547E-02	3.31035E-02
4	1.20694E-03	3.41263E-03	1.99330E-03	3.42387E-03	3.13115E-03	8.90294E-03	1.58649E-02	1.35687E-02
5	1.75774E-03	4.73108E-03	2.86648E-03	4.88813E-03	4.47043E-03	1.26449E-02	2.24202E-02	1.91671E-02

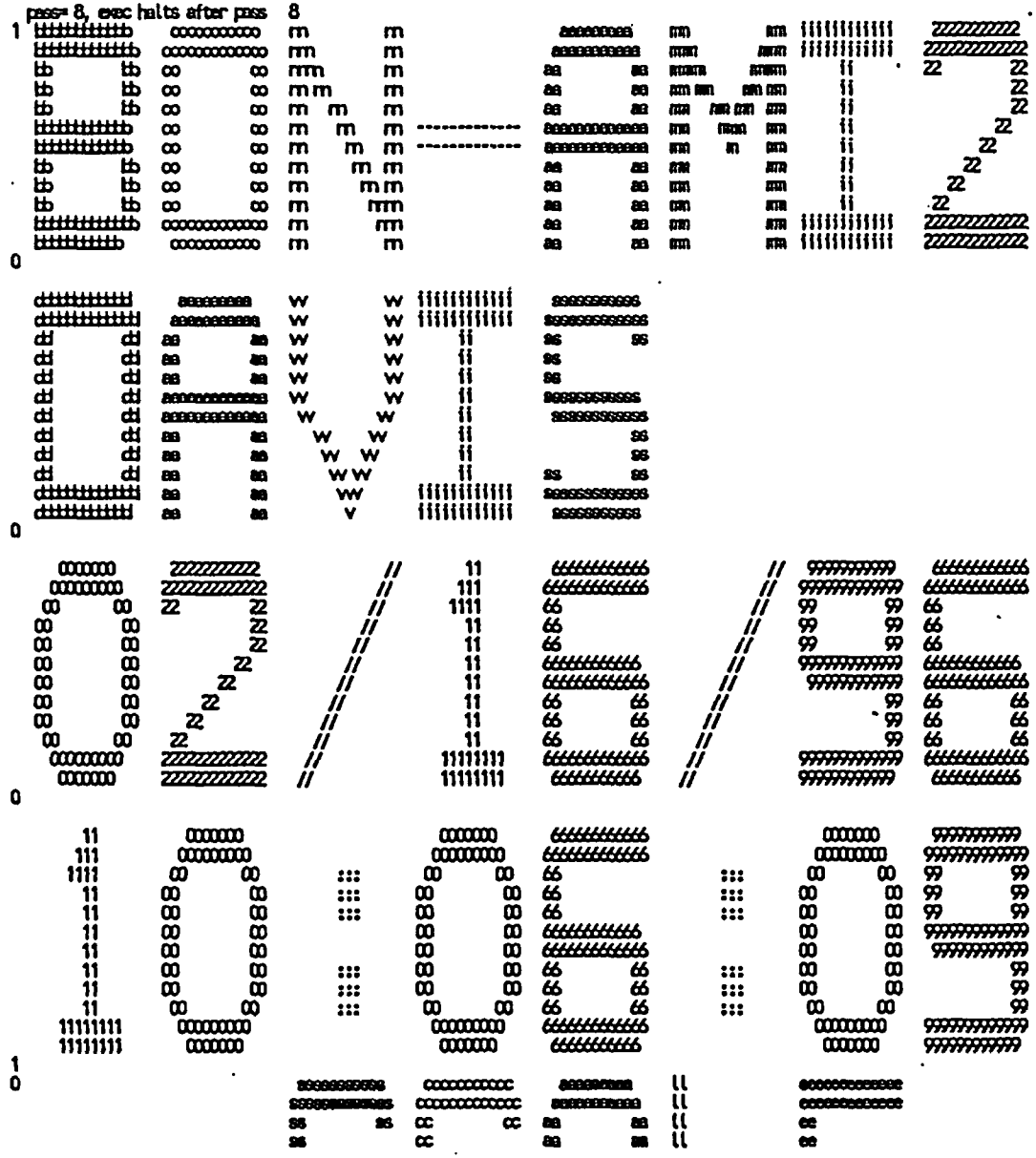
Ozone	grp. 25	grp. 26	grp. 27
1	1.15586E-02	1.04798E-02	2.79811E-03
2	1.77478E-02	1.63040E-02	4.54813E-03
3	1.63609E-02	1.50615E-02	4.17603E-03
4	6.64134E-03	6.01781E-03	1.53064E-03
5	9.44609E-03	8.59198E-03	2.27131E-03

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 parmehalt8,skipcellwt,skipshipdata

INFORMATION ONLY

pass= 8, exec halts after pass 8



INFORMATION ONLY

```
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 cccccccccccc aa     aa  llllllllllll eeeeeeeeeeee
 sssssssss   cccccccccc  aa      aa  llllllllllll eeeeeeeeeeee
```

program verification information

code system: scale version: 4.2

program: c0c008

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: 10:06:09

```
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
0p r o b l e m   d e s c r i p t i o n
0ig--geometry (0/1/2/3--inf med/slab/cyl/sphere          2
0izm--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
```

INFORMATION ONLY

```
0issopt--dancoff factor option                                  0
0convergence criterion   1.00000E-03
0geometry 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.
0m i x i n g   t a b l e
```

0entry	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	2.22565E-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	7.62439E-06	200016
17	1	40093	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	8.49055E-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	7.71300E-06	200031
32	1	54135	2.19622E-09	200032
33	1	54136	1.49560E-05	200033
34	1	55134	5.39316E-07	200034
35	1	55135	4.74731E-06	200035
36	1	55137	9.16395E-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

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47	1	62147	7.28768E-07	200047
48	1	62149	2.99879E-08	200048
49	1	62150	1.95229E-06	200049
50	1	62151	1.52692E-07	200050
51	1	62152	8.95258E-07	200051
52	1	64155	1.19080E-09	200052
53	1	63153	6.19432E-07	200053
54	1	63154	1.60229E-07	200054
55	1	63155	6.98613E-08	200055
56	1	40302	4.42681E-05	200056
57	1	1001	2.30630E-02	200057
58	1	5010	2.09787E-06	200058
59	1	5011	8.51673E-06	200059
60	1	55133	9.26929E-06	200060
61	1	95237	1.88908E-06	200061
62	1	94238	3.82360E-07	200062
63	1	94239	4.11046E-05	200063
64	1	94240	1.00195E-05	200064
65	1	94241	5.99267E-06	200065
66	1	94242	9.62605E-07	200066
67	1	95241	2.37599E-07	200067
68	1	95243	1.26846E-07	200068
69	1	96244	1.75358E-08	200069
70	1	999	3.30753E-21	200070

0geometry and material description

0zone	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	2.32883E-01	0

8067 locations of 200000 available are required to make a new master containing the self-shielded values
0no nuclides in your problem have bondarenko factor data**bonsai will copy from logical 12 to logical 1

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

INFORMATION ONLY

```
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/thrm1002   updated 10/13/89       id     202
        hydrogen      endf/b-iv mat 1269/thrm1002   updated 10/13/89       id   200057
        b-10 1273 218ngp 042375 p-3 293k                                   id     203
```

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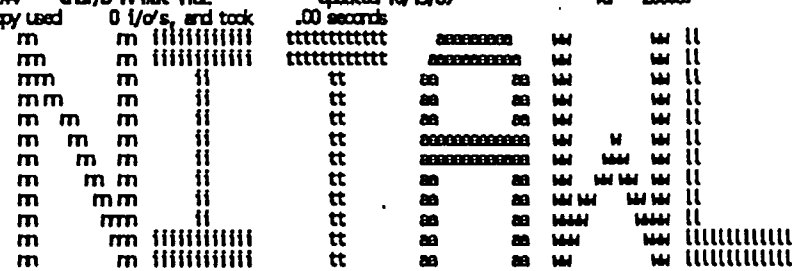
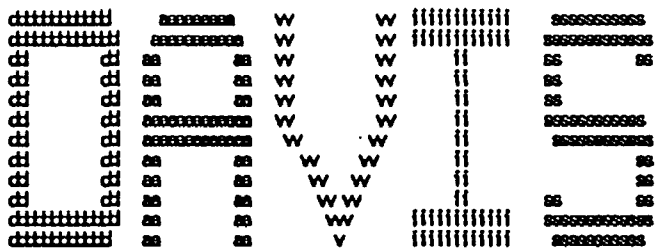
```
b-10 1273 218ngp 042375 p-3 293k                                          id   200058
 boron-11      endf/b-iv mat 1160          updated 10/13/89               id      204
 boron-11      endf/b-iv mat 1160          updated 10/13/89               id   200059
 oxygen-16     endf/b-iv mat 1276          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
 rb-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 newklacs 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 newklacs 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 newklacs p-3 293k f-1/e-m(1.+5)                      id   200062
 plutonium-239 endf/b-iv mat 1264          updated 10/13/89               id   200063
```

INFORMATION ONLY

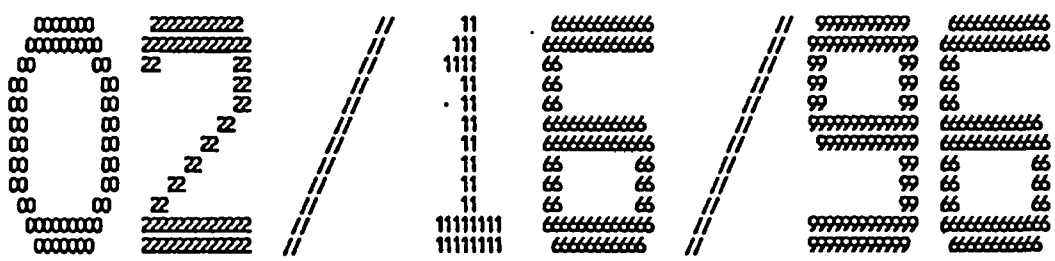
```
      plutonium-240  endf/b-iv mat 1265          updated 10/13/89          id   200064
      plutonium-241  endf/b-iv mat 1266          updated 10/13/89          id   200065
      plutonium-242  endf/b-iv mat 1161          updated 10/13/89          id   200066
     am-241 1056 sigp=5+4 newlacs 218ngp p-3 293k                          id   200067
     am-243 1057 218 gp wt f-1/e-m 090376 p3 293k                          id   200068
      curium-244     endf/b-iv mat 1162          updated 10/13/89          id   200069
0      tape copy used     0 i/o's, and took     .00 seconds
1
```



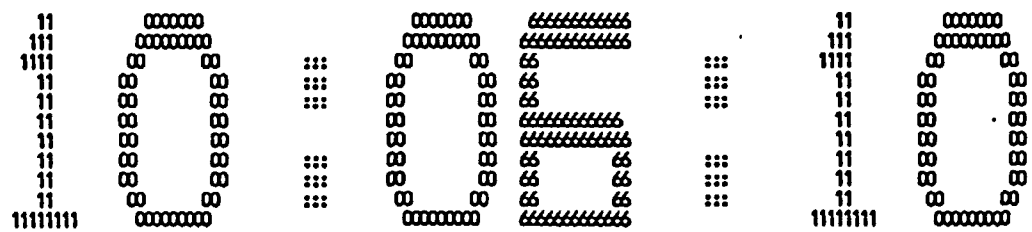
```
0
```



```
0
```



```
0
```



INFORMATION ONLY

```
     11111111      000000                 000000     6666666666                 11111111      000000
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
                          ssssssssss   cc            aaaaaaaaaaaa ll          eeeeeeeee
                           ssssssssss  cc            aaaaaaaaaaaa ll          eeeeeeeee
                                   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:  /nautronics/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
```

INFORMATION ONLY

```
        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 04375 p-3 293k
    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 04375 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        40802
   20    rb-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 newklacs 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 newklacs 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 newklacs 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 newklacs 218ngp 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 218ngp 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   -2.073270E+00
  10     -5.962230E-02   .000000E+00   -1.351984E+00
  11     -1.761672E-01   .000000E+00   -7.350731E-01
0excess resonance integrals
0                resolved
```

INFORMATION ONLY

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```
Oabsorption      2.92402E-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, sas2h: 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/thrm1002   updated 10/13/89          id     202
      b-10 1273 218ngp 042375 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/thrm1002   updated 10/13/89          id    1001
      b-10 1273 218ngp 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
```

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```
      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  dddddddddd  rrrrrrrrrr  m       m  pppppppppp  mm       mm
  xx       xx  ssssssssssss dddddddddd  rrrrrrrrrr  mm      m  pppppppppp  mmm      mmm
   xx     xx   ss       ss  dd      dd  rr      rr  mm      m  pp      pp  mmmm    mmmm
    xx   xx    ss           dd      dd  rr      rr  m m     m  pp      pp  mm mm   mm mm
     xx xx     ss           dd      dd  rr      rr  m  m    m  pp      pp  mm  mm mm  mm
      xxx      ssssssssss   dd      dd  rrrrrrrrrr  m   m   m  pppppppppp  mm   mmm   mm
      xxx       ssssssssss  dd      dd  rrrrrrrrrr  m    m  m  pppppppppp  mm    m    mm
     xx xx              ss  dd      dd  rr     rr   m     m m  pp          mm         mm
    xx   xx             ss  dd      dd  rr      rr  m      mm  pp          mm         mm
   xx     xx   ss       ss  dd      dd  rr      rr  m       mm  pp          mm         mm
  xx       xx  ssssssssssss dddddddddd  rr      rr  m        m  pp          mm         mm
 xx         xx  ssssssssss  dddddddddd  rr      rr  m        m  pp          mm         mm
0

 dddddddddd    aaaaaaaa   w       w  iiiiiiiiiiii   ssssssssss
 dddddddddd   aaaaaaaaaa  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
 dddddddddd  aa      aa       ww     iiiiiiiiiiii   ssssssssssss
 dddddddddd  aa      aa        v     iiiiiiiiiiii    ssssssssss
0

   0000000     22222222222          //      11      666666666666          //  99999999999   666666666666
  000000000    22222222222         //      111     6666666666666         //  9999999999999  6666666666666
 00      00   22       22          //     1111     66                   //  99       99   66
00       00           22          //       11      66                   //  99       99   66
00       00           22         //        11      66                   //  99       99   66
00       00         22          //         11      666666666666        //   9999999999999  666666666666
00       00       22           //          11      6666666666666       //    999999999999  6666666666666
00       00     22            //           11      66       66        //            99   66       66
```

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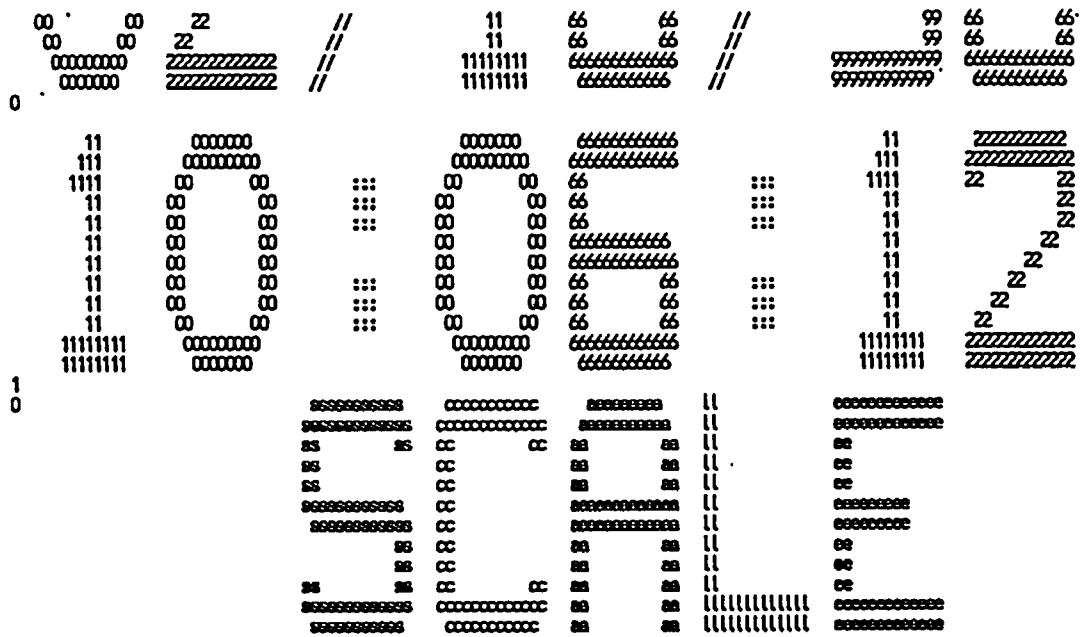
```
  00      00    22          //          11      66      66    //          99  66      66
  00      00    22          //          11      66      66    //          99  66      66
   000000000   2222222222222  //        11111111   6666666666666  //   9999999999999  6666666666666
    0000000    2222222222222  //        11111111    666666666666  //   999999999999    666666666666
0

     11        0000000                  0000000    666666666666                11      22222222222
    111        000000000                000000000  6666666666666               111     2222222222222
   1111        00      00      :::      00      00  66              :::      1111     22        22
     11        00      00      :::      00      00  66              :::        11                22
     11        00      00      :::      00      00  66              :::        11                22
     11        00      00               00      00  666666666666               11              22
     11        00      00               00      00  6666666666666              11            22
     11        00      00      :::      00      00  66      66      :::        11          22
     11        00      00      :::      00      00  66      66      :::        11        22
     11        00      00      :::      00      00  66      66      :::        11      22
   11111111    000000000                000000000  6666666666666            11111111  2222222222222
   11111111    0000000                  0000000    666666666666             11111111  2222222222222
1
0                          ssssssssssss   cccccccccccc   aaaaaaaaaa   ll          eeeeeeeeeeeeee
                           ssssssssssssss cccccccccccccc aaaaaaaaaaaa ll          eeeeeeeeeeeeee
                           ss        ss   cc        cc   aa        aa ll          ee
                           ss             cc             aa        aa ll          ee
                           ss             cc             aa        aa ll          ee
                           ssssssssssss   cc             aaaaaaaaaaaaaa ll          eeeeeeeee
                            ssssssssssss  cc             aaaaaaaaaaaaaa ll          eeeeeeeee
                                     ss   cc             aa        aa ll          ee
                                     ss   cc             aa        aa ll          ee
                           ss        ss   cc        cc   aa        aa ll          ee
                           ssssssssssssss cccccccccccccc aa        aa llllllllllllll eeeeeeeeeeeeee
                            ssssssssssss   cccccccccccc   aa        aa llllllllllllll eeeeeeeeeeeeee
```



```
*****************************************************************************
*****************************************************************************
*****************************************************************************
*****                                                                   *****
*****                 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                                 *****
```

INFORMATION ONLY

```
                    *****                                                                  *****
                    *****    time of execution:  10:06:12                                  *****
                    *****                                                                  *****
                    *****                                                                  *****
                    ***********************************************************************
                    ***********************************************************************
                    ***********************************************************************
1
                    1200 d, second part of sas2h 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 sas2h pass to make library
0general problem description data block
0                              general problem data

 ige  1/2/3 = plane/cylinder/sphere      2      isn  quadrature order                  8
 izm  number of zones                    4      isct order of scattering               3
 im   number of spacial 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
 mxx  number of mixtures                 3      iclc -1/0/n--flat res/sn/cpt           0
 ms   mixing table length               70      ith  0/1 = forward/adjoint             0
 igm  number of energy groups           27      iflu not used(always wgtd)             0
 nng  number of neutron groups          27      iprt -2/-1/0/n=mixture xsec print     -2
 ngg  number of gamma groups             0      id1  0/1/2/3=no/prt nd/pch n/both     14
 iftg number of first thermal group     15      ipbt -1/0/1=none/fine/all bal. prt     0
0                              spacial options

 ifg  0/1 = none/weighting calculation   1      ipn  0/1/2 diff. coef. param           0
 iqm  volumetric sources (0/n=no/yes)    0      idfm 0/1 = none/density factors 38*    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 rebaln 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 pan in brd gp tables  3
 igmf number of broad groups             3      ndsf pan 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=wgtd xsect print        -2      mxcm 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      vsc  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      xrpm raw param 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                                mixing table                                extra
      on tape     cccc identification   mixture  component   atom density   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     1.35823E-06
   8     5010                              1      92236     2.22565E-05
   9     5011                              1      92238     7.18805E-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     5.4444E-06
  16    40093                              1      42095     7.62439E-06
  17    40094                              1      40093     5.44388E-06
  18    40095                              1      40094     8.64059E-06
  19    40302                              1      40095     6.37208E-07
  20    41094                              1      41094     4.73664E-12
  21    42095                              1      43099     8.45055E-06
  22    43099                              1      45103     4.73364E-06
  23    44101                              1      45105     8.33256E-09
  24    44106                              1      44101     7.83094E-06
  25    45103                              1      44106     1.16052E-05
  26    45105                              1      46105     3.41731E-06
  27    46105                              1      46108     1.04931E-05
  28    46108                              1      47109     7.05166E-07
  29    47109                              1      51124     1.55244E-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     1.42860E-05
  34    54136                              1      55134     5.32516E-07
  35    55133                              1      55135     4.74731E-06
  36    55134                              1      55137     9.16393E-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     5.1169E-06
  44    60143                              1      61147     1.49236E-06
  45    60145                              1      61148     4.52757E-09
  46    60147                              1      60147     4.25603E-03
  47    61147                              1      62147     7.28768E-07
  48    61148                              1      62149     2.99879E-03
  49    62147                              1      62150     1.95225E-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
```

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54	63153	1	63154	1.60229E-07
55	63154	1	63155	6.98613E-08
56	63155	1	40302	4.42681E-03
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	3.82360E-07
63	94238	1	94239	4.11046E-05
64	94239	1	94240	1.00195E-05
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	4.60581E+09	1	0	1	1.00000E+00	
2	6.43400E+06	4.40989E-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	1.13526E+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	1.01036E+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	1.31002E+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	1.70344E+01	8.17974E+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	4.86933E+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	1.96247E+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	weights	quadrature constants directions	refl direc	wt x cos

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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	-1.28598E-02
7			5.55953E-02	2.31301E-01	6	1.28598E-02
8			5.55953E-02	5.58410E-01	5	3.10450E-02
9			0	-8.50774E-01	15	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	-2.20196E-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	4.29665E-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	-3.70555E-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	3.70555E-02
24			4.53355E-02	9.64143E-01	17	4.37099E-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	-1.97289E-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	1.61276E-01
7	2.31301E-01	4.52016E-01	-2.25713E-01	3.07844E-01	-1.61276E-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	-1.98456E-01	-4.86835E-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	-4.49528E-01	8.36885E-01	5.00708E-01	-7.51005E-01
17	-9.64143E-01	-4.49528E-01	7.73181E-01	4.91089E-01	-6.24438E-01
18	-8.17361E-01	-4.49528E-01	3.20262E-01	4.16320E-01	1.46514E-01
19	-5.46143E-01	-4.49528E-01	-3.20262E-01	2.78176E-01	7.36575E-01
20	-1.91780E-01	-4.49528E-01	-7.73181E-01	9.76824E-02	4.17236E-01
21	1.91780E-01	-4.49528E-01	-7.73181E-01	-9.76824E-02	-4.17236E-01
22	5.46143E-01	-4.49528E-01	-3.20262E-01	-2.78176E-01	-7.36575E-01
23	8.17361E-01	-4.49528E-01	3.20262E-01	-4.16320E-01	-1.46514E-01
24	9.64143E-01	-4.49528E-01	7.73181E-01	-4.91089E-01	6.24438E-01

1 int	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	5.93531E-02	1	2.48366E-01	1.47264E-02		0	
3	7.90575E-02	1.18586E-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	2.76701E-01	1	1.49020E+00	1.37447E-01			
6	3.16230E-01	3.55759E-01	1	1.98693E+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			

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10	5.92931E-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	1.10677E+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	2.31476E+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.

1 outer iter	inner iters	1 - balance	eigenvalue	1 - source ratio	1 - scatter ratio	1 - upscat ratio	search parameter	time (min)
1	125	8.00497E-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	-1.03387E-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	1	17	8.28958E-07	28	1.00000E+00	1
2	2	1	17	9.68108E-07	28	1.00000E+00	1
3	3	1	17	8.26446E-07	28	1.00000E+00	1
4	4	1	17	7.39969E-07	28	1.00000E+00	1
5	5	1	17	4.78289E-07	28	1.00000E+00	1
6	6	1	28	1.74231E-07	28	1.00000E+00	1
7	7	1	24	4.55098E-06	28	9.99996E-01	2
8	8	1	28	4.53025E-07	28	1.00000E+00	2
9	9	1	27	1.50841E-05	28	1.00001E+00	3
10	10	1	26	4.82669E-06	28	9.99996E-01	3
11	11	1	26	6.86737E-06	28	9.99998E-01	3
12	12	1	25	4.01992E-06	28	9.99997E-01	3
13	13	1	26	5.41574E-06	28	1.00000E+00	3
14	14	1	28	2.00883E-06	28	9.99999E-01	3
15	15	1	2	7.39044E-05	28	9.99918E-01	2
16	16	1	2	8.80606E-05	28	9.99928E-01	2
17	17	2	26	6.60470E-05	28	1.00007E+00	3
18	18	2	28	3.57894E-05	28	1.00001E+00	3
19	19	2	25	3.91572E-05	28	1.00004E+00	3
20	20	1	2	7.77912E-05	28	9.99861E-01	3
21	21	2	28	3.98852E-05	28	1.00001E+00	3
22	22	1	1	8.78960E-05	28	9.99935E-01	3
23	23	1	1	2.32202E-05	14	9.99990E-01	4
24	24	1	28	3.36975E-05	28	1.00005E+00	4
25	25	1	23	2.30561E-05	28	1.00004E+00	5
26	26	1	28	2.92714E-05	28	1.00001E+00	6
27	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 1.00316E+00 production/absorption 1.01629E+00 angular flux on 16

- elapsed time .02 min.

1 1200 d, second part of sea2h pass to make library

INFORMATION ONLY

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	5.92931E-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	5.53403E-01	5.73167E-01	3.47713E+00	1.42355E-01	.00000E+00
10	1	5.92931E-01	6.12690E-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	8.46400E-02	.00000E+00
13	3	6.73100E-01	6.96583E-01	4.22921E+00	2.05562E-01	.00000E+00
14	3	7.20067E-01	7.43550E-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	2.29265E-02
17	4	9.11591E-01	9.60386E-01	5.72769E+00	5.88891E-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	1.59667E+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	9.08379E-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	2.79349E+00	1.08681E-01
25	4	2.37545E+00	2.47305E+00	1.49254E+01	3.03285E+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 ssi2h 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	1.31633E-02	9.14341E-02	1.12942E-01	6.91968E-02	1.02948E-01	1.93067E-01	1.95301E-01	1.47097E-01
5	1.31761E-02	9.15770E-02	1.13138E-01	6.93279E-02	1.05164E-01	1.93466E-01	1.95548E-01	1.47140E-01
6	1.31931E-02	9.17735E-02	1.13408E-01	6.95112E-02	1.05461E-01	1.94014E-01	1.95887E-01	1.47197E-01
7	1.32144E-02	9.20250E-02	1.13755E-01	6.97488E-02	1.05884E-01	1.94729E-01	1.96327E-01	1.47267E-01
8	1.32406E-02	9.23391E-02	1.14195E-01	7.00568E-02	1.06354E-01	1.95664E-01	1.96903E-01	1.47350E-01
9	1.32724E-02	9.26154E-02	1.14590E-01	7.03389E-02	1.06821E-01	1.96531E-01	1.97438E-01	1.47420E-01
10	1.32774E-02	9.28520E-02	1.14919E-01	7.05872E-02	1.07242E-01	1.97316E-01	1.97984E-01	1.47469E-01
11	1.32809E-02	9.30115E-02	1.15195E-01	7.07957E-02	1.07592E-01	1.97991E-01	1.98341E-01	1.47513E-01
12	1.33034E-02	9.31451E-02	1.15369E-01	7.09042E-02	1.07768E-01	1.98328E-01	1.98543E-01	1.47557E-01
13	1.33319E-02	9.33988E-02	1.15640E-01	7.10417E-02	1.07954E-01	1.98666E-01	1.98734E-01	1.47626E-01
14	1.33738E-02	9.37765E-02	1.16095E-01	7.12970E-02	1.08328E-01	1.99323E-01	1.97112E-01	1.47718E-01
15	1.34231E-02	9.42757E-02	1.16721E-01	7.16357E-02	1.08984E-01	2.00394E-01	1.97739E-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	1.48187E-01
18	1.36351E-02	9.65135E-02	1.19592E-01	7.35125E-02	1.09830E-01	2.05753E-01	2.00982E-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	7.42589E-02	1.11112E-01	2.08256E-01	2.02582E-01	1.48758E-01
21	1.37368E-02	9.76460E-02	1.21093E-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	7.46203E-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	2.09708E-01	2.03555E-01	1.49029E-01
24	1.37609E-02	9.79354E-02	1.21500E-01	7.47589E-02	1.11897E-01	2.09908E-01	2.03693E-01	1.49065E-01
25	1.37628E-02	9.79603E-02	1.21537E-01	7.47832E-02	1.11941E-01	2.10006E-01	2.03768E-01	1.49086E-01
26	1.37624E-02	9.79570E-02	1.21535E-01	7.47819E-02	1.11940E-01	2.10014E-01	2.03774E-01	1.49086E-01
27	1.37608E-02	9.79367E-02	1.21508E-01	7.47644E-02	1.11912E-01	2.09959E-01	2.03737E-01	1.49073E-01

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28	1.37580E-02	9.79069E-02	1.21469E-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	1.01096E-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	5.59069E-02	5.30369E-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	5.56651E-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	1.58566E-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	2.85646E-02	1.57459E-02
12	1.15971E-01	1.06829E-01	1.00054E-01	6.43459E-02	5.47957E-02	5.13798E-02	2.85446E-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	2.84984E-02	1.57022E-02
15	1.15783E-01	1.06638E-01	9.96166E-02	6.38038E-02	5.43078E-02	5.06243E-02	2.84548E-02	1.56680E-02
16	1.15680E-01	1.06468E-01	9.92308E-02	6.33408E-02	5.38957E-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	2.82820E-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	5.27616E-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	5.25724E-02	4.76785E-02	2.79387E-02	1.53488E-02
22	1.15429E-01	1.05846E-01	9.77727E-02	6.15952E-02	5.22565E-02	4.75119E-02	2.78853E-02	1.53256E-02
23	1.15426E-01	1.05821E-01	9.77025E-02	6.15118E-02	5.21736E-02	4.73953E-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	9.76259E-02	6.14211E-02	5.20836E-02	4.72646E-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	1.52859E-02
27	1.15416E-01	1.05789E-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	1.03301E-02	3.45541E-02	1.05307E-02	2.16097E-02	7.33210E-02	6.03480E-02
2	6.88723E-03	5.07066E-03	1.03516E-02	3.45569E-02	1.05319E-02	2.16116E-02	7.33162E-02	6.03340E-02
3	6.88350E-03	5.06135E-03	1.03247E-02	3.45419E-02	1.05204E-02	2.15755E-02	7.32009E-02	6.02128E-02
4	6.87350E-03	5.03898E-03	1.03081E-02	3.45066E-02	1.05940E-02	2.14834E-02	7.29474E-02	5.99522E-02
5	6.86076E-03	5.00445E-03	1.02830E-02	3.44536E-02	1.05541E-02	2.13700E-02	7.25713E-02	5.95666E-02
6	6.84211E-03	4.95714E-03	1.02490E-02	3.43829E-02	1.05001E-02	2.12032E-02	7.20703E-02	5.90530E-02
7	6.81767E-03	4.89435E-03	1.02048E-02	3.42920E-02	1.04296E-02	2.09859E-02	7.14319E-02	5.84005E-02
8	6.78645E-03	4.81055E-03	1.01471E-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	1.00068E-02	3.38952E-02	1.01111E-02	2.00211E-02	6.88086E-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	9.98951E-03	3.38215E-02	1.00551E-02	1.98511E-02	6.83930E-02	5.54012E-02
14	6.65693E-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	3.36039E-02	9.85020E-03	1.92128E-02	6.68990E-02	5.38771E-02
16	6.54006E-03	4.09981E-03	9.73561E-03	3.33954E-02	9.64370E-03	1.85685E-02	6.55310E-02	5.25478E-02
17	6.46957E-03	3.86727E-03	9.61391E-03	3.31691E-02	9.43501E-03	1.79258E-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	4.99858E-02
19	6.34802E-03	3.55278E-03	9.39875E-03	3.27340E-02	9.10572E-03	1.69161E-02	6.14735E-02	4.86469E-02
20	6.31196E-03	3.47253E-03	9.32831E-03	3.25802E-02	9.00357E-03	1.66076E-02	6.05225E-02	4.77222E-02
21	6.28619E-03	3.42148E-03	9.27833E-03	3.24664E-02	8.93143E-03	1.63953E-02	5.98103E-02	4.70277E-02
22	6.26779E-03	3.38998E-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	8.84243E-03	1.61300E-02	5.88669E-02	4.61070E-02
24	6.24579E-03	3.35053E-03	9.19846E-03	3.22757E-02	8.81670E-03	1.60533E-02	5.85746E-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	3.33797E-03	9.18461E-03	3.22411E-02	8.79414E-03	1.59829E-02	5.82878E-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	9.19364E-03	3.22625E-02	8.80198E-03	1.59983E-02	5.83274E-02	4.55341E-02
0 int.	grp. 25	grp. 26	grp. 27					

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1	2.73358E-02	1.97348E-02	3.74869E-03
2	2.73254E-02	1.97234E-02	3.74592E-03
3	2.72609E-02	1.96669E-02	3.73435E-03
4	2.71234E-02	1.95477E-02	3.70980E-03
5	2.69204E-02	1.93700E-02	3.67270E-03
6	2.66494E-02	1.91311E-02	3.62194E-03
7	2.63053E-02	1.88253E-02	3.55558E-03
8	2.58754E-02	1.84401E-02	3.47009E-03
9	2.54944E-02	1.80971E-02	3.39886E-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	2.18769E-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	2.03974E-02	1.35583E-02	2.28999E-03
22	2.01360E-02	1.33604E-02	2.25661E-03
23	1.99414E-02	1.32164E-02	2.23271E-03
24	1.98005E-02	1.31139E-02	2.21612E-03
25	1.97052E-02	1.30450E-02	2.20510E-03
26	1.96519E-02	1.30053E-02	2.19875E-03
27	1.96365E-02	1.29913E-02	2.19635E-03
28	1.96467E-02	1.29943E-02	2.19652E-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	9.99930E-01
2	.00000E+00	.00000E+00	3.89518E-04	6.20419E-03	8.15427E-03	1.77258E-04	-7.94192E-03	9.99961E-01
3	.00000E+00	.00000E+00	3.87393E-03	5.48243E-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	-6.82516E-03	9.99987E-01
5	.00000E+00	.00000E+00	1.02580E-02	1.15402E-02	2.09074E-02	4.97317E-05	-1.05585E-02	9.99990E-01
6	.00000E+00	.00000E+00	2.15493E-02	3.45127E-02	4.10188E-02	8.43286E-05	-1.95534E-02	9.99998E-01
7	.00000E+00	.00000E+00	4.22775E-02	6.09915E-02	5.41559E-02	6.12428E-05	-1.19391E-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	1.42638E-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	4.55042E-02	3.51725E-02	4.13868E-02	6.05815E-05	4.05997E-03	9.99978E-01
13	.00000E+00	.00000E+00	4.05506E-02	2.85935E-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	9.99988E-01
15	.00000E+00	.00000E+00	2.16251E-02	1.07912E-02	2.02163E-02	1.11967E-04	1.25488E-03	9.99998E-01
16	.00000E+00	.00000E+00	1.41666E-02	4.53187E-03	1.33513E-02	7.55767E-05	7.39689E-04	1.00000E+00
17	.00000E+00	.00000E+00	7.25527E-03	1.26248E-03	6.56865E-03	3.61401E-05	6.50624E-04	9.99980E-01
18	.00000E+00	.00000E+00	6.41259E-03	8.80700E-04	4.81237E-03	2.75577E-05	1.57250E-03	9.99994E-01
19	.00000E+00	.00000E+00	1.05371E-02	2.80259E-03	9.30287E-03	6.27785E-05	1.17162E-03	9.99985E-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	3.98840E-03	1.05759E-02	1.00025E-04	1.72275E-03	9.99981E-01
22	.00000E+00	.00000E+00	2.40127E-02	1.20675E-02	1.87798E-02	2.31784E-04	5.00151E-03	9.99991E-01
23	.00000E+00	.00000E+00	6.18254E-02	7.40863E-02	4.86805E-02	1.07547E-03	1.21000E-02	9.99992E-01
24	.00000E+00	.00000E+00	6.58498E-02	7.03337E-02	5.42912E-02	1.27958E-03	1.02798E-02	9.99992E-01
25	.00000E+00	.00000E+00	4.38895E-02	2.98950E-02	3.86452E-02	7.59307E-04	4.66466E-03	9.99994E-01
26	.00000E+00	.00000E+00	3.50840E-02	3.34582E-02	3.09331E-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	9.99965E-01

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

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1	1.32845E-02	-7.34974E-04	1.31657E-02	.00000E+00	3.75257E-11	.00000E+00	2.03355E-05	1.66106E-02
2	9.29464E-02	-7.94192E-03	9.14346E-02	.00000E+00	.00000E+00	.00000E+00	8.99266E-05	1.15714E-01
3	1.15100E-01	-1.04830E-02	1.12988E-01	.00000E+00	.00000E+00	.00000E+00	9.26504E-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	1.05483E-01	-1.06589E-02	1.02886E-01	.00000E+00	.00000E+00	.00000E+00	4.94384E-05	1.30649E-01
6	1.97765E-01	-1.95534E-02	1.92925E-01	.00000E+00	.00000E+00	.00000E+00	8.34586E-05	2.44982E-01
7	1.96208E-01	-1.19391E-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	1.85075E-01
9	1.15973E-01	2.39825E-04	1.16022E-01	.00000E+00	.00000E+00	.00000E+00	2.16944E-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	1.79485E-05	1.26514E-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	8.75239E-06	6.96983E-02
14	5.15108E-02	5.83491E-03	5.30708E-02	.00000E+00	.00000E+00	.00000E+00	8.43566E-06	6.58376E-02
15	2.85785E-02	1.29488E-03	2.88649E-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	6.71189E-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	5.06558E-03	.00000E+00	.00000E+00	.00000E+00	6.11462E-07	6.12881E-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	4.30622E-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	2.16013E-02	.00000E+00	.00000E+00	.00000E+00	2.40335E-06	2.62900E-02
23	6.89100E-02	1.21000E-02	7.33008E-02	.00000E+00	.00000E+00	.00000E+00	7.38782E-06	8.95713E-02
24	5.58695E-02	1.02795E-02	6.05340E-02	.00000E+00	.00000E+00	.00000E+00	4.48697E-06	7.32015E-02
25	2.49705E-02	4.66466E-03	2.73313E-02	.00000E+00	.00000E+00	.00000E+00	1.56083E-06	3.29612E-02
26	1.76401E-02	3.40732E-03	1.97334E-02	.00000E+00	.00000E+00	.00000E+00	8.26149E-07	2.35667E-02
27	3.28534E-03	5.73019E-04	3.74885E-03	.00000E+00	.00000E+00	.00000E+00	9.71280E-08	4.44855E-03
28	1.73325E+00	-6.05016E-03	1.73997E+00	.00000E+00	3.75257E-11	.00000E+00	5.88752E-04	2.18205E+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	1.61609E-05	-1.03947E-03	1.00000E+00
3	.00000E+00	.00000E+00	1.52159E-04	2.77987E-03	8.78965E-04	2.03420E-05	-7.47189E-04	9.99995E-01
4	.00000E+00	.00000E+00	2.89087E-04	2.31001E-03	2.99098E-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	5.85298E-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	6.36588E-03	5.30666E-05	7.67849E-05	3.15657E-04	9.99978E-01
10	.00000E+00	.00000E+00	5.31318E-05	4.99632E-03	4.95722E-05	5.94391E-05	-5.58894E-05	1.00000E+00
11	.00000E+00	.00000E+00	4.95755E-05	4.48568E-03	5.06333E-05	9.02401E-05	-9.10966E-05	1.00000E+00
12	.00000E+00	.00000E+00	5.04336E-05	2.76787E-03	5.14952E-05	5.68657E-06	-6.75488E-06	1.00000E+00
13	.00000E+00	.00000E+00	5.14953E-05	2.35816E-03	4.81048E-05	6.31862E-06	-2.92598E-06	1.00000E+00
14	.00000E+00	.00000E+00	4.81048E-05	2.21738E-03	4.17857E-05	8.46807E-06	-2.14998E-06	1.00000E+00
15	.00000E+00	.00000E+00	4.43495E-05	1.20592E-03	4.98544E-05	6.24518E-06	-1.11695E-05	9.99940E-01
16	.00000E+00	.00000E+00	5.51789E-05	6.36471E-04	5.51385E-05	3.77227E-06	-3.68326E-06	9.99939E-01
17	.00000E+00	.00000E+00	5.95582E-05	2.36301E-04	5.81661E-05	1.75654E-06	-3.61819E-07	9.99998E-01
18	.00000E+00	.00000E+00	6.09980E-05	1.52556E-04	4.92598E-05	1.27010E-06	1.04690E-05	9.99999E-01
19	.00000E+00	.00000E+00	5.13053E-05	3.82839E-04	5.64845E-05	2.97074E-06	-8.14872E-06	9.99997E-01
20	.00000E+00	.00000E+00	6.88780E-05	1.42785E-03	6.07046E-05	1.22760E-05	-3.97947E-06	9.99959E-01
21	.00000E+00	.00000E+00	7.92644E-05	3.58223E-04	8.55664E-05	4.44045E-06	-1.07357E-05	9.99997E-01
22	.00000E+00	.00000E+00	1.12663E-04	7.74795E-04	1.03549E-04	1.00041E-05	-8.30274E-07	9.99988E-01
23	.00000E+00	.00000E+00	1.60871E-04	2.81343E-03	2.06553E-04	4.59520E-05	-9.16008E-05	9.99997E-01
24	.00000E+00	.00000E+00	2.66929E-04	2.15347E-03	2.99531E-04	5.28600E-05	-8.14330E-05	9.99997E-01
25	.00000E+00	.00000E+00	2.73833E-04	8.71228E-04	2.24243E-04	3.08516E-05	1.87564E-05	1.00000E+00
26	.00000E+00	.00000E+00	1.16681E-04	6.83098E-04	9.02725E-05	3.06656E-05	-4.25638E-06	1.00000E+00
27	.00000E+00	.00000E+00	2.61757E-05	1.44269E-04	7.43328E-08	1.07035E-05	1.53984E-05	9.99999E-01
28	.00000E+00	.00000E+00	4.98653E-03	8.04442E-02	4.98863E-03	6.03781E-04	-5.97326E-04	9.99971E-01

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	rdn rate	fiss rate	flux*dr**2	total flux
1	1.33116E-02	-9.01385E-04	1.32845E-02	-7.34974E-04	6.07125E-06	.00000E+00	1.67835E-06	2.21639E-03

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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	-1.12302E-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	1.05821E-01	-1.03341E-02	1.05483E-01	-1.05588E-02	.00000E+00	.00000E+00	8.64728E-06	1.76158E-02
6	1.98438E-01	-1.87218E-02	1.97765E-01	-1.95534E-02	.00000E+00	.00000E+00	1.01802E-05	3.30310E-02
7	1.96608E-01	-1.13538E-02	1.96203E-01	-1.19591E-02	.00000E+00	.00000E+00	8.35682E-06	3.27445E-02
8	1.47581E-01	-2.77340E-03	1.47493E-01	-2.42535E-03	.00000E+00	.00000E+00	5.27783E-06	2.45922E-02
9	1.15984E-01	5.55484E-04	1.15973E-01	2.39825E-04	.00000E+00	.00000E+00	4.58828E-06	1.95313E-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	3.32888E-03	1.00132E-01	3.41398E-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	2.85388E-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	7.39689E-04	.00000E+00	.00000E+00	7.73072E-07	2.62575E-03
17	6.69474E-03	6.50262E-04	6.71186E-03	6.50624E-04	.00000E+00	.00000E+00	3.28992E-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	9.98657E-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	1.69754E-06	5.66725E-03
21	1.00836E-02	1.71201E-03	1.01259E-02	1.72275E-03	.00000E+00	.00000E+00	4.98986E-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	1.14574E-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	4.68466E-03	.00000E+00	.00000E+00	1.19888E-06	4.15599E-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	3.28395E-03	5.88617E-04	3.28984E-03	5.73019E-04	.00000E+00	.00000E+00	1.51513E-07	5.47598E-04
28	1.73410E+00	-6.64754E-03	1.73325E+00	-6.05016E-03	6.07129E-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	-4.24091E-03	9.99987E-01
3	.00000E+00	.00000E+00	2.05748E-03	2.93067E-03	7.62504E-03	4.99573E-05	-5.60713E-03	9.99990E-01
4	.00000E+00	.00000E+00	2.99885E-03	1.95131E-03	6.63580E-03	2.25385E-05	-3.65957E-03	9.99994E-01
5	.00000E+00	.00000E+00	5.50818E-03	6.18790E-03	1.12100E-02	2.66663E-05	-5.72899E-03	9.99995E-01
6	.00000E+00	.00000E+00	1.15427E-02	1.85005E-02	2.19879E-02	4.52042E-05	-1.04904E-02	9.99997E-01
7	.00000E+00	.00000E+00	2.26572E-02	3.24014E-02	2.87701E-02	3.25350E-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	3.04268E-02	3.80277E-02	3.01144E-02	1.53321E-05	3.16313E-04	9.99888E-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	2.92365E-02	3.41418E-02	2.72575E-02	2.87028E-05	1.94002E-03	9.99946E-01
12	.00000E+00	.00000E+00	2.36570E-02	1.81352E-02	2.13383E-02	3.12562E-05	2.28797E-03	9.99982E-01
13	.00000E+00	.00000E+00	2.10148E-02	1.47232E-02	1.88815E-02	4.36148E-05	2.09057E-03	9.99974E-01
14	.00000E+00	.00000E+00	2.05764E-02	1.43112E-02	1.70958E-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	3.74089E-03	6.45785E-04	3.35999E-03	1.84864E-05	3.62488E-04	9.99983E-01
18	.00000E+00	.00000E+00	3.30274E-03	4.20702E-04	2.29880E-03	1.31635E-05	9.90798E-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	9.99998E-01
23	.00000E+00	.00000E+00	3.05736E-02	3.68392E-02	2.41913E-02	5.34778E-04	5.84755E-03	1.00000E+00
24	.00000E+00	.00000E+00	3.23455E-02	3.45689E-02	2.66817E-02	6.28858E-04	5.03530E-03	9.99998E-01
25	.00000E+00	.00000E+00	2.14304E-02	1.65370E-02	1.87019E-02	3.69468E-04	2.35918E-03	9.99998E-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	rxn rate	fiss rate	flux*cb**2	total flux
1	1.34508E-02	-1.29105E-03	1.33114E-02	-9.01385E-04	1.98559E-11	.00000E+00	1.07812E-05	8.80639E-03
2	9.45620E-02	-1.32221E-02	9.32136E-02	-8.98139E-03	.00000E+00	.00000E+00	4.80016E-05	6.17666E-02

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3	1.17086E-01	-1.68373E-02	1.15448E-01	-1.12302E-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	-1.03341E-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	4.47378E-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	1.72089E-05	9.72422E-02
9	1.15741E-01	8.71797E-04	1.15964E-01	5.55484E-04	.00000E+00	.00000E+00	1.13508E-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	6.57029E-02
12	6.36356E-02	6.34099E-03	6.43293E-02	4.05302E-03	.00000E+00	.00000E+00	5.43198E-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	5.03902E-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	2.85389E-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	6.50262E-04	.00000E+00	.00000E+00	4.48043E-07	4.37714E-03
18	4.25498E-03	2.57376E-03	4.57743E-03	1.58297E-03	.00000E+00	.00000E+00	2.92086E-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	7.83346E-03	1.99445E-02	5.00068E-03	.00000E+00	.00000E+00	1.17995E-06	1.28634E-02
23	6.63828E-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	3.40809E-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	-6.66754E-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	9.98908E-01
2	.00000E+00	1.95973E-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	1.60632E-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	5.94038E-01	1.56374E+00	6.55371E-01	7.95932E-03	1.74943E-02	9.99996E-01
8	.00000E+00	1.33562E-02	6.89761E-01	1.57566E+00	6.86569E-01	1.29858E-02	3.66928E-03	9.99922E-01
9	.00000E+00	9.69036E-04	6.78647E-01	1.37341E+00	6.59114E-01	2.14467E-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	5.59826E-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	-9.05402E-03	9.99990E-01
15	.00000E+00	1.41450E-09	2.36019E-01	2.13149E-01	2.28234E-01	8.78531E-03	-1.79543E-03	1.00040E+00
16	.00000E+00	4.15347E-10	1.60834E-01	9.76436E-02	1.54662E-01	7.17728E-03	-1.07234E-03	1.00042E+00
17	.00000E+00	1.33762E-10	8.56851E-02	2.99266E-02	7.67639E-02	9.90987E-03	-1.00998E-03	1.00025E+00
18	.00000E+00	9.57698E-11	7.58718E-02	1.68306E-02	4.80052E-02	3.04344E-02	-2.57336E-03	1.00007E+00
19	.00000E+00	1.35398E-10	1.16745E-01	5.54589E-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	2.79898E-02	-3.62822E-03	1.00039E+00
21	.00000E+00	3.22259E-11	1.36533E-01	6.36260E-02	1.12858E-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	6.11482E-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	2.84838E-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	6.22645E-02	-5.37779E-03	1.00012E+00
27	.00000E+00	4.75968E-13	1.10502E-01	6.68567E-02	9.36985E-02	1.78884E-02	-1.08592E-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	nsn rate	fiss rate	flux^bdy^2	total flux
1	1.37564E-02	2.68880E-09	1.34508E-02	-1.29105E-03	2.29488E-03	2.54853E-03	3.05452E-04	3.49688E-01
2	9.78884E-02	4.62509E-08	9.45620E-02	-1.32221E-03	1.56325E-05	1.10681E-02	1.60908E-03	2.48573E+00
3	1.21444E-01	5.63894E-08	1.17086E-01	-1.68373E-02	.00000E+00	1.32870E-02	1.85836E-03	3.08300E+00

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4	7.47215E-02	4.07060E-03	7.19126E-02	-1.05076E-02	.00000E+00	5.68358E-03	8.86693E-04	1.89654E+00
5	1.11840E-01	1.13271E-07	1.07280E-01	-1.60531E-02	.00000E+00	1.60271E-03	1.03329E-03	2.83757E+00
6	2.07812E-01	1.71846E-07	2.01085E-01	-2.92121E-02	.00000E+00	1.26484E-03	1.75209E-03	5.32128E+00
7	2.03634E-01	-4.58645E-06	1.98115E-01	-1.74989E-02	.00000E+00	1.15758E-03	1.22718E-03	5.17121E+00
8	1.49040E-01	-3.20550E-07	1.47887E-01	-3.66730E-03	.00000E+00	1.13574E-03	6.99004E-04	3.79163E+00
9	1.15413E-01	9.41713E-06	1.15741E-01	8.71797E-04	.00000E+00	1.48174E-03	4.71983E-04	2.93943E+00
10	1.05799E-01	-2.97725E-06	1.05576E-01	2.21802E-03	.00000E+00	3.16392E-03	4.29193E-04	2.69595E+00
11	9.76494E-02	-4.18098E-06	9.94764E-02	5.26291E-03	.00000E+00	6.93966E-03	3.87460E-04	2.49132E+00
12	6.14479E-02	-1.66198E-06	6.36356E-02	6.34099E-03	.00000E+00	9.30999E-03	2.27664E-04	1.57050E+00
13	5.21141E-02	1.60048E-06	5.41584E-02	5.98484E-03	.00000E+00	1.13687E-02	1.98820E-04	1.33257E+00
14	4.73053E-02	-3.76107E-07	5.03900E-02	9.03455E-03	.00000E+00	7.12076E-03	1.71585E-04	1.21279E+00
15	2.78461E-02	-9.29524E-06	2.84310E-02	1.78615E-03	.00000E+00	1.55905E-03	1.09558E-04	7.10790E-01
16	1.53000E-02	-5.61701E-06	1.56483E-02	1.06732E-03	.00000E+00	1.12102E-03	5.61468E-05	3.90564E-01
17	6.24486E-03	2.81560E-06	6.58612E-03	1.01275E-03	.00000E+00	1.16970E-03	1.99598E-05	1.59929E-01
18	3.34268E-03	4.09092E-07	4.25496E-03	2.57376E-03	.00000E+00	6.99870E-04	7.02970E-06	8.71896E-02
19	9.19575E-03	2.65518E-06	9.81114E-03	1.77107E-03	.00000E+00	1.88634E-03	3.02256E-05	2.35920E-01
20	3.22761E-02	-1.50844E-05	3.35353E-02	3.61313E-03	.00000E+00	1.31901E-02	1.18810E-04	8.25631E-01
21	8.80620E-03	1.27856E-06	9.77459E-03	2.67830E-03	.00000E+00	1.49055E-02	2.42019E-05	2.26979E-01
22	1.60104E-02	-5.98316E-06	1.85810E-02	7.83346E-03	.00000E+00	4.44033E-02	4.01212E-05	4.16148E-01
23	5.83634E-02	-3.58308E-06	6.63828E-02	1.78659E-02	.00000E+00	7.37467E-02	1.55643E-04	1.51481E+00
24	4.55585E-02	9.12368E-07	5.33883E-02	1.52334E-02	.00000E+00	6.55348E-02	9.64147E-05	1.18923E+00
25	1.96549E-02	4.73046E-06	2.36448E-02	7.04260E-03	.00000E+00	3.71580E-02	3.32758E-05	5.15445E-01
26	1.29978E-02	-8.85605E-08	1.63712E-02	5.37770E-03	.00000E+00	3.41225E-02	1.65107E-05	3.42812E-01
27	2.19635E-03	7.05898E-08	2.98822E-03	1.08900E-03	.00000E+00	9.65668E-03	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

1fine 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	2.23345E-02	2.20470E-02	3.93662E-03	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	1.00000E+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-03	4.07060E-08	9.99999E-01
5	.00000E+00	1.63447E-01	2.09546E-01	4.67344E-01	3.69570E-01	5.22675E-03	1.13271E-07	9.99989E-01
6	.00000E+00	1.75940E-01	4.26155E-01	1.25666E+00	5.98875E-01	8.21322E-03	1.71846E-07	1.00001E+00
7	.00000E+00	8.67841E-02	6.59648E-01	1.66973E+00	7.38361E-01	8.07992E-03	-4.58645E-06	9.99995E-01
8	.00000E+00	1.33562E-02	7.76274E-01	1.70446E+00	7.76679E-01	1.30135E-02	-3.20550E-07	9.99921E-01
9	.00000E+00	9.69036E-04	7.67356E-01	1.49049E+00	7.46835E-01	2.15681E-02	9.41713E-06	9.99880E-01
10	.00000E+00	7.19709E-05	7.43208E-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	6.61956E-01	5.33983E-02	-4.18098E-06	9.99947E-01
12	.00000E+00	3.97753E-07	5.76203E-01	6.94237E-01	5.17500E-01	5.87130E-02	-1.66198E-06	9.99978E-01
13	.00000E+00	6.31594E-08	5.11117E-01	5.52800E-01	4.55015E-01	5.61172E-02	1.60048E-06	9.99967E-01
14	.00000E+00	1.25165E-08	4.91393E-01	5.11761E-01	4.09535E-01	8.18633E-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	1.05163E-01	1.74994E-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-03	2.81560E-06	1.00022E+00
18	.00000E+00	9.57698E-11	8.56479E-02	1.82865E-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	1.30498E-02	2.65518E-06	1.00016E+00
20	.00000E+00	2.20171E-10	3.18495E-01	3.62140E-01	2.85997E-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	2.64498E-02	1.27856E-06	1.00014E+00
22	.00000E+00	3.73894E-11	2.98501E-01	1.79258E-01	2.16048E-01	7.74092E-02	-5.98316E-06	1.00017E+00
23	.00000E+00	3.57484E-11	7.04062E-01	1.02924E+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	6.17189E-01	1.27729E-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	4.73046E-06	1.00011E+00
26	.00000E+00	1.99730E-12	3.86224E-01	3.80577E-01	3.22748E-01	6.34375E-02	-8.85605E-08	1.00010E+00
27	.00000E+00	4.75968E-13	1.28209E-01	7.77168E-02	1.08895E-01	1.83039E-02	7.05898E-08	1.00004E+00
28	.00000E+00	1.00000E+00	1.00698E+01	1.55515E+01	1.06895E+01	1.00185E+00	-2.94321E-05	1.00006E+00

0 grp.	rt bdy flux	rt leakage	lft bdy flux	lft leakage	r2n rate	fiss rate	flux*d**2	total flux
1	1.37564E-02	2.68880E-09	1.31657E-02	.00000E+00	2.30095E-03	2.54853E-03	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-03	9.58397E-04	2.04306E+00

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5	1.11840E-01	1.13271E-07	1.02885E-01	.00000E+00	.00000E+00	1.60271E-03	1.11788E-03	3.05589E+00
6	2.09812E-01	1.71846E-07	1.92925E-01	.00000E+00	.00000E+00	1.26484E-03	1.87047E-03	5.73062E+00
7	2.03636E-01	-4.58645E-06	1.93174E-01	.00000E+00	.00000E+00	1.15758E-03	1.32634E-03	5.57814E+00
8	1.49040E-01	-3.20550E-07	1.47069E-01	.00000E+00	.00000E+00	1.13574E-03	7.54229E-04	4.09854E+00
9	1.15413E-01	9.41713E-06	1.16022E-01	.00000E+00	.00000E+00	1.48174E-03	5.09567E-04	3.18078E+00
10	1.05799E-01	-2.97725E-06	1.07281E-01	.00000E+00	.00000E+00	3.16392E-03	4.63320E-04	2.91860E+00
11	9.76494E-02	-4.18098E-06	1.01039E-01	.00000E+00	.00000E+00	6.93966E-03	4.19506E-04	2.70022E+00
12	6.14479E-02	-1.66196E-06	6.55422E-02	.00000E+00	.00000E+00	9.30799E-03	2.46854E-04	1.70515E+00
13	5.21141E-02	1.60048E-06	5.59150E-02	.00000E+00	.00000E+00	1.13687E-02	2.09817E-04	1.44729E+00
14	4.73053E-02	-3.76107E-07	5.30708E-02	.00000E+00	.00000E+00	7.12078E-03	1.86880E-04	1.32074E+00
15	2.78461E-02	-9.23824E-06	2.88649E-02	.00000E+00	.00000E+00	1.55905E-03	1.17715E-04	7.70414E-01
16	1.53000E-02	-5.61701E-06	1.59275E-02	.00000E+00	.00000E+00	1.12102E-03	6.02882E-05	4.23438E-01
17	6.24486E-03	2.81560E-06	6.88469E-03	.00000E+00	.00000E+00	1.16970E-03	2.16125E-05	1.73981E-01
18	3.34268E-03	4.09092E-07	5.06558E-03	.00000E+00	.00000E+00	6.99870E-04	8.15886E-06	9.70043E-02
19	9.19575E-03	2.65518E-06	1.05272E-02	.00000E+00	.00000E+00	1.88634E-03	3.27390E-05	2.56920E-01
20	3.22761E-02	-1.50834E-05	3.45506E-02	.00000E+00	.00000E+00	1.31901E-02	1.28118E-04	8.96536E-01
21	8.80620E-03	1.27856E-06	1.06271E-02	.00000E+00	.00000E+00	1.49055E-02	2.64959E-05	2.48295E-01
22	1.60104E-02	-5.98316E-06	2.16013E-02	.00000E+00	.00000E+00	4.44033E-02	4.46768E-05	4.58634E-01
23	5.83634E-02	-3.58308E-06	7.33008E-02	.00000E+00	.00000E+00	7.37467E-02	1.70048E-04	1.66037E+00
24	4.55585E-02	9.12368E-07	6.08340E-02	.00000E+00	.00000E+00	6.55348E-02	1.05803E-04	1.30770E+00
25	1.96549E-02	4.73046E-06	2.73313E-02	.00000E+00	.00000E+00	3.71580E-02	3.69944E-05	5.68588E-01
26	1.29978E-02	-8.85605E-08	1.97334E-02	.00000E+00	.00000E+00	3.41225E-02	1.85649E-05	3.80537E-01
27	2.19635E-03	7.05898E-08	3.74895E-03	.00000E+00	.00000E+00	9.65668E-03	1.99836E-06	6.51468E-02
28	1.71966E+00	-2.94197E-05	1.73997E+00	.00000E+00	2.31659E-03	3.76272E-01	1.29883E-02	4.74644E+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	1.17813E-03	5.10618E-03	5.31911E-03	2.55551E-03	3.18495E-03	5.52515E-03	3.71522E-03	1.74474E-03
2	7.17753E-04	5.04228E-03	5.81787E-03	3.45206E-03	4.30139E-03	6.14684E-03	4.32892E-03	2.14997E-03
3	1.20789E-03	5.53410E-03	5.91345E-03	2.92089E-03	3.86175E-03	6.77226E-03	4.37252E-03	1.82536E-03
4	8.25892E-04	4.34569E-03	4.96053E-03	2.39522E-03	2.83104E-03	4.80034E-03	3.32731E-03	1.80051E-03
5	8.53673E-04	4.41300E-03	5.00471E-03	2.41957E-03	2.88072E-03	4.88860E-03	3.37805E-03	1.80067E-03

0zone	grp. 9	grp. 10	grp. 11	grp. 12	grp. 13	grp. 14	grp. 15	grp. 16
1	1.11407E-03	1.01463E-03	1.09279E-03	8.75769E-04	8.02605E-04	1.07075E-03	3.27183E-04	1.73544E-04
2	1.79255E-03	1.95561E-03	2.04409E-03	1.60541E-03	1.43427E-03	1.74001E-03	6.33522E-04	3.52567E-04
3	1.12226E-03	1.05255E-03	1.29000E-03	1.22412E-03	1.13843E-03	1.63197E-03	3.99080E-04	2.22891E-04
4	1.19720E-03	1.09604E-03	1.03093E-03	6.78184E-04	6.02020E-04	6.45895E-04	3.11402E-04	1.61499E-04
5	1.19522E-03	1.09649E-03	1.04607E-03	7.05857E-04	6.29027E-04	6.95465E-04	3.16166E-04	1.64672E-04

0zone	grp. 17	grp. 18	grp. 19	grp. 20	grp. 21	grp. 22	grp. 23	grp. 24
1	1.17950E-04	2.55100E-04	2.09827E-04	5.03261E-04	2.92204E-04	8.35224E-04	2.10019E-03	1.76126E-03
2	2.04480E-04	3.94776E-04	3.43641E-04	8.86648E-04	4.61474E-04	1.27828E-03	3.21984E-03	2.71167E-03
3	1.81742E-04	4.40078E-04	3.19116E-04	6.96578E-04	4.69257E-04	1.36531E-03	3.20162E-03	2.71698E-03
4	7.39435E-05	8.25546E-05	1.24815E-04	3.84526E-04	1.39479E-04	3.43500E-04	1.03898E-03	8.07407E-04
5	7.95174E-05	1.00861E-04	1.34652E-04	4.00439E-04	1.56278E-04	3.96011E-04	1.15228E-03	9.08085E-04

0zone	grp. 25	grp. 26	grp. 27	grp. 28
1	7.89521E-04	5.55908E-04	8.46702E-05	4.22635E-02
2	1.25394E-03	8.92954E-04	1.53620E-04	5.52948E-02
3	1.24981E-03	9.31120E-04	1.73817E-04	5.22246E-02
4	3.35568E-04	2.03516E-04	2.53228E-05	3.45726E-02
5	3.83561E-04	2.41154E-04	3.23551E-05	3.54711E-02

1broad group parameters

grp	upper energy	mid energy	velocity	fiss spec
1	2.0000E+07	2.6656E+05	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

INFORMATION ONLY

```
0zone  grp. 1     grp. 2     grp. 3
    1 3.92924E-01 1.13410E+00 2.09597E-01
    2 3.98192E-01 1.13511E+00 2.00379E-01
    3 4.01162E-01 1.13526E+00 1.96343E-01
    4 4.18364E-01 1.13645E+00 1.67444E-01
    5 4.16670E-01 1.13631E+00 1.70267E-01
0flux disadvantage factors (zone average/cell average-flux)

0zone  grp. 1     grp. 2     grp. 3
    1 9.43011E-01 9.98057E-01 1.22985E+00
    2 9.55654E-01 9.98946E-01 1.17699E+00
    3 9.62782E-01 9.99076E-01 1.15329E+00
    4 1.00407E+00 1.00013E+00 9.83535E-01
    5 1.00000E+00 1.00000E+00 1.00000E+00
0cell averaged currents

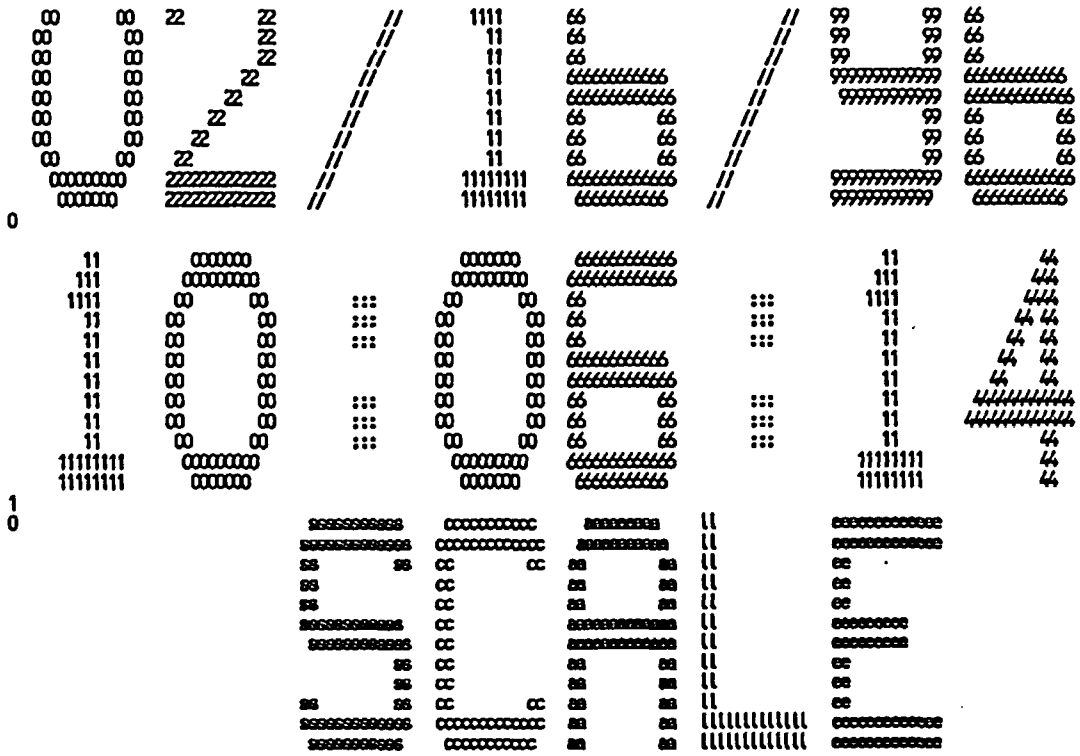
0zone  grp. 1     grp. 2     grp. 3
    1 1.73039E-02 1.85406E-02 6.41907E-03
    2 1.93514E-02 2.60133E-02 9.9500E-03
    3 1.94381E-02 2.26887E-02 1.01079E-02
    4 1.53620E-02 1.63172E-02 2.80597E-03
    5 1.55718E-02 1.66296E-02 3.26972E-03
0zone      volume      vol. fraction

   1    1.25665E+00    4.56236E-02
   2    1.66687E-01    6.05165E-03
   3    6.58265E-01    2.38987E-02
   4    2.54624E+01    9.24426E-01
   5    2.75440E+01    1.00000E+00
- elapsed time   .02 min.
1
0

0

0
```

INFORMATION ONLY



```
program verification information
code system:  scale  version:  4.2

program:  c0c005
creation date:  04/27/95
library:  /nautronics/scale/exe
```

INFORMATION ONLY


```
*****                                                                  *****
*****   this is not a   scale  configuration controlled code           *****
*****                                                                  *****
*****            jdname:  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  2.86486E-01
                 10010 tot-cap    2.86486E-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  9.56623E-02
                 50100 tot-cap    3.29426E+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    4.55854E-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  4.36858E-03
```

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80160	tot-cap	2.77630E-02
360830	to 360820	2.25882E-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	7.46025E-06
360830	to 10020	7.46025E-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	1.00373E+00
390890	tot-cap	1.00373E+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	3.44920E+02
451030	tot-cap	3.44922E+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	6.99807E-02
541310	to 541290	1.46346E-05
541310	to 541320	2.57690E+02

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541310	to 531310	4.17669E-05
541310	to 10010	4.17669E-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 521280	1.95981E-05
541310	to 20040	1.95981E-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 521290	1.05259E-06
541320	to 20040	1.05259E-06
541320	tot-cap	9.66288E-01
541350	to 541360	1.48021E+06
541350	tot-cap	1.48021E+06
541360	to 541350	1.93400E-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	1.31399E+02
551340	tot-cap	1.31399E+02
551350	to 551360	2.21934E+01
551350	tot-cap	2.21934E+01
551370	to 551380	2.37729E-01
551370	tot-cap	2.37729E-01
561360	to 561370	9.33725E-01
561360	tot-cap	9.33725E-01
571390	to 571400	8.09513E+00
571390	tot-cap	8.09513E+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

INFORMATION ONLY

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 10030	1.73401E-06
591410	to 571390	1.67463E-08
591410	to 20030	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	2.00318E+02
601430	to 591430	4.18828E-05
601430	to 10020	2.64399E-06
601430	to 591410	3.80998E-06
601430	to 10030	3.80998E-06
601430	to 581410	1.83054E-08
601430	to 20030	1.83054E-08
601430	to 581400	5.84696E-04
601430	tot-cap	2.00918E+02
601450	to 601440	1.27275E-01
601450	to 601430	1.29894E-04
601450	to 581410	9.09047E-06
601450	to 20040	2.26964E-04
601450	to 591440	2.43057E-06
601450	to 10010	1.57795E-05
601450	to 601460	8.02349E+01
601450	to 591450	1.48028E-05
601450	to 10020	1.46108E-06
601450	to 591430	2.30341E-06
601450	to 10030	2.30341E-06
601450	to 581430	4.68975E-09
601450	to 20030	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	8.85588E-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	1.00334E-05
611470	to 601450	3.78822E-06
611470	to 10030	3.78822E-06
611470	to 591450	5.69570E-09
611470	to 20030	5.69570E-09
611470	to 591440	7.93186E-05
611470	tot-cap	5.95340E+02
611480	to 611490	1.20952E+04
611480	tot-cap	1.20952E+04

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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	2.05989E-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-03
621470 to 621471	1.74085E+00
621470 tot-cap	2.40819E+02
621490 to 621480	5.13940E-02
621490 to 621470	4.08219E-05
621490 to 621500	4.53374E+04
621490 to 611490	5.21771E-04
621490 to 10010	5.21771E-04
621490 to 601460	5.21771E-04
621490 to 20040	5.21771E-04
621490 tot-cap	4.53374E+04
621500 to 621510	1.36789E+02
621500 tot-cap	1.36789E+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	1.50297E-05
621510 to 10020	8.18287E-07
621510 to 611490	1.48719E-06
621510 to 10030	1.48719E-06
621510 to 601490	1.53209E-09
621510 to 20030	1.53209E-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	2.62902E-06
621520 to 621530	7.36977E+02
621520 to 611520	2.33556E-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	9.78958E-06
621520 tot-cap	7.36997E+02
631530 to 631520	1.99783E-02
631530 to 631510	2.98338E-05
631530 to 611490	4.60126E-05
631530 to 20040	6.75243E-04

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631530	to 621520	8.34917E-06
631530	to 10010	6.99067E-05
631530	to 631540	6.35374E+02
631530	to 621530	6.70570E-05
631530	to 10020	5.50060E-06
631530	to 621510	1.23327E-06
631530	to 10030	1.23327E-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	3.19377E-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	1.32731E-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	1.08239E+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	4.00387E-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	7.74659E-06
631550	tot-cap	2.57633E+03
641550	to 641560	1.72382E+04
641550	tot-cap	1.72382E+04
922340	to 922330	6.86982E-03
922340	fission	4.66762E+00
922340	nu-sigf	1.22751E+01
922340	to 922320	9.96083E-05
922340	to 922350	1.91754E+02
922340	to 922341	3.11810E+00
922340	tot-cap	1.96425E+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	3.49963E-02
922360	fission	2.00610E+00
922360	nu-sigf	5.51004E+00

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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	5.4128E+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	2.5611E-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	2.3904E+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-03
942400	fission	6.0838E+00
942400	nu-sigf	1.9078E+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	1.1915E+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	1.0324E+03
952430	fission	3.6253E+00
952430	nu-sigf	1.2191E+01
952430	to 952440	4.2974E+02
952430	tot-cap	4.3366E+02
962440	to 962430	6.2888E-05
962440	fission	1.6003E+01
962440	nu-sigf	5.3652E+01

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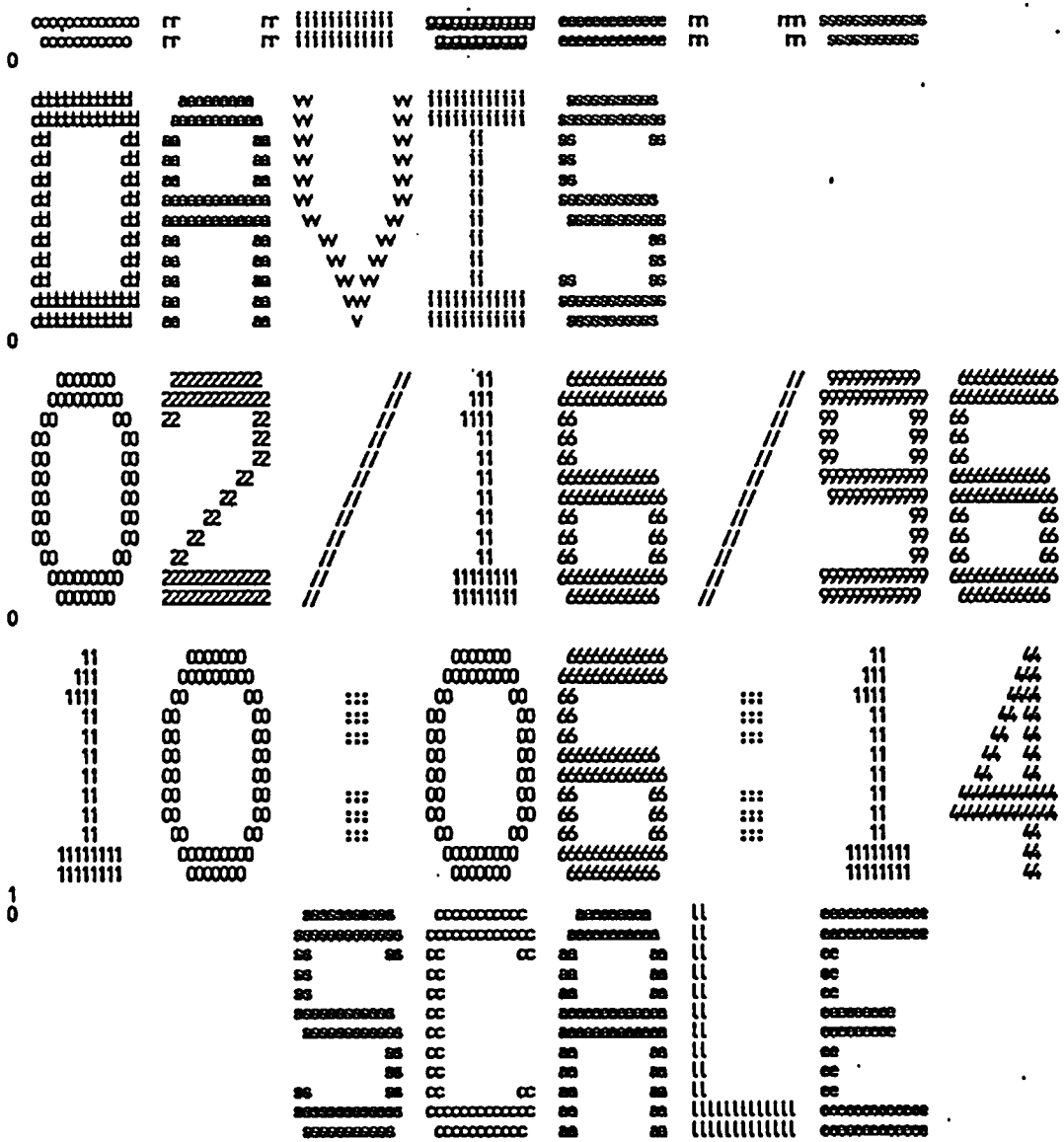
```
                    962440 to 962420  6.23160E-05
                    962440 to 962450  1.46352E+02
                    962440 to 962441  4.00245E+00
                    962440 tot-cap    1.62362E+02
Othe reaction   50100 to  30070 was not used, because   50100 is not in library., (in subr pool)
                                    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
Ouse substitute nuclide in block 8 data.  or, update with new fission yield data.
Othe fission product transitions for  952430 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  962440 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  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 . oooooooooo   rrrrrrrrrrr   iiiiiiiiiiii   gggggggggg   eeeeeeeeeeeee   rn        rn   ssssssssssss
   oooooooooooo  rrrrrrrrrrrr  iiiiiiiiiiii   gggggggggggg  eeeeeeeeeeeee   rrrn      rn   ssssssssssssss
   oo        oo  rr        rr      ii       gg        gg  ee            rrrrn     rn   ss        ss
   oo        oo  rr        rr      ii       gg            ee            rn rn     rn   ss
   oo        oo  rr        rr      ii       gg            ee            rn  rn    rn   ss
   oo        oo  rrrrrrrrrrrr      ii       gg   gggggg   eeeeeeeee      rn   rn   rn   ssssssssssss
   oo        oo  rrrrrrrrrrrr      ii       gg   gggggg   eeeeeeeee      rn    rn  rn   ssssssssssss
   oo        oo  rr      rr        ii       gg        gg  ee            rn     rn rn           ss
   oo        oo  rr       rr       ii       gg        gg  ee            rn      rn rn           ss
   oo        oo  rr        rr      ii       gg        gg  ee            rn       rrrn  ss        ss
```

INFORMATION ONLY



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, qn =     9.1188E-04
0            half-norm of matrix used, an =    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      5/q 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
```

INFORMATION ONLY

```
        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
```

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absorptions	2.44205E+04	2.53319E+04	2.56774E+04	2.59958E+04	2.62967E+04	2.63030E+04
k infinity	1.33332E+00	1.29869E+00	1.29501E+00	1.29030E+00	1.28463E+00	1.28433E+00
0	initial	40.0 d	80.0 d	120.0 d	160.0 d	160.0 d
actinide absorptions	2.44205E+04	2.46695E+04	2.48510E+04	2.51763E+04	2.54067E+04	2.54068E+04
non-actinide abs. fracs.	.000000E+00	2.61351E-02	2.90704E-02	3.15258E-02	3.38465E-02	3.40722E-02

1

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

power= 7.2mw, burnup= 1160.mwd, flux= 1.69E+13n/cm**2-sec

0 nuclide concentrations, gram atoms
basis = single reactor assembly

	change	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	8.44E-13	9.10E-13	9.30E-13	9.30E-13
pa234	.00E+00	2.91E-13	3.93E-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	3.29E-18	9.70E-18	1.73E-17	2.59E-17	2.58E-17
u231	.00E+00	1.47E-16	3.22E-16	5.05E-16	7.01E-16	7.01E-16
u232	.00E+00	2.03E-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	7.74E-07
u234	4.76E-01	4.71E-01	4.67E-01	4.62E-01	4.58E-01	4.58E-01
u235	5.92E+01	5.77E+01	5.63E+01	5.49E+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	1.89E+03	1.89E+03	1.89E+03	1.89E+03	1.89E+03	1.89E+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	9.82E-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	1.09E-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	4.29E-34	3.28E-32	7.14E-31	7.07E-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  1.65E-15
    am240    .00E+00  3.65E-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  3.99E-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  2.93E-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  2.03E-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  1.05E-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      54q 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 densiities
          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 densiities
          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 *
```

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```
        *                                                                      *
        *     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=  2520.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  3.469240E+04  3.484916E+04  3.497630E+04  3.497669E+04
    absorptions  2.700098E+04  2.729749E+04  2.758232E+04  2.785215E+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  2.673765E+04  2.692678E+04  2.692698E+04
    non-actinide
    abs. fracs.  3.359377E-02  3.577524E-02  3.795770E-02  4.001468E-02  4.202265E-02  4.242539E-02
1
    sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp                    actinides      page   7
    power=  7.25mw, burnup=  2520.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  1.35E-07  1.35E-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  5.65E-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
```

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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	9.59E-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	7.88E-02	7.88E-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	3.28E+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	3.98E-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	3.09E-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	7.19E-13	1.70E-12	3.23E-12	5.53E-12	8.74E-12	8.71E-12

1

sas2h: babcock wilcox 15x15, 3.00wt%, 20gd/mtu burn high temp actinides page 8
power= 7.25mw, burnup= 2520.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
am241	1.18E-04	2.68E-04	5.05E-04	8.64E-04	1.37E-03	1.37E-03
am242m	7.73E-07	2.10E-06	4.66E-06	9.01E-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	9.68E-06	2.17E-05	4.28E-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	1.92E-06	4.13E-06	4.13E-06
cm245	3.00E-10	1.42E-09	4.88E-09	1.36E-08	3.28E-08	3.28E-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

INFORMATION ONLY

```
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 "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   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  3.545952E+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
	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	4.763354E-02	4.945773E-02	5.000957E-02

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

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

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	1.79E-10	2.24E-10	2.24E-10
th229	3.61E-12	4.67E-12	5.90E-12	7.33E-12	8.94E-12	8.94E-12
th230	1.04E-06	1.15E-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	1.44E-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	3.74E-09	4.28E-09	4.28E-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	4.34E-01	4.32E-01	4.28E-01	4.24E-01	4.24E-01
u235	4.88E+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	2.14E-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	4.92E-08	6.55E-08	8.50E-08	1.07E-07	1.32E-07	1.32E-07
np237	7.88E-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	5.23E+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	2.55E-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	6.34E-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

INFORMATION ONLY

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    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, 3.00wt%, 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  3.89E-05  5.64E-05  7.87E-05  7.87E-05
    am242  1.55E-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  3.96E-04  3.96E-04
    cm243  4.06E-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  3.92E-05  3.93E-05
    cm245  3.26E-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  5.26E-09  1.01E-08  1.01E-08
    cm247  1.12E-12  3.16E-12  7.85E-12  1.78E-11  3.73E-11  3.73E-11
    cm248  1.16E-14  3.74E-14  1.05E-13  2.63E-13  6.06E-13  6.06E-13
    cm249  5.83E-20  2.37E-19  6.63E-19  1.66E-18  3.83E-18  2.84E-18
    cm250  4.29E-24  1.56E-23  4.89E-23  1.36E-22  3.44E-22  3.44E-22
    cm251  4.85E-32  3.74E-31  1.17E-30  3.26E-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      54q 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 "presss2" 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  2.998967E+04  3.013748E+04  3.034138E+04  3.053502E+04  3.071900E+04  3.074160E+04
    k infinity   1.201445E+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  7.24E-14  7.24E-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  2.65E-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  1.02E-14  1.21E-14  1.21E-14
    th228  2.24E-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  3.05E-14
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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	4.26E-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	9.35E-13	9.34E-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	8.98E-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	4.82E-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	3.05E-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	3.32E-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	1.09E-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%, 20gd/atu 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	2.29E-02	2.89E-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	5.29E-06
pu244	1.40E-19	3.29E-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	1.05E-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	1.05E-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	9.03E-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  6.06E-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 densiities
          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 densiities
          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 "preses2" 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
```

INFORMATION ONLY

0 7935 number of nonzero off-diagonal matrix elements

0 **********

1 sas2h: babcock wilcox 15x15, 3.00w%, 20gd/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	1.147088E+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, 3.00w%, 20gd/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

	change	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	1.38E-13	1.67E-13	1.67E-13
pb208	8.51E-11	1.07E-10	1.32E-10	1.63E-10	1.99E-10	1.99E-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	1.89E-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	3.66E-10	4.01E-10	4.37E-10	4.75E-10	4.67E-10
pa233	6.54E-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	6.82E-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

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np237	2.05E-01	2.23E-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= 7.2mw, 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	1.86E-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	1.92E-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	5.95E-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	3.02E-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	1.96E-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 densiities
        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 densiities
        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
```

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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	2.82E-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	1.02E-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	2.39E-09
th232	1.63E-07	1.78E-07	1.92E-07	2.08E-07	2.23E-07	2.23E-07
th233	3.45E-14	1.60E-13	1.74E-13	1.88E-13	2.03E-13	3.63E-14
th234	2.76E-08	2.76E-08	2.76E-08	2.76E-08	2.76E-08	2.76E-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	9.32E-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	1.39E-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	1.02E-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	3.49E-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	2.76E-08	2.92E-08	2.92E-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= 7.25mw, 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	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
pu245	2.16E-23	3.80E-23	6.20E-23	9.90E-23	1.55E-22	1.46E-22

INFORMATION ONLY

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     pu246  8.60E-26 1.45E-25 2.40E-25 3.87E-25 6.10E-25 6.09E-25
     am239  3.58E-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 3.29E-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  1.96E-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  5.96E-04 7.66E-04 9.72E-04 1.22E-03 1.51E-03 1.51E-03
     cm245  1.16E-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 1.39E-19 2.28E-19 3.65E-19 5.72E-19 5.72E-19
     cm251  2.93E-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      54q 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 densiities
          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 densiities
          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                 7985   number of nonzero off-diagonal matrix elements
0       ***********************************************************************
1   sas2h: babcock wilcox 15x15, 3.00wt%, 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  3.649635E+04  3.645476E+04  3.641009E+04  3.636028E+04  3.630584E+04  3.630727E+04
    absorptions  3.254830E+04  3.264978E+04  3.277802E+04  3.290054E+04  3.301764E+04  3.305464E+04
    k infinity   1.121298E+00  1.116539E+00  1.110808E+00  1.105157E+00  1.099589E+00  1.098402E+00
0                 initial      1000.1 d      1040.1 d      1080.1 d      1120.1 d      1120.2 d
    actinide
    absorptions  3.025247E+04  3.032627E+04  3.039594E+04  3.046046E+04  3.052005E+04  3.052078E+04
    non-actinide
    abs. fracs.  7.053602E-02  7.116461E-02  7.267308E-02  7.416546E-02  7.564402E-02  7.665670E-02
1
    sas2h: babcock wilcox 15x15, 3.00wt%, 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  6.65E-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  1.36E-18  1.32E-18
    ra222  2.43E-20  2.74E-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  9.26E-12  1.06E-11  1.20E-11  1.37E-11  1.54E-11  1.54E-11
    ra225  1.72E-15  1.98E-15  2.26E-15  2.57E-15  2.92E-15  2.91E-15
    ra226  3.29E-11  3.53E-11  3.77E-11  4.02E-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  2.29E-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  2.23E-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
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INFORMATION ONLY

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	7.69E-02	7.70E-02	7.65E-02
np240m	3.69E-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	7.09E-07

1

sas2h: babcock wilcox 15x15, 3.00wt%, 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	3.29E-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	6.09E-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	3.68E-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	8.05E-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	7.89E-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	1.88E-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

INFORMATION ONLY

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    cm246   1.62E-06  2.17E-06  2.86E-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      54q 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 "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:  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
```

INFORMATION ONLY

```
                    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  24
       power=  7.25mw, burnup=  9280.mwd, flux= 1.63E+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      1160.2 d      1200.2 d      1240.2 d      1280.2 d
    productions  3.639873E+04  3.633892E+04  3.627805E+04  3.621389E+04  3.614675E+04
    absorptions  3.312836E+04  3.320723E+04  3.331886E+04  3.342576E+04  3.352825E+04
    k infinity   1.098718E+00  1.094307E+00  1.088814E+00  1.083413E+00  1.078099E+00
0                  initial      1160.2 d      1200.2 d      1240.2 d      1280.2 d
    actinide
    absorptions  3.058359E+04  3.064127E+04  3.069584E+04  3.074624E+04  3.079265E+04
    non-actinide
    abs. fracs.  7.681549E-02  7.727140E-02  7.872462E-02  8.016324E-02  8.159089E-02
1
    sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp                    actinides      page  25
    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
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	6.65E-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	9.06E-17	9.84E-17
pb212	1.87E-12	2.10E-12	2.35E-12	2.63E-12	2.93E-12
pb214	1.32E-18	1.45E-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	2.06E-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	3.29E-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	1.02E-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	6.29E-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	5.61E-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	7.65E-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	2.41E+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-23
am239	8.63E-13	1.01E-12	1.10E-12	1.18E-12	1.27E-12
am240	3.92E-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	2.26E-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

INFORMATION ONLY

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

1

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	6.29E-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	1.16E-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	4.29E-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

1

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	3.03E-02	3.28E-02	3.48E-02	3.69E-02	3.85E-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

1
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	1.54E-01
pb208	2.83E-07	7.04E-07	1.43E-06	2.49E-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	2.98E-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	1.28E+02	1.28E+02	1.28E+02	1.28E+02	1.29E+02	1.29E+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	3.89E+02	3.73E+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	6.29E+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

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	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
he	6.76E-02	1.06E-01	1.21E-01	1.31E-01	1.39E-01	1.47E-01	1.56E-01
pb	2.84E-07	7.06E-07	1.43E-06	2.49E-06	3.88E-06	5.60E-06	7.59E-06
th	7.14E-04	9.37E-04	1.14E-03	1.38E-03	1.61E-03	1.83E-03	2.05E-03
pa	2.79E-04	2.85E-04	2.90E-04	2.95E-04	3.00E-04	3.06E-04	3.11E-04
u	4.50E+05	4.50E+05	4.50E+05	4.50E+05	4.50E+05	4.50E+05	4.50E+05
np	1.43E+02	1.28E+02	1.28E+02	1.28E+02	1.28E+02	1.29E+02	1.29E+02
pu	3.79E+03	3.79E+03	3.78E+03	3.76E+03	3.75E+03	3.73E+03	3.72E+03
am	2.76E+01	4.35E+01	5.88E+01	7.35E+01	8.75E+01	1.01E+02	1.14E+02
cm	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, 3.00wt%, 20gwd/mtu burn high temp actinides page 35
decay, following reactor irradiation identified by: power= 7.2mw, 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
rn	8.64E-04	1.69E-03	2.66E-03	3.67E-03	4.64E-03	5.54E-03	6.35E-03
ra	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	3.63E+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	2.96E+02	1.64E+02	1.25E+02	1.12E+02
bk	4.76E-05	1.33E-05	6.86E-06	3.55E-06	1.84E-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, 3.00wt%, 20gwd/mtu burn high temp actinides page 36
decay, following reactor irradiation identified by: power= 7.2mw, 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	6.93E-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
rn	3.28E-05	6.43E-05	1.01E-04	1.39E-04	1.76E-04	2.10E-04	2.41E-04
ra	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	8.89E+00	1.04E+01	1.19E+01
cm	3.19E+02	9.10E+01	2.80E+01	1.06E+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, 3.00wt%, 20gwd/mtu burn high temp actinides page 37
decay, following reactor irradiation identified by: power= 7.2mw, 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	6.09E-08	7.66E-08	8.92E-08	9.95E-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	6.92E-04	6.65E-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	1.88E-05	1.88E-05	1.88E-05	1.88E-05	1.89E-05	1.89E-05	1.89E-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	8.59E-07
pu238	5.34E-03	5.70E-03	5.76E-03	5.79E-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	6.02E-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%, 20gd/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	7.49E-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
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	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-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

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kr 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
br 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	3.06E-04	3.06E-04	3.06E-04	3.06E-04	3.06E-04	3.06E-04	3.06E-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	2.06E+01	2.36E+01	2.66E+01
zr 91	1.69E+02	1.79E+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
rb 93	8.41E-06	1.32E-05	1.97E-05	2.78E-05	3.74E-05	4.86E-05	6.12E-05
rb 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
rb 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
rb 95	8.53E+00	6.69E-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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ss2h: babcock wilcox 15x15, 3.00w%, 20gwd/mtu burn high burp 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	9.79E-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	9.79E-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	3.25E-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	4.16E-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

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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	2.69E-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	7.14E-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	6.28E-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	9.14E-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 temp 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	7.76E-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	6.37E-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	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+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	3.82E-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	3.26E+02	3.20E+02	3.14E+02	3.08E+02

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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	3.67E+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	2.64E+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, 3.00wt%, 20gwd/mtu burn high temp fission products page 41
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
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	3.95E-02	3.95E-02	3.95E-02	3.95E-02	3.95E-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

INFORMATION ONLY

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, 3.00wt%, 20gud/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
se	2.20E+05	1.92E-01	1.92E-01	1.92E-01	1.92E-01	1.92E-01	1.92E-01
kr	9.07E+05	2.47E+03	2.35E+03	2.22E+03	2.11E+03	2.00E+03	1.89E+03
rb	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
tc	2.04E+06	3.95E+00	3.95E+00	3.95E+00	3.95E+00	3.95E+00	3.95E+00
ru	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	5.36E+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	8.36E+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	2.39E+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	1.05E+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	1.65E-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, 3.00wt%, 20gud/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
se	3.96E+03	6.03E-05	6.03E-05	6.03E-05	6.03E-05	6.03E-05	6.03E-05
kr	1.48E+04	3.71E+00	3.52E+00	3.33E+00	3.16E+00	2.99E+00	2.84E+00
sr	2.76E+04	3.63E+01	2.57E+01	2.51E+01	2.45E+01	2.40E+01	2.36E+01
y	4.05E+04	1.49E+02	1.23E+02	1.20E+02	1.17E+02	1.15E+02	1.12E+02
zr	2.05E+04	6.24E+01	2.31E+00	8.56E-02	3.21E-03	1.57E-04	4.37E-05
nb	4.16E+04	1.26E+02	4.84E+00	1.80E-01	6.66E-03	2.60E-04	2.46E-05
tc	2.36E+04	1.98E-03	1.98E-03	1.98E-03	1.98E-03	1.98E-03	1.98E-03
ru	4.60E+03	8.43E+00	2.16E+00	1.21E+00	6.86E-01	3.89E-01	2.20E-01
rh	5.01E+03	6.07E+02	3.44E+02	1.95E+02	1.11E+02	6.27E+01	3.55E+01
pd	2.93E+02	1.45E-06	1.45E-06	1.45E-06	1.45E-06	1.45E-06	1.45E-06
ag	4.89E+02	3.56E+00	1.53E+00	6.57E-01	2.82E-01	1.21E-01	5.21E-02

INFORMATION ONLY

cd	2.07E+02	8.85E-03	6.33E-03	6.06E-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	4.03E+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	2.92E+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
ce	7.13E+03	8.59E+01	4.06E+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	1.91E-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 temp 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 95m	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
rb 95	1.52E-03	1.19E+02	4.56E+00	1.69E-01	6.27E-03	2.32E-04	8.61E-06
rb 95m	1.57E+00	5.92E-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
ag103	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	1.29E-06	1.29E-06	1.29E-06	1.29E-06	1.29E-06	1.29E-06
ba133	1.54E-08	1.46E-08	1.38E-08	1.30E-08	1.24E-08	1.17E-08	1.11E-08
cs134	2.49E+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	3.34E+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

INFORMATION ONLY

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	2.82E-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

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sas2h: babcock wilcox 15x15, 3.00w%, 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	2.14E-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
tc	1.21E+04	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08
rh	1.55E+03	7.73E+01	4.38E+01	2.48E+01	1.41E+01	7.98E+00	4.53E+00
ag	1.30E+02	3.44E+00	1.48E+00	6.36E-01	2.73E-01	1.17E-01	5.04E-02
cd	9.98E+01	1.20E-04	3.48E-06	2.36E-06	2.24E-06	2.19E-06	2.08E-06
sn	2.40E+03	1.44E-03	4.64E-04	2.30E-04	1.64E-04	1.41E-04	1.31E-04
sb	9.36E+03	4.08E+00	3.28E+00	2.66E+00	2.15E+00	1.74E+00	1.41E+00
te	9.32E+03	1.30E-01	7.14E-02	5.40E-02	4.31E-02	3.48E-02	2.82E-02
i	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
pr	3.19E+03	2.24E+01	1.07E+01	5.10E+00	2.43E+00	1.16E+00	5.54E-01
pm	5.12E+02	5.93E-01	7.47E-03	3.46E-03	3.03E-03	2.67E-03	2.36E-03
sm	4.66E+01	6.47E-05	4.10E-05	2.83E-05	2.13E-05	1.78E-05	1.59E-05
eu	1.61E+02	1.43E+01	1.33E+01	1.24E+01	1.16E+01	1.08E+01	1.01E+01
gd	1.03E+00	6.71E-04	2.80E-04	1.17E-04	4.89E-05	2.04E-05	8.52E-06
tb	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%, 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 (mev)	time after discharge 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 (mev)	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
	time after discharge						
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

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photon spectrum as a function of time for fission products

0 ses2h: babcock wilcox 15x15, 3.00wt%, 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 (mev)	initial	304.4 d	608.8 d	913.1 d	1217.5 d	1521.9 d	1826.3 d
	time after discharge						
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	1.06E+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	3.85E+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	8.60E+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

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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	3.58E+14	3.65E-06	3.74E-06	3.81E-06	3.87E-06	3.92E-06	3.95E-06
total	1.74E+18	2.01E+16	1.09E+16	7.04E+15	5.00E+15	3.86E+15	3.20E+15
mev/sec	7.22E+17	4.77E+15	2.55E+15	1.88E+15	1.48E+15	1.25E+15	1.06E+15

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

emean (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	2.28E+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	2.03E+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	2.79E+07	1.85E+07	1.33E+07	1.03E+07	8.33E+06	7.06E+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	1.29E+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	5.39E+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	6.23E-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
total	9.95E+10	6.58E+08	3.55E+08	2.60E+08	2.05E+08	1.69E+08	1.46E+08
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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principal photon sources in group 1, photons/sec
mean energy = .0100 mev. nuclides exceeding 1.0E-03 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	1.06E+14	1.04E+14	1.02E+14	1.00E+14	9.83E+13	9.65E+13	9.46E+13
ba137m	5.01E+12	4.89E+12	4.79E+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

principal photon sources in group 2, photons/sec
mean energy = .0300 mev. nuclides exceeding 1.0E-03 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

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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	7.92E+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 (2.39E+14) 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
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	9.73E+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 (1.39E+14) 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
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	7.28E+12	7.15E+12	7.00E+12	6.86E+12	6.72E+12	6.58E+12
y 90	6.09E+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	5.26E+12	4.00E+12	3.02E+12	2.28E+12	1.73E+12	1.30E+12
cs137	8.09E+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	1.03E+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	time after discharge						
	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	2.76E+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	1.03E+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	time after discharge						
	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	4.76E+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

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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	1.14E+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	3.05E+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

1 page 50
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	4.02E+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 = .6500 mev. nuclides exceeding 1.0E-03 of total group release rate (1.59E+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	1.92E+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	9.26E+14	9.08E+14	8.91E+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	2.65E+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	1.29E+14	7.12E+13	4.03E+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	9.03E+12	6.85E+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	4.91E+13	4.59E+13	4.29E+13	4.03E+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	3.06E+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

1 page 51
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	1.95E+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  8.91E+13 4.24E+13 2.02E+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 1.77E+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 (1.05E-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  3.89E-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, 3.00wt%, 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 9.06E+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	2.06E+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	1.96E+06	1.99E+06	2.03E+06	2.06E+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

	time after discharge						
emsn (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+03	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+03	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+03	5.71E+01	4.41E+01	4.30E+01	4.50E+01	4.76E+01	5.04E+01
1.13E+00	1.75E+03	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	3.73E+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	2.29E+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	4.46E-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	1.02E+00	4.44E-01	2.80E-01	2.31E-01	2.13E-01	2.04E-01	1.97E-01
4.75E+00	6.59E-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 gmm watts	6.55E+03	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%, 20gd/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	2.24E-15	3.18E-15	4.36E-15	5.98E-15	8.09E-15	1.08E-14	1.41E-14
bi210	5.61E-13	8.11E-13	1.11E-12	1.53E-12	2.07E-12	2.75E-12	3.60E-12
bi211	8.13E-04	1.41E-03	1.93E-03	2.48E-03	2.98E-03	3.47E-03	3.98E-03
bi212	3.78E-01	7.42E-01	1.17E+00	1.61E+00	2.03E+00	2.43E+00	2.78E+00
bi213	9.63E-07	1.79E-07	1.96E-07	2.14E-07	2.32E-07	2.50E-07	2.70E-07
bi214	3.35E-09	4.84E-09	6.72E-09	9.00E-09	1.17E-08	1.47E-08	1.82E-08
po210	4.43E-07	7.84E-07	1.11E-06	1.54E-06	2.09E-06	2.81E-06	3.72E-06
po211	3.22E-06	5.58E-06	7.64E-06	9.68E-06	1.17E-05	1.37E-05	1.57E-05
po212	1.94E+00	3.80E+00	5.97E+00	8.22E+00	1.04E+01	1.24E+01	1.42E+01
po213	1.27E-04	2.36E-05	2.59E-05	2.82E-05	3.06E-05	3.30E-05	3.56E-05

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po214	7.16E-05	4.31E-05	5.99E-05	8.01E-05	1.04E-04	1.31E-04	1.62E-04
po215	1.15E-03	1.99E-03	2.73E-03	3.46E-03	4.18E-03	4.90E-03	5.62E-03
po216	1.51E+00	2.96E+00	4.66E+00	6.42E+00	8.12E+00	9.69E+00	1.11E+01
po218	1.42E-05	2.05E-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	6.05E-06	8.78E-06	1.22E-05	1.63E-05	2.11E-05	2.66E-05	3.25E-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	1.15E-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	6.03E-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	4.98E-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	5.03E+00	5.03E+00	5.03E+00	5.03E+00	5.03E+00	5.03E+00	5.03E+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%, 20gd/atu 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	1.86E-07	2.97E-10	4.78E-13	7.70E-16	1.24E-18	1.99E-21
cm242	1.05E+07	2.89E+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	1.69E-13	1.22E-18	8.73E-24	6.27E-29	.00E+00	.00E+00
cf254	2.47E-12	7.55E-14	2.31E-15	7.09E-17	2.16E-18	6.60E-20	2.02E-21
es253	7.86E-06	2.07E-09	8.24E-14	2.86E-18	9.62E-23	3.21E-27	.00E+00
es254	9.34E-09	4.35E-09	2.03E-09	9.42E-10	4.38E-10	2.04E-10	9.48E-11
es255	9.38E-11	4.21E-13	1.88E-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

0

sas2h: babcock wilcox 15x15, 3.00wt%, 20gd/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	1.06E-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	3.08E-06	1.95E-11	1.86E-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	6.96E+05	6.96E+05	6.96E+05	6.96E+05	6.96E+05	6.96E+05	6.96E+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	5.49E+01	7.16E+01	8.76E+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	1.99E+01	1.88E+01	1.76E+01	1.67E+01	1.60E+01	1.52E+01	1.47E+01
	cf252	5.82E+02	4.68E+02	3.76E+02	3.02E+02	2.43E+02	1.95E+02	1.57E+02
	cf254	1.06E-01	3.24E-03	9.91E-05	3.03E-06	9.27E-08	2.83E-09	8.67E-11
	es253	5.88E-05	1.54E-08	6.13E-13	2.12E-17	7.14E-22	2.40E-26	8.08E-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	2.00E+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)

0 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	1.539E+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	2.376E+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	1.189E+06	1.057E+06	1.058E+06	1.078E+06

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spontaneous fission neutron source spectrum as a function of time

0 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	3.925E+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	3.337E+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	1.246E+07	5.663E+06	3.713E+06	3.121E+06	2.895E+06	2.773E+06	2.681E+06

6	4.00E-01 - 9.00E-01	1.388E+07	6.259E+06	4.098E+06	3.427E+06	3.177E+06	3.043E+06	2.942E+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	5.760E+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

1

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	4.075E+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                    8.131E+07 3.552E+07 2.252E+07 1.862E+07 1.725E+07 1.654E+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      2.0808E+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      3.6226E+13      4.2204E+13
                    1.3300E+00 to      1.6600E+00      7.9534E+12      1.1860E+13
                    1.6600E+00 to      2.0000E+00      4.3816E+11      8.0183E+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, 3.00w%, 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      7985         0         5        99         2        16        96        18        18
        18         0        71
```

INFORMATION ONLY

```
0       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 nudata (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
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
        7985         20          6         18       1697
0mn            19
          0          1          0          0          1         -1          0          0          0          0
         21        100          4          4          3          0          4          0          0
0tconst         5
  8.640000E+04 1.000000E-20  .000000E+00  .000000E+00 1.000000E-08
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         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 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.
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
```

INFORMATION ONLY

```
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
0non            5
       7935         20          6         18       1697
0nm            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-03
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 mev/fission =          4.4180E+00   1.9429E+02   1.9871E+02
 start of interval flux =        1.71666E+13
 n-gamma, fission and total mev/fission =          4.8296E+00   1.9446E+02   1.9929E+02
 start of interval flux =        1.70387E+13
 n-gamma, fission and total mev/fission =          4.9247E+00   1.9462E+02   1.9955E+02
 start of interval flux =        1.69221E+13
 n-gamma, fission and total mev/fission =          5.0218E+00   1.9477E+02   1.9980E+02
 start of interval flux =        1.68318E+13
 n-gamma, fission and total mev/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%, 20gd/mtu burn high temp
0rdset         33
          33          4          2         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   95972
    l116  57212
    l32   33663 rudata (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
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
```

INFORMATION ONLY

INFORMATION ONLY

```
Onon          5
        7935        20         6        18      1697
Omm          19
          5         5         0         0         1         3         0         0         0         5
         21       100         0         4         3        74         4         1         0
Otconst       5
  8.640000E+04 1.600064E+02 2.900000E+01  .000000E+00 1.000000E-08
Omzero        4
         16       689       129       879
Opow          3
  7.250000E+00 1.159993E+03 1.694262E+13
0 linp        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
Ondset       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
0jqpt        12
          5         0         0         0         0         0         0         0         0         0
          0         0
Otherm        4
  5.091676E-01 3.604486E-01 2.731459E+00 1.000000E-31
Onon          5
        7935        20         6        18      1697
Omm          19
          5         5         0         0         1         3         0         0         0         5
         21       100         0         4         3        74         4         1         0
```

INFORMATION ONLY

```
0tconst          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 mev/fission =          5.7355E+00   1.9541E+02   2.0115E+02
 start of interval flux =        1.61872E+13
 n-gamma, fission and total mev/fission =          5.8325E+00   1.9552E+02   2.0136E+02
 start of interval flux =        1.61661E+13
 n-gamma, fission and total mev/fission =          5.9353E+00   1.9563E+02   2.0157E+02
 start of interval flux =        1.61526E+13
 n-gamma, fission and total mev/fission =          6.0583E+00   1.9574E+02   2.0178E+02
 start of interval flux =        1.61473E+13
 n-gamma, fission and total mev/fission =          6.1413E+00   1.9584E+02   2.0198E+02
 start of interval flux =        1.61492E-02
0 case or subcase    4  ses2h: 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       7985          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  98972
    l116 57212
    l32  33663 nudata (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   96742 in size   200000
0jqpt           12
           5          0          0          0          0          0          0          0          0          0
           0          0
0therm           4
  5.091676E-01 3.604188E-01 2.731459E+00 1.000000E-31
0non             5
        7985         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 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 1.616651E+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   1.9593E+02   2.0222E+02
 start of interval flux =        1.60310E+13
 n-gamma, fission and total nev/fission =          6.3902E+00   1.9602E+02   2.0241E+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
0rdset         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   95972
    l116  57212
    l32   33663 nuclata (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 3.604186E-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 6.400641E+02 2.900000E+01  .000000E+00 1.000000E-08
0mzero          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   2.0283E+02
 start of interval flux =        1.59778E+13
```

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```
 n-gamma, fission and total mev/fission =          6.7144E+00    1.9629E+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
0ndset          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 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
  5.091678E-01 3.604486E-01 2.731459E+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
0tconst         5
  8.640000E+04 8.000961E+02 2.800000E+01  .000000E+00 1.000000E-03
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
```

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```
 start of interval flux =          1.60956E+13
 n-gamma, fission and total mev/fission =          7.4007E+00      1.9684E+02      2.0424E+02
 start of interval flux =          1.61315E-02
0 case or subcase    7  sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
Ondset          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   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
Ojopt           12
           5          0          0          0          0          0          0          0          0          0
           0          0
Otherm           4
  5.091676E-01 3.604486E-01 2.731459E+00 1.000000E-31
Onon             5
        7935         20          6         18       1697
Omm             19
           5          5          0          0          1          3          0          0          0          5
          21        100          0          4          3         74          4          1          0
Otconst          5
  8.640000E+04 9.601346E+02 2.900000E+01  .000000E+00 1.000000E-08
Omzero           4
          16        689        129        879
Opow             3
  7.250001E+00 6.959956E+03 1.606958E+13
0 linp           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
 n-gamma, fission and total mev/fission =          7.7755E+00      1.9712E+02      2.0490E+02
 start of interval flux =          1.62371E-02
0 case or subcase    8  sas2h: babcock wilcox 15x15, 3.00wt%, 20gwd/mtu burn high temp
Ondset          33
```

```
          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
0thermal        4
  5.134401E-01 4.563286E-01 3.548801E+00 1.000000E-31
0nn             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
0tconst         5
  8.640000E+04 1.120179E+03 2.800000E+01  .000000E+00 1.000000E-08
0mzero          4
          16        689        129        879
0pow            3
  7.250000E+00 8.199948E+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 =        1.61945E+13
 n-gamma, fission and total nev/fission =          7.8604E+00    1.9718E+02    2.0504E+02
 start of interval flux =        1.62397E+13
 n-gamma, fission and total nev/fission =          7.9532E+00    1.9725E+02    2.0520E+02
 start of interval flux =        1.62885E+13
 n-gamma, fission and total nev/fission =          8.0451E+00    1.9732E+02    2.0536E+02
 start of interval flux =        1.63285E+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 4.563286E-01 3.548801E+00 1.000000E-31
0non            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
0tconst         5
  8.640000E+04 1.000000E-19 2.900000E+01  .000000E+00 1.000000E-03
0mzero          4
           15        689        129        879
0pow            3
  7.250000E+00 9.279940E+03 1.626613E+13
0 linp          9
            6          2         51         26          1      18418       1000       1697         94
0 case or subcase   10  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.
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:  ft47ft001 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
```

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```
     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    oooooooooooo    rrrrrrrrrrrr    iiiiiiiiiiii     gggggggggggg    eeeeeeeeeeeeee   nn          nn   ssssssssssss
    oooooooooooooo   rrrrrrrrrrrrr   iiiiiiiiiiii    ggggggggggggg   eeeeeeeeeeeeee   nnn         nn  ssssssssssssss
    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   rrrrrrrrrrrrr         ii         gg    gggggggg   eeeeeeeeee      nn    nn    nn  ssssssssssss
    oo          oo   rrrrrrrrrrrrr         ii         gg    gggggggg   eeeeeeeeee      nn     nn   nn   ssssssssssss
    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        nnnn  ss          ss
    oooooooooooooo   rr           rr  iiiiiiiiiiii    ggggggggggggg   eeeeeeeeeeeeee   nn         nnn  ssssssssssssss
     oooooooooooo    rr           rr  iiiiiiiiiiii     gggggggggggg   eeeeeeeeeeeeee   nn          nn   ssssssssssss
```

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```
0

   dddddddddddd      aaaaaaaaa     vv          vv  iiiiiiiiiiii     sssssssssss
   dddddddddddd    aaaaaaaaaaa     vv          vv  iiiiiiiiiiii    ssssssssssssss
   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   aaaaaaaaaaaaa   vv          vv      ii          ssssssssssss
   dd         dd   aaaaaaaaaaaaa    vv        vv       ii           ssssssssssss
   dd         dd   aa         aa      vv     vv        ii                     ss
   dd         dd   aa         aa       vv   vv         ii                     ss
   dd         dd   aa         aa        vv vv          ii          ss         ss
   dddddddddddd   aa         aa         vvv      iiiiiiiiiiii    ssssssssssssss
   dddddddddddd   aa         aa          v       iiiiiiiiiiii     sssssssssss
0

     0000000      22222222222              //        11        666666666666              //   99999999999    666666666666
    000000000    2222222222222            //        111       6666666666666            //   9999999999999  6666666666666
   00       00   22         22            //        1111      66                      //   99         99  66
   00         00             22           //          11      66                     //    99         99  66
   00         00             22          //           11      66                    //     99         99  66
   00         00           22            //           11      666666666666         //      9999999999999  666666666666
   00         00         22             //            11      6666666666666       //       999999999999  6666666666666
   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
     000000000    2222222222222    //                11111111  6666666666666   //          9999999999999  6666666666666
      0000000     2222222222222   //                 11111111   66666666666   //           999999999999   66666666666
0

        11          0000000                        0000000    7777777777777                    0000000        0000000
       111         000000000                      000000000   777777777777                    000000000      000000000
      1111        00       00        :::        00       00  77        77        :::        00       00    00       00
        11       00         00       :::       00         00          77        :::       00         00  00         00
        11       00         00       :::       00         00         77         :::       00         00  00         00
        11       00         00                 00         00        77                   00         00  00         00
        11       00         00                 00         00        77                   00         00  00         00
        11       00         00       :::       00         00       77          :::       00         00  00         00
        11       00         00       :::       00         00       77          :::       00         00  00         00
        11        00       00        :::        00       00       77          :::        00       00    00       00
     11111111      000000000                      000000000        77                     000000000      000000000
     11111111       0000000                        0000000         77                      0000000        0000000
1
0                                 sssssssssss    cccccccccc     aaaaaaaaa    ll            eeeeeeeeeeeee
                                 ssssssssssss   cccccccccccc   aaaaaaaaaaa   ll            eeeeeeeeeeeee
                                 ss         ss  cc         cc  aa         aa  ll            ee
                                 ss             cc             aa         aa  ll            ee
                                 ss             cc             aa         aa  ll            ee
                                 ssssssssssss   cc             aaaaaaaaaaaaa  ll            eeeeeeeee
                                  ssssssssssss  cc             aaaaaaaaaaaaa  ll            eeeeeeeee
                                            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   eeeeeeeeeeeee
                                  sssssssssss    cccccccccc    aa         aa  llllllllllll   eeeeeeeeeeeee
```

INFORMATION ONLY

```
*******************************************************************************
*******************************************************************************
*******************************************************************************
*****                                                                     *****
*****                 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 densiities
            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

INFORMATION ONLY

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

INFORMATION ONLY

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

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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

FOR INFORMATION ONLY

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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

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

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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
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

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

INFORMATION ONLY

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

INFORMATION ONLY

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

INFORMATION ONLY

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

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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
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

INFORMATION ONLY

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

INFORMATION ONLY

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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

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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

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

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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
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

INFORMATION ONLY

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

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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
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

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

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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
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

INFORMATION ONLY

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

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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
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

INFORMATION ONLY

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

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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
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

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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
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

INFORMATION ONLY

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

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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
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

INFORMATION ONLY

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	7.13E-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
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 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

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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
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

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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
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
rh101	.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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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 30

INFORMATION ONLY

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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
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

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

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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

INFORMATION ONLY

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

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 32

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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
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

INFORMATION ONLY.

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

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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
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

INFORMATION ONLY

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

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

INFORMATION ONLY

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

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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
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

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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
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 B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 37

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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
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
pm144	.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+80	.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

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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
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

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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
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

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

INFORMATION ONLY

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

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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
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	3.94E-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

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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
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

1 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

1 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

INFORMATION ONLY

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

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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
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

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

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

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

INFORMATION ONLY

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

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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
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

INFORMATION ONLY

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

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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
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

INFORMATION ONLY

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

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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
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

INFORMATION ONLY

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

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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
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

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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
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

INFORMATION ONLY

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

INFORMATION ONLY

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

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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
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

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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
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

INFORMATION ONLY

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

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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
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

INFORMATION ONLY

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

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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
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

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

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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

INFORMATION ONLY

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	4.85E-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, 3.00wt%, 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

INFORMATION ONLY

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

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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

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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

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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
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

INFORMATION ONLY

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

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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	.08E+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

INFORMATION ONLY

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

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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

INFORMATION ONLY

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

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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

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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
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 70

INFORMATION ONLY

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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	
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	5.11E+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	
pd107m	.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	
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	4.54E-43	.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 71

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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

INFORMATION ONLY

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 72

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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
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

INFORMATION ONLY

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

1 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
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

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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

INFORMATION ONLY

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

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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

INFORMATION ONLY

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

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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

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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
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

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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

INFORMATION ONLY

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

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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

INFORMATION ONLY

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

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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

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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
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

INFORMATION ONLY

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

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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
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

INFORMATION ONLY

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

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay actinides page 83

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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
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	5.54E-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

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

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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
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

INFORMATION ONLY

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

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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
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

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	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

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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
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

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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
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

INFORMATION ONLY.

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

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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
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

INFORMATION ONLY

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

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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
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

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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
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

INFORMATION ONLY

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

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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
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

INFORMATION ONLY

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

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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
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

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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
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

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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
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

INFORMATION ONLY

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

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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
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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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

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INFORMATION ONLY

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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
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

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

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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

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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

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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

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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

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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

	initial	300000. yr	500000. yr	999999. yr
zn 76	.00E+00	.00E+00	.00E+00	.00E+00
ga 76	.00E+00	.00E+00	.00E+00	.00E+00
ge 76	1.02E-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

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     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
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     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
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     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 B 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. yr500000. yr999999. 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
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INFORMATION ONLY

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

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Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay fission products page 108

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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

INFORMATION ONLY


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     y100    .00E+00   .00E+00   .00E+00   .00E+00
1
    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. yr500000. yr999999. 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
1
    Part B B&W 15x15, 3.00wt%, 20gwd/mtu decay                                    fission products        page  110
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INFORMATION ONLY

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

	initial	300000. yr	500000. yr	999999. yr
y106	.00E+00	.00E+00	.00E+00	.00E+00
zr106	.00E+00	.00E+00	.00E+00	.00E+00
nb106	.00E+00	.00E+00	.00E+00	.00E+00
mo106	.00E+00	.00E+00	.00E+00	.00E+00
tc106	.00E+00	.00E+00	.00E+00	.00E+00
ru106	.00E+00	.00E+00	.00E+00	.00E+00
rh106	.00E+00	.00E+00	.00E+00	.00E+00
rh106m	.00E+00	.00E+00	.00E+00	.00E+00
pd106	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. yr500000. yr999999. yr

INFORMATION ONLY

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

1

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

	initial	300000. 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

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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

1

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

INFORMATION ONLY

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

1 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

INFORMATION ONLY

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

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

	initial	300000. yr	500000. yr	999999. yr
cd132	.00E+00	.00E+00	.00E+00	.00E+00
in132	.00E+00	.00E+00	.00E+00	.00E+00
sn132	.00E+00	.00E+00	.00E+00	.00E+00
sb132	.00E+00	.00E+00	.00E+00	.00E+00
sb132m	.00E+00	.00E+00	.00E+00	.00E+00
te132	.00E+00	.00E+00	.00E+00	.00E+00
i132	.00E+00	.00E+00	.00E+00	.00E+00
xe132	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

INFORMATION ONLY

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

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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. yr500000. yr999999. 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

INFORMATION ONLY

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

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

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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

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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

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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

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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

INFORMATION ONLY

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

INFORMATION ONLY

```
     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
0ndset          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
```

INFORMATION ONLY

```
  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
```

INFORMATION ONLY

```
     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, 3.00wt%, 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 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, 3.00wt%, 20gwd/mtu decay
0   56$ array     20 entries read
0   57* array      5 entries read
```

INFORMATION ONLY

```
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 linp            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
```

INFORMATION ONLY